

EXAMINATION OF STOCK MARKET RESPONSE TO PUBLICITY SURROUNDING ATHLETIC ENDORSERS

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Using event study methodology, this paper examines the stock market response to news events that affect athletic endorsers. The key finding is stock prices are sensitive to events that are either favorable or unfavorable for the reputation of the endorser. This response, while muted by numerous factors, shows that stock market participants expect the events that improve the endorsee's image to lead to increased future cash flows for the sponsoring firm. Likewise, events that damage the reputation of the endorsee are expected to lead to reduced cash flows for the sponsor. This relationship of cash flows and celebrity image is consistent with the view that semantic networks play an important

INTRODUCTION

Financial theory maintains that today's stock price represents the present value of expected future cash flows. Marketing is concerned with increasing future sales and by extension future cash flows. This linkage (through expected future cash flows) allows a researcher to test the market's perception of marketing strategies by examining stock prices changes associated with events that impact a firm's marketing efforts. A commonly used marketing strategy is the use of athletic endorsers.

The success of athletic endorsements has been studied extensively. Kamins, Brand, Hoeke and Moe (1989) report that athletic endorsers establish a positive image of the product and make the firm's message more believable. Petty, Cacioppo and Schumann (1983) show that celebrities increase brand recall. Not surprisingly firms make widespread use of such endorsement deals. McCracken (1989) and Agrawal, and Kamakura (1995) document this usage.

Market efficiency theory suggests that, upon announcement, market participants should make decisions based on their expectations of

how effectively the celebrity athlete will represent the firm as represented by future cash flows. Consistent with the view that endorsement deals are, on net, good for shareholders, Agrawal and Kamakura (1995) find that average stock returns following the signing of the endorsement contract are positive. Similarly, Pruitt, Cornwell and Clark (2004) find a significant positive return for sponsors on the announcement of NASCAR sponsorship. However, because the actions of the celebrity athlete over the life of the endorsement contract are unknown at the time of the signing, firms and investors must make forecasts as to these actions.

To the degree that the actual actions differ from expectations and to the degree that these actions impact consumers' semantic networks, events subsequent to the signing of the contract will affect the effectiveness of the marketers' message. This proposed change in semantic network will impact purchase decisions and hence future cash flows should be affected. The notion of a semantic network is well ingrained in the marketing literature. A semantic network, which may also be identified by the "halo effect" and the "transfer meaning model's" discussed later. The hypothesized stock response for an event that strengthens the reputation of the celebrity is positive, while for events that damage the celebrity's reputation, there should be a negative stock reaction.

We use an event study methodology to study the impact of endorsed celebrity athletes' actions on stock prices. Specifically we examine a sample of events that would be seen as "good" (for example winning an Olympic Gold Medal or MVP award) and a sample of events that would be considered "bad" (being arrested or involved in an accident, losing an important race, becoming injured, etc.).

The use of athletic endorsements has drawn considerable attention in both popular press and academic literature. In the popular press, stories on the sponsors of celebrity athletes who have been arrested have become a staple on a wide range of media. In academic journals, several authors have examined the importance of celebrity endorsers. These include Mathur, Mathur and Rangan (1997), Cornwell (2001), and Sullivan and Dussold (2003). Mathur, Mathur and Rangan (1997) found that the average returns of the firms that were endorsed by Michael Jordan rose by two percent after his 1995 return to basketball. Similarly, Pruitt, Cornwell and Clark (2004) found that firms that sponsored NASCAR teams earned positive returns on the announcement of the deal.

In addition to looking at the actual announcement, several authors have looks at what happens over the life of the contract. For instance Cornwell (2001) examined returns of sponsors around the Indianapolis 500 and found insignificant abnormal returns for race winners, but significant differences based on whether the product being endorsed had close ties to the auto industry. Sullivan and Dussold (2003) found that stock prices of firms that sponsor NASCAR teams experienced negative abnormal returns following races in which the team was in an accident but could not find positive abnormal returns following wins.

