Management Science

Publication details, including instructions for authors and subscription information:
http://pubsonline.informs.org

Does Brand Licensing Increase a Licensor's Shareholder Value?

Adina Bărbulescu Robinson, Kapil R. Tuli, Ajay K. Kohli

To cite this article:
Adina Bărbulescu Robinson, Kapil R. Tuli, Ajay K. Kohli (2015) Does Brand Licensing Increase a Licensor's Shareholder Value?. Management Science 61(6):1436-1455. http://dx.doi.org/10.1287/mnsc.2014.1980

MANAGEMENT SCIENCE
Vol. 61, No. 6, June 2015, pp. 1436–1455
ISSN 0025-1909 (print) | ISSN 1526-5501 (online)

http://dx.doi.org/10.1287/mnsc.2014.1980

Does Brand Licensing Increase a Licensor's Shareholder Value?

Adina Bărbulescu Robinson
College of Business Administration, University of Tennessee, Knoxville, Tennessee 37996, adina.robinson@utk.edu

Kapil R. Tuli
Lee Kong Chian School of Business, Singapore Management University, Singapore 188065, kapilrtuli@smu.edu.sg

Ajay K. Kohli
Scheller College of Business, Georgia Institute of Technology, Atlanta, Georgia 30308, ajay.kohli@scheller.gatech.edu

This study examines 171 brand licensing announcements and subsequent changes in the licensor firms' shareholder values using the event study method. We find that although brand licensing announcements lead to positive abnormal returns on average, nearly 44% of the announcements in our sample are followed by *negative* abnormal returns. We argue that investors react more favorably to a brand licensing announcement when they believe (i) the brand has greater ability to stimulate licensee product sales (and thus generate higher royalties for the licensor) and (ii) the licensor firm has greater ability to limit licensee opportunism (and thus limit brand dilution and its adverse effect on sales of other products marketed under the brand name). In line with our hypotheses related to a brand's ability to stimulate licensee product sales, the study's findings suggest that investors react more favorably to announcements involving brands with greater brand fit and greater brand breadth. However, investors appear to react *less* favorably to announcements involving brands with higher advertising investments. In line with our hypotheses related to a licensor firm's ability to limit licensee opportunism, the study's findings suggest that investors react more favorably to announcements involving larger licensors; however, investors' reactions do not appear to be influenced by licensor firms' licensing experience.

Keywords: brand licensing; stock returns; marketing–finance interface
History: Received February 8, 2011; accepted April 8, 2014, by Pradeep Chintagunta, marketing. Published online in *Articles in Advance* August 1, 2014.

1. Introduction

> Today you can don licensed Caterpillar® work boots and cut your lawn with a licensed Scotts® lawn tractor. Reward yourself with a fresh cup of coffee from a Melitta® licensed coffeemaker, take your Jeep® branded bike to the store to pick up your new Kodak® eyeglasses. Survey your property anew and call over the licensed Sears® contractor to fix your roof. Negotiate with your son to clean-out your sink and toilet drains with licensed Roto-Rooter® drain cleaning chemicals and then take your Eddie Bauer® SUV over to Sotheby's Real Estate® and have them sell your house. Catch up on the news on your new Westinghouse® HDTV, fly licensed United Express Airlines® into the big city, have your hair cut at the Armani® hair stylist, and spend the night at Armani's licensed nightclub! (Feldman et al. 2010, p. 1)

As the quote above suggests, brand licensing is becoming increasingly pervasive in many industries. In 2012, the top 150 global licensors received royalties on licensee product sales of more than $230 billion (License! Global 2013). Brand licensing involves a brand owner (the *licensor*) giving another firm (the *licensee*) the right to manufacture/market its products under the brand name. In principle, brand licensing should create value for both the licensor and licensee: The licensee should realize higher product sales by leveraging consumers' knowledge of the licensor's brand, whereas the licensor should realize licensing royalties on the licensee's product sales. Despite its pervasiveness, however, brand licensing has received little conceptual or empirical attention. As such, we have limited knowledge of the actual effect of brand licensing on a licensor firm's shareholder value, a key performance metric for top management (see Srinivasan and Hanssens 2009).