In our paper we examine good events and bad events associated with athletes who are sponsored by firms with publicly traded stock. Our findings suggest that stock prices do respond favorably to the good events and negatively to the bad events. Consistent with our predictions,

this market adjusted stock response is stronger for "key events" (events that are widely reported, largely unpredictable, and pertaining to superstars). When key events are examined, stock prices react as hypothesized. The negative reaction for key events is consistent with Louie, Kulik and Jacobson (2001). To the best of our knowledge, we are the first to document a positive response to good events.

The remainder of the paper is organized as follows: a literature review, a discussion of the data and methodology used in the paper, the empirical results and their implications, and a conclusion that directs further research.

LITERATURE REVIEW

The Use of Celebrity Endorsers

The use of celebrity athlete endorsers is a common marketing strategy. "The brand strategy of companies such as Nike using famous and adored athletes is mainly inspired by the 'transfer meaning model'" (Van Hoecke 2000). The basis of this usage is the theory that by connecting the product with a popular athlete, the product can benefit from the positive mental associations that consumers have made between the celebrity and the product. For example, by sponsoring an athlete, Nike hopes to establish an associative or semantic network whereby the consumer transfers the positive associations with the star to the product.

This association not only helps to transfer the positive attributes (success, invincibility, attractiveness, etc.) from the celebrity to the product, but also makes consumers more apt to think of the sponsor when they see the celebrity athlete (Van Hoecke 2000). In psychology and marketing, this process is caused by what is called the "halo effect." This effect, though usually generalized to the characteristic of physical beauty, states that when a person has one favorable trait, he or she will be perceived as having other favorable traits (Belch and Belch 2004). When a company sponsors a celebrity that is favored by the consumers the company hopes

that consumers will respond by favoring the company by association.

Agrawal and Kamakura (1995) wrote that customers are more likely to select products endorsed by celebrities. This is in part a result of the celebrity's ability to hold the attention of the consumer and to increase the consumer's trust and belief in the product. Creating an association with a celebrity is expensive. Dyson and Turco (1998) identified three significant costs/problems that firms must account for when signing celebrity endorsers. The first, and most easily quantifiable, cost is that of the endorsement itself. Contracts for top ranked celebrities often run into the millions of dollars per year. The second problem is that "a company may not be able to get a celebrity to represent its product exclusively" (Dyson and Turco 1998). The third and "potentially most damaging problem in using high-profile candidates is negative publicity received by an endorser....When a negative image of the celebrity is portrayed, a tarnished picture is also painted for the organization, making it difficult to gain consumer trust to buy the product" (Dyson and Turco 1998).

When this relationship is well forged, the financial rewards can be significant. For example: "Wheaties boxes featuring Lance Armstrong sell about 10 percent better than its other boxes. Cycling industry experts indicate that Armstrong is almost single-handedly responsible for a 30 percent increase in the sale of road bikes at specialty bike shops. Reebok's five-year \$40 million endorsement deal with Venus Williams is at least partially responsible for increasing orders for [Reebok] tennis shoes by 54 percent" (Horror 2001).

Firms understand that the negative image of an endorser can contaminate the firm's reputation and the image of its products and consequently have adopted several strategies to lessen the risk. The most common strategy of lessening this risk is to end the relationship with the endorser. The method of dealing with information asymmetries and moral hazard problems by

reducing the effective maturity of the contract is consistent with the finding by Barclay and Smith (1995) who find that risky firms use shorter term debt.

McDonald's, Coke, and Converse are just some of the companies that have either dropped their celebrity endorser early or have failed to sign a new sponsorship deal with an athlete after the athlete's reputation was damaged. Early unilateral termination of such a contract is often controversial, and the publicity thus generated runs the risk of strengthening the mental association of the athlete and the firm. For example "in 1997, Converse terminated Latrell Sprewell's contract after he choked Golden State Warriors coach PJ Carlesimo, an incident that resulted in Sprewell's 68-game suspension. Sprewell, who was making a reported \$300,000 to \$600,000 annually from the shoe company, sued Converse for firing him without just cause, but a court ruled in the shoemaker's favor" (Rovell 2003).

To facilitate the termination and to prevent expensive and time-consuming lawsuits, firms have added "morality clauses" that allow the firm to drop an athlete for misbehavior. "Ten years ago, not many endorsement contracts had a morality clause," said Bob Williams, President of Burns Sports, a sports marketing agency. "Five years ago, about half of them did and, in recent times, most of the contracts have a clause of some sort relating to behavior" (Rovell 2003). Not only do these agreements sever ties with the athlete, but some of them also include parameters for the repayment of funds. For example, in 2000, Jets wide receiver Laveraneus Coles "signed an agreement obligating him to repay \$100,000 each time he is convicted of a crime, pleads no contest, or is suspended by the NFL." (Horror 2001)

A second strategy to lessen the severity of a negative event is to use the publicity it creates to generate more brand awareness. In this "there is no such thing as bad publicity" school of thought, the firm uses the "bad-boy image" and accompanying press coverage to increase

name recognition of the firm's products. For instance, Dennis Rodman was often signed to endorsement deals because of his controversial image.

To the degree that firms' marketing efforts can be changed (either by ending the relationship, or changing the message to take advantage of the added publicity), any negative stock price reaction to a bad event is mitigated. Indeed, if the publicity generated by the event is sufficient to overshadow the reduced image of the endorsee, then it could be that an event that we label as a "bad" might increase the stock prices of the firms. This leads us to our main question: Do stock prices react to events that affect an athletic endorsee's reputation? We examine this hypothesis by testing whether events that disparage the reputation of the endorsee lead to lower stock returns and whether events that enhance the reputation of the endorsee result in higher stock returns.

Our work is most similar to Louie, Kulik and Jacobson (2001) who examined the question of the impact of undesirable events by endorsers on the financial performance (as measured by stock returns) of firms they endorsed. Our study builds upon their research and extends it by examining the impact of good events as well as bad events.

DATA AND METHODOLOGY

To test whether the events affect the stocks of the sponsoring firms, we performed an event study. We created samples of good and bad events. The good event sample is composed of outstanding athletic performances (World Records), winning major events (Wimbledon, the Masters, US Open, Daytona 500, etc.) and the winning of awards (MVP, Sports Illustrated Sports Person of the year). The bad event sample includes events such as arrests, poor performances (e.g., a favorite athlete failing to make the Olympic team), injuries, and miscellaneous activities which reflect poorly on the endorser. The events that we selected for this study were chosen because they were difficult

for the market to anticipate. For example, events such as the season MVP and Cy Young Award are relatively easy to anticipate. The MVP for a single game (Super Bowl) is more difficult to predict. Once we found the date of the event, we ensured that confounding events did not exist. By doing this we could be confident that any response in the market was due to the actual event being researched. Following this, we conducted a search to attain stock data on the endorsed company. If no stock data existed, the event was dropped from the sample. If all of the above criteria were met, the event was included in the sample.

We then used standard event study methodology (Brown and Warner 1985) and grouped all events into event time. The small window of our study reduced the dependence on any model and allowed us to make market adjustments by subtracting off the broader market return. For this broader market average, we used the S&P 500. We examined raw returns (price change plus dividends divided by previous day stock price close) and excess market returns (raw return minus market wide return). Because we were investigating how the events affected individual firms, we reported only the market-adjusted returns.

It should be noted that because there are often several dates associated with an event, it is possible that by choosing a specific date over another we are affecting our results. We therefore choose day zero to be the date the event was first reported in Lexus-Nexus. The total effect of the event might be expected to spread over several days. Therefore, using the day the events were first reported will result in an underestimation of the total response stemming from the events. A brief example demonstrates that this results in a bias *against* our finding any significant results.

Consider the events surrounding the Kobe Bryant criminal allegation. As noted in Table 2, when the story first broke he immediately denied the claims. Given the relatively low cost of accusing a celebrity of any number of bad

things and the ability to gain some temporary fame from such a strategy, neither investors nor consumers may take the first report as being reputable. A more aggressive research strategy would take the official arrest date as the date in question ("day zero"). Conservatism thus led us to use the date when the story first broke. Interestingly, on this first date two of Mr. Bryant's main sponsors' stock prices fell on a market adjusted basis. However, on July 7th (the date of the actual arrest), all three sponsors fell an average of two percent (market adjusted). This was also the largest average decline for the sponsors. By using the first date (July 1) we are purposely biasing the study against our finding significant results.