On one hand, brand licensing can enhance a licensor's shareholder value by generating additional cash flows from *royalties* on licensee product sales. On the other hand, brand licensing entails the licensor ceding control over the manufacturing/marketing of a product with its brand name to a licensee. If the licensee behaves opportunistically (e.g., manufactures a poor-quality product or markets it poorly), consumers may evaluate the branded product unfavorably and hence think less favorably about the licensor's brand; that is, licensee opportunism can lead to *brand dilution* (see

Loken and John 1993). In turn, this is likely to have an adverse effect on the licensor firm's revenues from *other products* marketed under the brand name, resulting in lower cash flows. As such, when a licensor firm cannot prevent licensee opportunism, brand licensing can reduce its shareholder value, as suggested in a classic case:

> In 1997 Calvin Klein, Inc. licensed its brand to the Warnaco Group for manufacturing, distribution, and marketing of Calvin Klein jeans. By the end of 1999, Calvin Klein had received $85 million from the Warnaco Group (Agins and Quick 2001). That same year, however, Calvin Klein sued Warnaco for trademark infringement and trademark dilution. A major claim in the lawsuit was monetary compensation for brand dilution. Between 1997 and 1999, Warnaco allegedly had altered the design of the Calvin Klein jeans, used cheaper materials in its manufacturing, and marketed them in warehouse clubs such as Costco and BJ without Calvin Klein's permission.[1]

Given its potential for positive as well as negative consequences, it is important to examine whether and under what conditions brand licensing increases or decreases a licensor firm's shareholder value.

Drawing on literature on brand extensions (e.g., Loken et al. 2010, Völckner and Sattler 2006) and strategic alliances (e.g., Dickson et al. 2006, Leiblein and Madsen 2009), we build a conceptual framework for analyzing investors' responses to brand licensing announcements. This framework suggests that investors respond more favorably to brand licensing announcements involving (i) brands with greater ability to stimulate licensee product sales and (ii) licensors with greater ability to limit licensee opportunism. Based on this conceptual framework, we develop and test five hypotheses using data compiled from multiple sources including the United States Patent and Trademark Office (USPTO), AdSpender, Compustat, the Center for Research in Security Prices (CRSP), Factiva, and Securities and Exchange Committee (SEC) filings. We use the event study method, with abnormal returns serving as indicators of investor reactions to brand licensing announcements (for recent applications, see Boyd et al. 2010, Raassens et al. 2012).

We find that, on average, brand licensing announcements lead to significant positive abnormal returns for licensor firms; however, nearly 44% of the announcements in our sample are followed by *negative* abnormal returns. Consistent with our hypotheses, the study's findings suggest that licensor firms' abnormal returns are greater when licensed brands have greater fit with licensee products and have greater brand breadth. However, investors appear to react *less* favorably to announcements involving brands with higher advertising investments. Our findings also suggest that investors react more favorably to announcements involving larger licensor firms; however, investors' reactions do not appear to be influenced by licensor firms' licensing experience.

The remainder of this paper is structured as follows. Section 2 develops the conceptual framework and hypotheses. Section 3 describes the method. Section 4 reports the results. Section 5 discusses implications and limitations of the study.

2. Conceptual Framework and Hypotheses

Investors consider newly announced public information and assess the extent to which it foreshadows an increase (or decrease) in a firm's future cash flows. Based on their assessments, investors adjust the firm's stock price, leading to a corresponding change in the firm's shareholder value (see Boyd et al. 2010, Geyskens et al. 2002, Raassens et al. 2012). Drawing on prior research using event studies, and research on brand extensions and strategic alliances, we build a conceptual framework for analyzing implications of brand licensing announcements for licensors' shareholder value (see Figure 1).

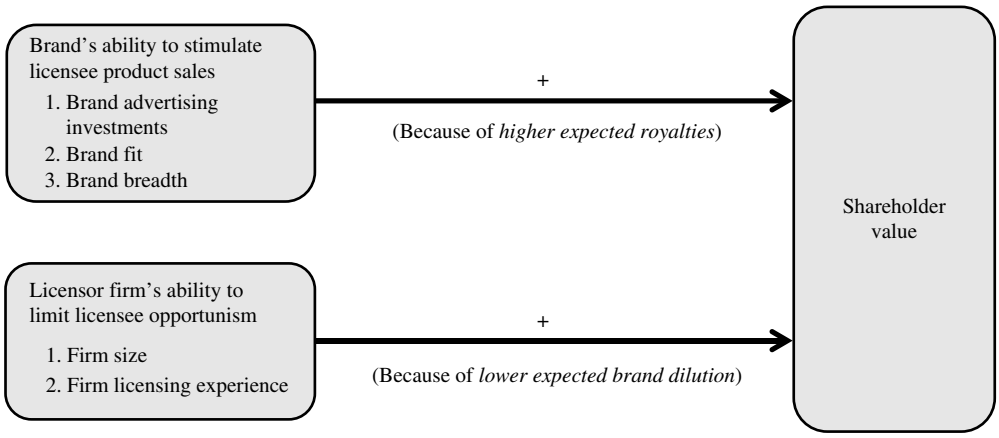
Brand licensing entails a firm authorizing the use of its brand on a licensee's product in exchange for *royalties* on the product's sales. The brand helps the licensee realize higher product sales than it would without the brand name. The higher the product sales a brand helps a licensee realize, the higher the resulting royalties generated for the licensor. As such, following a brand licensing announcement, the licensor's investors are likely to assess the *brand's ability to stimulate licensee product sales* (and thus generate royalties for the licensor). Research on brand extensions suggests a brand's ability to stimulate sales of a licensee product is a function of the licensed brand's advertising investments, fit with licensee product, and breadth (e.g., Loken et al. 2010, pp. 15–19; Völckner and Sattler 2006). This suggests that investors consider these variables as indicators of the licensor firm's future royalties and cash flows resulting from the licensing of its brand.[2]

Although brand licensing can generate royalties for a licensor, it also introduces the threat of licensee opportunism. For example, a licensee may use substandard parts and materials and/or use unauthorized distribution channels that can hurt the brand's image,

[1] Calvin Klein Trademark Trust and Calvin Klein, Inc. v. Linda Wachner, 123 F. Supp. 2d 731 (2000).

[2] A brand's ability to stimulate licensee product sales is also likely to be a function of the brand's equity. Because of limited availability of data on brand equity, we estimate brand equity following Simon and Sullivan (1993) and include it as a control variable in our model.

Figure 1 Conceptual Framework



i.e., lead to *brand dilution*. This can adversely affect sales of other products marketed under the brand name. Whereas some licensors may have the ability to prevent or limit licensee opportunism and the ensuing brand dilution, other licensors may lack this ability and hence may be more vulnerable to licensee opportunism. As such, following a brand licensing announcement, investors are likely to assess the *licensor firm's ability to limit licensee opportunism* (and thus limit brand dilution and its adverse effect on the licensor firm's cash flows from sales of other products marketed under the brand name). Research on strategic alliances suggests a licensor's ability to limit licensee opportunism is a function of its size and licensing experience (e.g., Dickson et al. 2006, Leiblein and Madsen 2009, Simonin 1997). This suggests that investors consider these variables as indicators of the threat of brand dilution and its effect on the licensor firm's future cash flows.

We next discuss the role of each of the aforementioned brand and licensor variables in influencing investor expectations of a licensor's future cash flows and their effect on the licensor firm's shareholder value (Figure 1).

2.1. Brand's Ability to Stimulate Licensee Product Sales

Research on brand extensions (e.g., Broniarczyk and Alba 1994, Völckner and Sattler 2006) suggests that consumers use their previously formed associations with a licensed brand to evaluate a new licensee product as follows. Consumers retrieve their associations with the licensed brand from their memories; to the extent these associations are relevant for the licensee product, consumers transfer them to the licensee product—i.e., link them with the licensee product—and use these associations to evaluate the licensee product (see Ahluwalia and Gürhan-Canli 2000, Feldman and Lynch 1988). Thus, consumers are likely to evaluate a licensee product more favorably when the associations with the licensed brand are (i) more *accessible* in their memories (because such associations are more likely to be retrieved from their memories) and (ii) more *relevant* to the licensee product (because such associations are more likely to be transferred to the licensee product and influence its evaluation) (e.g., Loken et al. 2010, p. 17; Völckner and Sattler 2006, p. 21).[3]

Prior research suggests that a brand's associations are more *accessible* when the brand has made greater advertising investments (e.g., Naik et al. 1998, Draganska and Klapper 2011). In addition, a brand's associations are more *relevant* when the brand is perceived to have greater fit with a licensee product (e.g., Broniarczyk and Alba 1994) and the brand is used on a broader array of products, i.e., has greater brand breadth (Meyvis and Janiszewski 2004). Thus, when a licensed brand has higher levels of these variables, consumers are likely to evaluate the licensee product more favorably, which is likely to result in higher sales of the licensee product and higher royalties for the licensor firm. This suggests that investors use these brand variables as indicators of the licensor firm's future cash flows, as discussed next.