Stock and market data are from Finance.yahoo.com. In the event that there were no stock trades on a given day, the previous day stock price was used and returns were equal to zero. This happened once in the event window, but never on day zero or day one for either the good or bad news events. To be included in the sample, the sponsor had to have a stock price greater than \$2.00 a share (to avoid use of penny stocks), and had to have stock trades on at least 80 percent of the dates over the 100 days leading up to the event. This original sample was composed of 60 bad events and 77 good events.

After the initial sample was created, each event was examined to assure that the sponsoring firm had no other significant news during the event window. News events were determined using a Lexis-Nexis search for the 10 days around each event. Firms were dropped if they released earnings or earnings forecasts, announced a new issue, buyback, or dividends, acquisition, major increase in capital expenditures, new advertising campaign, new product introduction, or a new lawsuit. The resulting samples were composed of 37 bad events and 48 good events and are shown on Table 1.

Sponsorship data came from a variety of sources. The first source was the athlete's own web site. Once sponsors were found, we con-

firmed that the firm was a sponsor at the time of the event. If the athlete's own web site did not list sponsors, various athletic equipment manufacturers' web sites were examined for lists of sponsored athletes. For example, Nike.com was searched to discover whether the athlete was sponsored by the firm. Once we determined the athlete's current sponsor, we documented that the athlete was sponsored at the time of the event. As a last resort, we examined footage of a game close to the event to determine what apparel the athlete was wearing. Obviously, this latter method was the most flawed as it is possible that the athlete was wearing shoes and apparel manufactured by someone other than the sponsor. For this reason, athletes identified merely through game footage were dropped in the "key" samples.

For an event (either good or bad) to have a measurable impact on future operations, several conditions must be satisfied. The first condition is that consumers must know the sponsorship exists. That is that the semantic association must exist that ties the firm to the athlete. If this connection does not exist, then the event should have little impact. The application of this condition led us to drop all but "superstar" athletes in our "key event" sample. A second necessary condition is that the event must be reported widely enough to have an impact on a large number of consumers. It is worth noting that this condition is more stringent than that of a traditional finance-type event study where only the marginal investor need know about the event. This difference is due to the fact that for the event to have an impact on product sales, the consumers need to know of the event. As a result of this, we drop non-Olympic World Records from our sample. The final important condition that must exist is that the event must have been at least partially unpredictable. If the event were totally predictable, then the market price reaction would occur prior to the actual event. The predictability of certain events results in the dropping of season-long MVP awards from our more restrictive samples.

TABLE 1
Events and Sponsors

Events were found by searching Lexis-Nexis, Google, Badjocks.com, and Yahoo. The date is the first day upon which there was any coverage of the event. Sponsorship data came from a variety of sources. The first source was the athlete's own web site. If the athlete's own web site did not list sponsors, various athletic equipment manufacturers' web sites were examined for lists of sponsored athletes. In the event that no sponsorship could be found, photos and television footage was analyzed to determine the manufacturers of the apparel the athlete wore close to the event in question.

Panel A. - Bad Events—Bad events consist of endorsers that were arrested (A), injured (I), performed poorly in an event (P) or engaged in miscellaneous activities (M) which reflected badly on the endorser. All events were examined to avoid the inclusion of confounding results.