2.1.1. Brand Advertising Investments. Brand advertising investments refer to the amount of money spent on advertising a brand over an extended time period prior to a brand licensing announcement. Higher brand advertising investments lead to greater brand awareness (e.g., Naik et al. 1998, Draganska and Klapper 2011). Thus, when a more heavily advertised brand is licensed, investors expect the brand's associations to be more *accessible* to consumers, and therefore more likely to lead to favorable evaluations of the licensee product (see Broniarczyk and Alba 1994, Lane and Jacobson 1995, Loken et al. 2010). As such, investors are likely to expect higher sales of the licensee product,

[3] The evaluation of a licensee product is also influenced by the favorability of associations with the licensed brand. Given limited data availability, we control for these with an estimate of brand equity (following Simon and Sullivan 1993).

and hence higher future cash flows from royalties for the licensor firm. Thus, when a licensed brand has greater advertising investments, investors are likely to pay a higher price for the licensor firm's stock following a brand licensing announcement. Therefore, we expect the following:

Hypothesis 1. *The greater the brand's advertising investments, the higher the licensor firm's abnormal returns following a brand licensing announcement.*

2.1.2. Brand Fit. Brand fit refers to the extent to which a brand's associations are applicable or *relevant* to a given product (Broniarczyk and Alba 1994, Völckner and Sattler 2006). When a brand's fit with a licensee product is greater (i.e., the brand's associations are perceived as more relevant for the licensee product), investors expect consumers to transfer more of their brand associations to the licensee product, leading to more favorable evaluations of the licensee product (Broniarczyk and Alba 1994, Park et al. 1991). As such, investors are likely to expect higher sales of the licensee product, and hence higher future cash flows from royalties for the licensor firm. For example, when Bally Total Fitness licensed its Bally brand for women's sportswear, it is likely that investors expected consumers to readily transfer the brand's associations of "wellness," "high quality," and "exercise and fitness products" to the women's sportswear products, leading to more favorable licensee product evaluations, higher licensee product sales, and higher cash flows from royalties for Bally Total Fitness. Thus, when brand fit is greater, investors are likely to pay a higher price for the licensor firm's stock following a brand licensing announcement. Therefore, we expect the following:

Hypothesis 2. *The greater the brand's fit with the licensee product, the higher the licensor firm's abnormal returns following a brand licensing announcement.*

2.1.3. Brand Breadth. Brand breadth refers to the number of distinct product categories that carry the brand name (Boush and Loken 1991). A broader brand tends to be more strongly associated with the *benefits* it provides than with the specific *products* on which it is used. This is because the brand's presence in a larger set of product categories makes the brand's product-specific associations more diffused (see Meyvis and Janiszewski 2004). In addition, a brand's benefit associations are more abstract than its product associations, and hence *relevant* to a greater variety of licensee products (see Batra et al. 2010, Boush and Loken 1991). For example, a broad brand like Liz Clairborne is associated more strongly with its abstract benefits ("trendy," "fashionable," and "quality") than with the large number of concrete products it sells (e.g., beddings, cosmetics, furniture, paint, apparel, rugs, and tiles). As such, the Liz Clairborne brand arguably is relevant for diverse licensee products such as cookware and home storage containers. In contrast, a narrow brand such as Charmin is associated more strongly with its few, concrete *products* (e.g., toilet paper) than with its abstract benefits ("softness"). As such, the Charmin brand may be argued to be of relevance to a smaller set of licensee products, and of questionable relevance even for products offering the "softness" benefit (e.g., skin cream and apparel).

The preceding discussion suggests that when a broader brand is licensed, investors are likely to expect its associations to be relevant for a greater variety of licensee products and hence more likely to be transferred by consumers to the licensee product and influence their evaluations. As such, investors are likely to expect higher sales of the licensee product, and hence higher future cash flows from royalties for the licensor firm. Thus, when brand breadth is greater, investors are likely to pay a higher price for the licensor firm's stock following a brand licensing announcement. Therefore, we expect the following:

Hypothesis 3. *The greater the brand breadth, the higher the licensor firm's abnormal returns following a brand licensing announcement.*

2.2. Licensor Firm's Ability to Limit Licensee Opportunism

Pursuant to a licensing agreement, a licensor cedes control over the manufacturing and marketing of a product with the brand name to a licensee. The licensee can act opportunistically by selling its product through unauthorized distribution channels and pricing or promoting it in a way that is beneficial to the licensee but hurts the brand's image (e.g., Agins and Quick 2001). If not prevented by the licensor, such licensee opportunism can dilute the licensor's brand and hurt sales of other products marketed under the brand name (see Loken and John 1993, Swaminathan et al. 2001). Thus, if a licensor lacks the ability to monitor and control a licensee's behavior, a brand licensing agreement can reduce the licensor firm's future cash flows. Therefore, we expect investors evaluating a licensing announcement to assess the licensor's ability to limit licensee opportunism. Prior research on strategic alliances suggests that a licensor firm's ability to limit licensee opportunism is likely to be related to its size and prior licensing experience (e.g., Leiblein and Madsen 2009, Simonin 1997). This suggests that investors consider these variables as indicators of the licensor's future cash flows, as discussed next.