Athlete	Date	Sponsor	Event
Bo Jackson	1/14/1991	Nike	Serious Hip Injury (I)
Michael Irvin	4/1/1996	Nike	Drug Charges (A)
Charles Barkley	7/8/1996	Nike	Bar fight (M)
Roberto Alomar	9/27/1996	Nike	Spit on umpire (M)
Michael Irvin	1/2/1997	Nike	Drug Charges (A)
Latrell Sprewell	12/1/1997	Converse	Assaulted coach (A)
Chris Webber	1/20/1998	Fila	Drug charges (A)
Dennis Rodman	4/12/1999	Nike	Released from Lakers (M)
Pedro Astacio	8/12/1999	Nike	Domestic violence (A)
Ray Lewis	12/6/1999	Reebok	Assault (A)
John Rocker	12/20/1999	Nike	Racial comments (M)
Ray Lewis	1/31/2000	Reebok	Murder charges (A)
Mark Chmura	4/10/2000	Nike	Assault (A)
Bill Romanowski	7/10/2000	Nike	Drug charges (A)
Michael Johnson	7/23/2000	Nike	Failed to qualify for the Olympic team (P)
Daryl Strawberry	10/25/2000	Nike	Tests positive for cocaine (M)
Jason Kidd	1/18/2001	Reebok, Huffy	Domestic violence (A)
Nate Newton	11/6/2001	Nike	Drug charges (A)
Ken Caminiti	11/14/2001	Nike	Drug charges (A)
Dwight Gooden	2/20/2002	Nike	Drug charges (A)
Al Unser, Jr.	7/11/2002	Marlboro, Chevrolet	Assault (domestic) (A)
Glenn Robinson	7/15/2002	Nike	Illegal possession of a firearm (A)
Scott Erickson	7/21/2002	Nike	Assault (A)
Chris Webber	9/9/2002	Fila	Obstruction of justice (A)
Randy Moss	9/24/2002	Nike, Snickers	Assault (A)
Roger Cedeno	11/27/2002	Adidas	DUI (A)
Antonio Freeman	3/10/2003	Nike	Drug charges (A)
Steve McNair	5/22/2003	Adidas	DUI (A)
Dennis McKinley	6/23/2003	Adidas	Drug charges (A)
Kobe Bryant	7/1/2003	Nike, McDonald's, Coke	Rape charges (A)
Allen Iverson	7/3/2002	Reebok	Armed entry/assault (A)
Damon Stoudamire	7/7/2003	Nike	Drug Charges (A)
Jerry Stackhouse	7/14/2003	Nike	Assault (A)

TABLE 1 (continued)

Panel B. - Good Events Good events include a sample of winning performances and world record performances. For team events, we use a sample of MVP announcements.

Athlete	Date	Sponsor	Event
Michael Johnson	6/24/1996	Nike	Track World Record
Michael Johnson	8/1/1996	Nike	Track World Record
Michael Johnson	8/1/1996	Nike	Track World Record
Tegla Loroupe	4/20/1998	Nike	Track World Record
Hicham El	7/14/1998	Nike	Track World Record
Maurice Greene	6/16/1999	Nike	Track World Record
Michael Johnson	8/26/1999	Nike	Track World Record
Tim Montgomery	9/16/2002	Nike	Track World Record
Paula Radcliffe	10/14/2002	Nike	Track World Record
Paula Radcliffe	4/14/2003	Nike	Track World Record
Pete Sampras	7/9/2000	Nike	Wimbledon 2000
Goran Ivanisevic	7/9/2001	Nike	Wimbledon 2001
Lleyton Hewitt	7/8/2002	Nike	Wimbledon 2002
Andre Agassi	9/13/1999	Nike	US Open 1999
Venus Williams	9/11/2000	Reebok	US Open 2000
Marat Safin	9/11/2000	Adidas	US Open 2000
Pete Sampras	9/8/2002	Nike	US Open 2002
Tiger Woods	5/13/1997	Nike	Masters-1997
Pedro Martinez	7/13/1999	Nike	MLB All-Star MVP-1999
Derek Jeter	7/11/2000	Nike	MLB All-Star MVP 2000
Cal Ripken	7/10/2001	Adidas	MLB All-Star MVP 2001
Ivan Rodriguez	11/18/1999	Fila	AL MVP-1999
Jason Giambi	11/15/2001	Nike	AL MVP-2000
Ichiro Suzuki	11/20/2001	Nike	AL MVP-2001
Miguel Tejada	11/12/2002	Nike	AL MVP-2002
Alex Rodriguez	11/17/2003	Nike	AL MVP-2003
Chipper Jones	11/17/1999	Nike	NL MVP-1999
Barry Bonds	11/19/2001	Fila	NL MVP-2001
Barry Bonds	11/11/2002	Fila	NL MVP-2002
Shaquille O'Neal	6/20/2000	Reebok	NBA Championship MVP-2000
Tim Duncan	6/16/2003	Nike	NBA Championship MVP-2003
Shaquille O'Neal	5/10/2000	Reebok	NBA MVP-2000
Allen Iverson	5/29/2001	Reebok	NBA MVP-2001
Tim Duncan	5/9/2002	Nike	NBA MVP-2002
Tim Duncan	5/4/2003	Nike	NBA MVP-2003
Kurt Warner	1/31/2000	Nike	Super Bowl MVP
Ray Lewis	1/29/2001	Reebok	Super Bowl MVP
Dexter Jackson	1/27/2003	Nike	Super Bowl MVP
Tom Brady	2/2/2004	Nike	Super Bowl MVP
Marshall Faulk	1/4/2001	Nike	NFL Regular Season MVP
Kurt Warner	1/9/2002	Nike	NFL Regular Season MVP
Rich Gannon	1/2/2003	Nike	NFL Regular Season MVP

Athlete	Date	Sponsor	Event
Tiger Woods	12/11/2000	Nike	Sports Illustrated Person of Year
Curt Shilling	12/10/2001	Reebok	Sports Illustrated Person of Year
Randy Johnson	12/10/2001	Nike	Sports Illustrated Person of Year
Lance Armstrong	12/9/2002	Nike	Sports Illustrated Person of Year
David Robinson	12/8/2003	Nike	Sports Illustrated Person of Year
Tim Duncan	12/8/2003	Nike	Sports Illustrated Person of Year
Dale Jarrett	2/21/2000	UPS	Daytona 500

FINDINGS

We find that stock prices of sponsoring firms are affected by events that impact the reputation of the athletes who endorse the firms' products. This is true for various samples of "good" events and the sample of "key" bad events. For a larger sample of "bad" events that include minor events and athletes not easily associated with the sponsor, we find no significant stock price changes. These findings are consistent with the theory that consumers' semantic or associative networks are influenced by the status of the endorsee and that such networks lead to changes in subsequent consumption decisions.

For events that positively affect the endorsee's reputation, we find a significant increase in stock returns. This is shown by the large percentage of positive excess returns in the event window (Table 3a) as well as the significant average excess return for the longer window (Table 5b). It is noteworthy that while the signs of the individual days are as hypothesized, the only day that is significant at normal acceptance levels is day -2 (Table 4). This suggests that the market is correctly forecasting the outcomes of at least some of the events prior to the actual completion of the event. For instance, in golf, tennis, and to a lesser degree track and field or auto racing, the market would know which athletes were performing well. In many instances (especially for tennis) the finalists would be known by day -2.

For longer event windows, the price changes associated with good events were significant using both one-and two-tailed tests as well as

TABLE 2
Kobe Bryant Timeline: Events and dates associated with Kobe Bryant Sexual Assault trial.

Timeline in Kobe Bryant Case	
June 30, 2003	Bryant takes a private flight to Eagle, where he has made arrangements to undergo an arthroscopic surgical procedure on his right knee at the Steadman Hawkins Clinic in nearby Vail.
	Bryant's accuser goes to his room and stays for an undetermined length of time, according to several hotel employees.
July 1, 2003	Accompanied by her parents, Bryant's accuser reports the alleged sexual assault to the Eagle County Sheriff's Department and is taken to Vail Valley Medical Center to undergo tests.
July 6, 2003	The Eagle County Sheriff's Department announces Bryant's arrest.
July 7, 2003	Sheriff Hoy and District Attorney Hurlbert hold a joint news conference. At this conference they state "It's possible [Bryant] will be charged with sexual assault. It's possible he will be charged with something else. It's possible he won't be charged with anything."
July 12, 2003	Discussing the case for the only time publicly, Bryant tells The Los Angeles Times, "When everything comes clean, it will all be fine, you'll see. But you guys know me; I shouldn't have to say anything. You know I would never do something like that."
July 18, 2003	Hurlbert calls a news conference at which he announces that he has filed a charge against Bryant of felony sexual assault. The charge carries possible penalties of four years to life in prison, or probation for 20 years to life.
	At a news conference with his wife, Bryant declares, "I'm innocent."
October 10, 2003	Graphic testimony in preliminary hearing.
October 20, 2003	Judge orders rape trial.
January 19, 2004	McDonald's cuts ties with Kobe.

TABLE 3
Non-Parametric Examination of Abnormal Returns

Abnormal returns are defined as sponsoring firm return minus market wide return. Event day is the day of the event (regardless of when in day the event occurred). Key events for bad sample include events that affected superstar athletes and in events that were deemed serious in nature. Returns for day n are calculated by [(closing price day n) – (closing price day n-1) + dividends] / closing price day n-1.] Probabilities are based on binomial distribution with equal probability of positive and negative abnormal returns.