2.2.1. Firm Size. Research on strategic alliances by Leiblein and Madsen (2009, pp. 719–720) suggests investors use licensor firm's size as a key signal of a licensor's ability to limit licensee opportunism (see also Buckley 1997, Dickson et al. 2006). Specifically, investors

are likely to view a larger licensor firm as having greater *resources* such as dedicated expert personnel who can limit licensee opportunism by (i) thoroughly vetting a prospective licensee prior to entering into a licensing agreement with it, (ii) incorporating comprehensive legal safeguards in its contract with the licensee, (iii) monitoring the licensee's conduct, and (iv) taking corrective actions in case of contractual violations that can lead to brand dilution. (For a discussion of financial resources needed to monitor partner conduct, see Stump and Heide (1996) and Wathne and Heide (2000).) Therefore, investors are likely to view a larger licensor firm as better equipped to limit licensee opportunism that can dilute the licensed brand.

As such, when a brand licensing announcement involves a larger licensor firm, investors are likely to see a smaller threat of licensee opportunism and hence a smaller threat of brand dilution and reduction in future cash flows. This is likely to lead investors to pay higher prices for a larger (versus smaller) licensor firm's stock following a brand licensing announcement. Therefore, we expect the following:

Hypothesis 4. *The larger the licensor firm's size, the higher the abnormal returns following a brand licensing announcement.*

2.2.2. Firm Licensing Experience. Research on strategic alliances (e.g., Kale and Singh 2007, Simonin 1997) also suggests that investors expect a more experienced licensor to have better know-how for selecting licensees and drafting contracts so as to minimize licensee opportunism (e.g., writing contracts that restrict sales of licensee products to channels that are consistent with the brand's image). In addition, investors are likely to expect experienced licensors to be more skilled at monitoring licensees and ensuring that the licensees manufacture and market their products in accord with agreed-upon standards. Thus, this stream of research suggests that investors view a licensor firm's prior licensing experience—number of licensing agreements entered into by the licensor firm during a time period preceding the focal announcement—as a signal of its ability to limit licensee opportunism.

As such, when a brand licensing announcement involves a more experienced licensor firm, investors are likely to believe there is a smaller threat of licensee opportunism and hence a smaller threat of brand dilution and reduction in future cash flows. This is likely to lead investors to pay a higher price for a more (versus less) experienced licensor firm's stock following a brand licensing announcement. Therefore, we expect the following:

Hypothesis 5. *The greater the licensor firm's licensing experience, the higher the abnormal returns following a brand licensing announcement.*

3. Method

3.1. Event Study Approach

To study the effect of brand licensing on a licensor firm's shareholder value, we identify brand licensing announcements and measure investors' responses using the event study method. The method relies on the efficient market hypothesis according to which the stock price of a firm reflects the impact of all publicly available information about a firm on its future cash flows (MacKinlay 1997). Thus, when new information that may affect a firm's future cash flows is made public (i.e., an event occurs), investors update their expectations of the firm's future cash flows and adjust the price they are willing to pay for the firm's stock. The resulting change in stock price captures the net present value of the expected change in future earnings of the firm. This approach is widely used to assess the financial impact of marketing actions such as appointments of chief marketing officers (Boyd et al. 2010), formation of marketing alliances (Swaminathan and Moorman 2009), and Internet channel additions (Geyskens et al. 2002).

We assess the effect of a brand licensing announcement (the "event") on the stock price of the licensor firm by estimating the change in stock price adjusted for firm and market factors during a specified time window around the event date. First, we forecast the *expected* return during the event window based on the history of the licensor firm's stock returns and the stock market's returns. Then, we identify the difference between the expected and the actual stock return of the licensor firm as the *risk-adjusted abnormal stock return* using the Carhart (1997) model (see Srinivasan and Hanssens 2009).