Panel A: Good Events			Panel B: Bad Events		
Market Excess Returns	Entire Sample	Without predictable events and without non-Olympic track	Abnormal Returns	Entire Sample	Key Events
Cumulative Returns (Day 0,1)			Cumulative Returns (Day 0,1)		
Number Positive	30	17	Number Positive	18	3
Total Sample	48	23	Total Sample	37	13
Percentage Positive	63	74	Percentage Positive	49	23
P-value	0.0199	0.0053	P-value	0.5000	0.0461
Cumulative Returns (Day -1,0,1,2)			Cumulative Returns (Day -1,0,1,2)		
Number Positive	29	16	Number Positive	19	4
Total Sample	46	22	Total Sample	35	13
Percentage positive	62	73	Percentage Positive	54	31
P-Value	0.0395	0.0085	P-Value	0.2498	0.1334

TABLE 4

Market Adjusted Returns by Event Day

Abnormal returns are defined as sponsoring firm return minus market wide return. Event day is the day of the event (regardless of when in day the event occurred). Key events for bad sample include events that affected superstar athletes and in events that were deemed serious in nature. Returns for day n are calculated by [(closing price day n) – (closing price day n-1) + dividends) / closing price day n-1]. Null hypothesis is that there are no abnormal returns.

Panel A: Good Events				
Market Adjusted Returns: One Day Returns for All Good Events				
Day	Median Mar (%)	Average Return %	t-statistic	P value
-5	-0.0002	0.0033	0.9835	0.3306
-4	0.0019	0.0004	0.1144	0.9095
-3	-0.0012	-0.0022	-0.5468	0.5872
-2	0.0087	0.0057	1.3262	0.1915
-1	-0.0010	0.0021	0.5699	0.5715
0	-0.0019	0.0006	0.2084	0.8358
1	0.0075	0.0042	1.1426	0.2592
2	0.0031	0.0065	1.6718	0.1015
3	0.0039	0.0053	1.2648	0.2124
4	-0.0055	-0.0012	-0.3657	0.7163
5	-0.0024	-0.0012	-0.3275	0.7448
Market Adjusted Returns: One Day Returns for Key Good Events				
Day	Median Mar (%)	Average Return %	t-statistic	P value
-5	0.0003	0.0048	1.0097	0.3236
-4	-0.0018	0.0000	-0.0080	0.9937
-3	0.0042	0.0044	0.9939	0.3311
-2	0.0146	0.0114	2.4127	0.0246
-1	-0.0043	-0.0018	-0.4102	0.6856
0	0.0031	0.0051	1.3056	0.2052
1	0.0115	0.0054	1.2628	0.2198
2	0.0091	0.0062	1.1422	0.2656
3	0.0067	0.0087	1.3942	0.1772
4	-0.0054	-0.0026	-0.6627	0.5144
5	-0.0026	-0.0027	-0.7206	0.4787

TABLE 4 (continued)
Market Adjusted Returns by Event Day

Panel B: Bad Events				
Market Adjusted Returns: One Day Returns for All Bad Events				
Day	Median Mar (%)	Average Return %	t-statistic	P value
-5	-0.0041	-0.0033	-0.8466	0.4030
-4	0.0018	0.0026	0.6056	0.5487
-3	0.0033	0.0033	0.4647	0.6451
-2	0.0017	-0.0006	-0.1429	0.8872
-1	0.0015	-0.0011	-0.0335	0.7378
0	-0.0062	-0.0074	-1.9585	0.0582
1	0.0022	-0.0038	-0.0544	0.5897
2	0.0036	-0.0011	-0.2761	0.7841
3	-0.0044	-0.0048	-1.0818	0.2870
4	-0.0020	0.0028	0.5882	0.5602
5	-0.0015	0.0035	0.7575	0.4538
Market Adjusted Returns: One Day Returns for Key Bad Events				
Day	Median Mar (%)	Average Return %	t-statistic	P value
-5	0.0049	0.0002	0.0457	.09642
-4	-0.0022	0.0017	0.4975	0.6271
-3	0.0063	0.0156	1.5859	0.1367
-2	-0.0051	-0.0055	-0.8265	0.4234
-1	0.0038	0.0016	0.4067	0.6908
0	-0.0096	-0.0088	-2.0854	0.0573
1	-0.0122	-0.0157	-1.5389	0.1478
2	0.0026	-0.0007	-0.1135	0.9113
3	-0.0109	-0.0116	-1.6328	0.1264
4	-0.0066	-0.0030	-0.5294	0.6054
5	-0.0077	-0.0020	-0.2178	0.8309