To calculate the expected stock return, we regress the licensor firm's actual daily stock returns on the returns of an equally weighted market portfolio, the Fama and French (1993) size portfolio, book-to-market portfolio, and the Carhart (1997) momentum portfolio starting 130 days before the brand licensing announcement and ending 30 days before the announcement. We then use estimates of the parameters (i.e., α_{ij}, β_{ij}, s_{ij}, h_{ij}, u_{ij}) thus obtained to calculate the expected stock return on the event date as well as on each of the five days before and after the event date:

$$E(R_{ijt}) = \big(\alpha_{ij} + \beta_{ij} RM_t + s_{ij} SMB_t + h_{ij} HML_t + u_{ij} UMD_t\big); \quad (1)$$

$E(R_{ijt})$ = expected stock return on day t of firm i that licenses its brand j
RM_t = returns from an equally weighted portfolio of the total stock market on day t
SMB_t = Fama and French (1993) size portfolio return on day t

HML_t = Fama and French (1993) book-to-market ratio portfolio return on day t

UMD_t = Carhart (1997) momentum portfolio return on day t

$\alpha_{ij}, \beta_{ij}, s_{ij}, h_{ij}, u_{ij}$ = parameters estimated over a 100-day period ending 30 days before the event date

The risk-adjusted abnormal return (AR_{ijt}) on day t of firm i licensing its brand j, therefore, is the difference between firm's actual stock return (R_{ijt}) and its expected return ($E(R_{ijt})$):

$$AR_{ijt} = R_{ijt} - E(R_{ijt}). \quad (2)$$

According to Fama (1970), AR_{ijt} provides an unbiased estimate of the expected change in the licensor firm's future cash flows. In addition to the daily abnormal returns, some studies also compute the cumulative abnormal return that are obtained by aggregating the firm's daily abnormal stock returns over an event window (t_1, t_2) around a licensing announcement date. McWilliams and Siegel (1997), however, recommend setting the event window (t_1, t_2) to the date of the event if it is unanticipated, and this recommendation is commonly adopted in prior research (e.g., Chaney et al. 1991, Boyd et al. 2010). We follow this recommendation and analyze firm abnormal return on the event date, i.e., the date of the licensing announcement (hereafter denoted by t). However, in addition to AR_{ijt}, we also check for cumulative abnormal returns using wider event windows as discussed in the Results section.

3.2. Hypotheses Testing

3.2.1. Outcome Equation. We test our hypotheses by estimating an outcome equation (Equation (3)) in which the *abnormal return* (AR_{ijt}) of firm i following the licensing of its brand j announced on day t is a function of the information investors have about the brand and the licensor firm. In addition to the five hypothesized independent variables, several other variables arguably influence investors' evaluations of a brand licensing announcement. Therefore, the outcome equation (Equation (3)) includes a number of control variables that may cue investors to (i) the extent to which a licensee product will be accepted by consumers, (ii) the extent to which a licensor firm will be able to limit licensee opportunism, (iii) the favorability of licensing terms for the licensor firm, and (iv) the market potential for licensee product sales. Each of these control variables is described next.

We control for *Product Fit*—the extent to which a brand's prototypical product fits with a licensee product—because greater product fit is likely to lead to greater consumer acceptance of the licensee product (Park et al. 1991). In addition, we control for whether a brand is a *Corporate Brand or Not*. A licensee product may be accepted by consumers to a greater extent if sold under a corporate brand name; this is because a product with a corporate brand name can inherit not only the brand's product-specific attributes, but also its corporate attributes such as a rich heritage, values, and citizenship programs (Aaker 2004, p. 7). We also include *Estimated Brand Equity* as a control variable because higher brand equity is indicative of more favorable consumer evaluations of a brand, which can lead to greater consumer acceptance of a licensee product sold under the brand name.

We control for *Prior Brand Licensing Categories*—the number of product categories in which a brand has previously been licensed. Licensing a brand in a large number of product categories, each with distinct manufacturing, operations, and distribution channels, increases the complexity of monitoring the varied licensing activities and makes it more difficult for the licensor firm to limit licensee opportunism. Firms making *Licensing Revenue Disclosures*—disclosing brand licensing as a significant source of revenues—are more likely to have well-established systems and processes for limiting licensee opportunism. As such, this variable is included as a control variable. In addition, we include *Firm Earnings* as a control variable because firms with higher earnings tend to have greater financial resources for monitoring licensees and limiting opportunism.

We control for *Licensee Licensing Experience* because more experienced licensees are likely to be more adept at negotiating lower royalty rates, thus lowering abnormal returns for licensor firms. We also control for whether a brand is licensed to a *Publicly Listed Licensee* (versus a privately held one). Actions of publicly held companies are under greater shareholder scrutiny, and as such, public companies may negotiate harder to obtain lower royalty rates. Furthermore, we control for whether a brand is licensed to a *Foreign-Based Licensee* (versus a domestic one) because the use of a foreign-based licensee may suggest that the licensing firm is expanding to new markets with greater growth and royalty generating potential. Finally, we include *Industry Dummy Variables* to control for industry-specific factors that may influence abnormal returns.

3.2.2. Selection Equation. Variables related to a brand and the firm that owns it are likely to influence whether or not the brand is licensed in the first place. Therefore, estimating the outcome equation using ordinary least squares may result in biased estimates (see Greene 2008). To safeguard against this, we jointly estimate the outcome equation (Equation (3)) with a selection equation (Equation (4)). The selection equation incorporates brand and firm variables as predictors of

the likelihood of brand licensing, i.e., whether a brand is included in a *brand licensing announcement or not*.[4]

A number of *brand* variables included in the outcome equation arguably affect not just the abnormal returns following brand licensing announcements, but also firms' (brand owners') interest in licensing their brands and potential licensees' willingness to pay royalties for such brands, thus influencing the likelihood of the brands being licensed. We therefore include these variables in the selection equation. Specifically, greater *Brand Advertising Investments*, greater *Brand Breadth*, whether the brand is a *Corporate Brand or Not*, and higher *Estimated Brand Equity* are likely to increase the probability of a brand being licensed. This is because a brand with these characteristics is likely to generate higher licensee product sales and hence higher royalties for the brand owner, thus making licensing agreements attractive both for the brand owner and potential licensees. Some brand variables included in the outcome equation, however, cannot be conceptualized/measured in the absence of a licensing agreement identifying the licensee and its product (as is the case with *Brand Fit* and *Product Fit*), or are limited in their ability to predict attractiveness of licensing for brand owners or potential licensees (as is the case with *Prior Brand Licensing Categories*). As such, these variables are not included in the selection equation.

Similarly, a number of *firm* (brand owner) variables included in the outcome equation are also likely to predict whether a brand is licensed or not, and hence are included in the selection equation. Specifically, *Firm Size* and *Firm Earnings* reflect a firm's resources and its financial standing, respectively. Firms with higher levels of these variables are less dependent on royalties from licensing and hence are less likely to enter into licensing agreements. Similarly, *Firm Licensing Experience* included in the outcome equation reflects a firm's licensing-related knowledge. Firms that have licensed a brand a least once are likely to have more licensing-related knowledge than those that have not previously licensed a brand, and hence are more likely to enter into licensing agreements. As such, we include *Whether Firm Previously Licensed a Brand* in the selection equation. The selection equation does not include *Firm Licensing Revenue Disclosure* because it is unrelated to the attractiveness of licensing for a firm or for potential licensees.

In addition, the selection equation does not include *licensee* variables (*Licensee Licensing Experience, Publicly Listed Licensee*, and *Foreign-Based Licensee*) that are in the outcome equation because a licensee can be identified only after a firm licenses its brand. *Industry Dummy Variables* included in the outcome equation to control for industry-specific differences are excluded from the selection equation because, as described subsequently, the selection equation compares brands that were licensed to competitors' brands that were not licensed, thus controlling for industry-specific differences. Finally, the selection equation includes two additional variables (*Firm Leverage* and *Firm Liquidity*) that are not in the outcome equation; these variables are likely to influence whether a brand is licensed or not, but not influence the abnormal returns following brand licensing announcements. Specifically, a firm with higher leverage and lower liquidity is likely to find brand licensing to be more attractive because the resulting incremental cash flows are likely to lower its leverage and increase its liquidity. There is little reason, however, to expect these two variables to influence a licensee product's sales or opportunism.

The selection equation involves analyzing the brands featured in the licensing announcements used to estimate the outcome equation and competing firms' brands that were not featured in licensing announcements in the same year:

$$\begin{aligned} AR_{ijt} = {} & \gamma_0 + \gamma_1 ADI_{ijt} + \gamma_2 FIT_{ijt} + \gamma_3 BREADTH_{ijt} \\ & + \gamma_4 SIZE_{ijt} + \gamma_5 EXP_{ijt} + \gamma_6 PFIT_{ijt} + \gamma_7 CORP_{ijt} \\ & + \gamma_8 BEQ_{ijt} + \gamma_9 PBLC_{ijt} + \gamma_{10} LRD_{ijt} + \gamma_{11} EAR_{ijt} \\ & + \gamma_{12} LLE_{ijt} + \gamma_{13} LPL_{ijt} + \gamma_{14} LFB_{ijt} \\ & + \sum_{l=15}^{18} \gamma_l IND_{ijt} + \varepsilon_{ijt}, \end{aligned} \tag{3}$$

$$\begin{aligned} LIC_{ijT} = {} & \delta_0 + \delta_1 ADI_{ijT} + \delta_2 BREADTH_{ijT} + \delta_3 SIZE_{ijT} \\ & + \delta_4 LEXP_{ijT} + \delta_5 CORP_{ijT} + \delta_6 BEQ_{ijT} \\ & + \delta_7 EAR_{ijT} + \delta_8 LEV_{ijT} + \delta_9 LIQ_{ijT} + \mu_{ijT}; \end{aligned} \tag{4}$$