TABLE 5

Cumulative Abnormal Returns

Abnormal returns are defined as sponsoring firm return minus market wide return. Event day is the day of the event (regardless of when in day the event occurred). Key events for bad sample include events that affected superstar athletes and in events that were deemed serious in nature. Returns for day n are calculated by $[(\text{closing price day } n) - (\text{closing price day } n-1) + \text{dividends}] / \text{closing price day } n-1$. Null hypothesis is that there are no abnormal returns.

Panel A: Good Events		
Average Returns: Good Events for Various Event Days		
	Entire Sample	Key Events
Cumulative Returns (Day 0 to Day 1)	0.0060	0.0099
t-stat	1.174	1.6985
P-value	0.2465	0.1049
Cumulative Returns (Day 0 to Day 2)	0.0092	0.0162
t-stat	1.479	1.6566
P-value	0.1461	0.1132
Cumulative Returns (Day -1, to +3)	0.0113	0.0140
t-stat	1.707	2.177
P-value	0.0947	0.0209
Panel B: Bad Events		
Average Returns: Bad Events for Various Event Days		
	Entire Sample	Key Events
Cumulative Returns (Day 0 to Day 1)	-0.0103	-0.0245
t-stat	-1.355	-2.4084
P-value	0.1841	0.0316
Cumulative Returns (Day 0 to Day 2)	-0.0111	-0.0253
t-stat	-1.2463	2.1266
P-value	0.2209	0.0532
Cumulative Excess Returns (Day -1, to +3)	0.0113	-0.0245
t-stat	1.707	-1.6931
P-value	0.0947	0.1143

non-parametric tests of the number of days where there are positive excess returns (Tables 4A and 5A). This relationship is also examined looking at only those events that might be considered "key". Using the guidelines discussed earlier, we dropped events such as season-long MVP awards and Sports Illustrated Sports Person of the Year on the grounds that the award can be forecasted in advance. We also drop track world records that are set in non-Olympic competitions on the basis that non-Olympic track gets relatively low TV ratings which suggest that it is not widely followed. This smaller sample results in a strongly positive market reaction to the event. The four day cumulative abnormal return is 1.4 percent, which is significant at the 2 percent level (Table 5).

For the entire bad event sample, investors and consumers must determine whether the "event" is legitimate or a false claim brought against a celebrity. This uncertainty would be expected to lead some stories to be ignored by investors (and consumers) until more information is available, while the easily identifiable bad stories are acted upon. This would lead to larger price losses for the "clear cut" cases and merely noise trading for the less clear cut events. This scenario would lead to significant negative average returns, but insignificant median and non-parametric returns. Empirically, we find this to be the case.

Examining daily abnormal returns, we find that for the entire sample negative average returns are concentrated in day zero (p value .058, Table 3), but these results do not stand up to non-parametric tests (p value .500, Table 4). However, when the "Key Event" sample, which is made up of serious claims (which are likely to receive more examination) involving star athletes is examined, we find negative excess returns which are significant using both one and two tailed tests as well as non-parametric tests (p value .011, Table 5).

CONCLUSION

Our examination of stock market response to publicity surrounding high profile endorsers supports the theory that events (negative or positive) that affect the image or reputation of the endorsee also affect the stock price of the sponsoring firm. Specifically we found that positive events affecting the high-profile endorser leads to higher stock returns for the sponsoring firm. On the other hand, negative events affecting the celebrity endorser lead to price declines for the sponsoring firms. These findings are consistent with the theory that consumers' semantic or associative networks are influenced by endorsee reputation.

Although this study used athletes for illustrative purposes, the work can be extended to include other forms of celebrities including actors (television, theatre and Hollywood), musicians, corporate officials and the media.

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