AR_{ijt} = abnormal return of firm i, owner of brand j, on its licensing announcement day t

LIC_{ijT} = brand licensing announcement or not (whether an announcement about firm i licensing its brand j was made in year T)

Hypothesized Variables

ADI = *Brand Advertising Investments*
FIT = *Brand Fit*
$BREADTH$ = *Brand Breadth*
$SIZE$ = *Firm Size*
EXP = *Firm Licensing Experience*

Control Variables

$PFIT$ = *Product Fit*
$CORP$ = *Corporate Brand or Not*
BEQ = *Estimated Brand Equity*
$PBLC$ = *Prior Brand Licensing Categories*
LRD = *Firm Licensing Revenue Disclosure*
EAR = *Firm Earnings*

[4] We use the term "firms" to describe both companies that licensed their brands, i.e., licensors, as well as companies that owned brands but did not license them.

LLE = *Licensee Licensing Experience*
LPL = *Publicly Listed Licensee*
LFB = *Foreign-Based Licensee*
IND = *Industry Dummy Variables*
$LEXP$ = *Whether Firm Previously Licensed a Brand*
LEV = *Firm Leverage*
LIQ = *Firm Liquidity*;
$\varepsilon_{ijt} \sim N(0,1)$, $\mu_{ijT} \sim N(0,1)$, and $\varrho = corr(\varepsilon_{ijt}\mu_{ijT})$.

Following Greene (2005) and Kennedy (2003), we estimate the outcome and selection equations simultaneously using maximum likelihood estimation (see also Cameron and Trivedi 2010, pp. 558–562). In addition, we allow error terms within a cluster (i.e., firm) to be correlated with each other to account for multiple brand licensing announcements by a firm. This minimizes the threat of "misleading" standard errors (Wooldridge 2010, p. 865). We mean center all continuous variables to enable the interpretation of a variable's coefficient at the mean values of other variables in the equations.

3.3. Data for Outcome Equation Variables and Their Measures

Brand licensing announcements for estimation of the outcome equation were identified by searching multiple publications using Factiva. We considered all brand licensing agreements announced between 1999 and 2006, and included 412 announcements of publicly listed brand owners, each licensing a single brand to a single licensee. Of these, we retained 337 licensing announcements that were not in close proximity (±2 days) to other events such as earnings announcements that could impact stock returns (see McWilliams and Siegel 1997, Boyd et al. 2010). From among these, we retained 171 announcements for which we could (i) verify the accuracy of the release date with other sources (firm website and other search engines, such as LexisNexis), (ii) obtain advertising investment data from Kantar Media's AdSpender database and brand breadth data from the USPTO, and (iii) obtain stock returns and accounting data from Compustat and the University of Chicago's CRSP. Our sample of 171 brand licensing agreements announced between 1999 and 2006 includes 51 unique licensor firms and 74 unique licensed brands. Descriptive statistics of the sample are provided in Appendices A and B.

The outcome equation models a licensor's abnormal return following a brand licensing announcement as a function of several variables as of the day of the announcement. As such, all variables in the outcome equation were measured as of the licensing announcement day or last day of the month prior to the announcement; when these data were not available, variables were measured as of the year of the licensing announcement.

Stock Returns. We use the CRSP database to obtain daily stock returns from an equally weighted market index (comprising all stocks on the NASDAQ, AMEX, and NYSE). Data for the risk-free rate of return (Fama and French 1993) and the momentum factors (Carhart 1997) were obtained from Kenneth French's website.[5]

Brand Advertising Investments. We used Kantar Media's AdSpender database to obtain a firm's total advertising spending for a brand. We measure a brand's advertising investments as the sum of monthly advertising spending over a five year period immediately prior to the month of the licensing announcement. We take the natural logarithm of this number to lower the influence of extreme values (see Anderson et al. 1997).

Brand Fit. We measured brand fit by first retrieving all brands' associations and then assessing their relevance for their respective licensee products with the help of independent judges. To obtain an accurate measure of brand fit, we started by assessing the brands' associations as of the year of their licensing announcements. We retrieved brand descriptions from the brand owners' annual reports to shareholders released in the year of the licensing announcements (we decided against conducting consumer surveys because they likely would have retrieved the brands' *current* associations). The use of firms' annual reports was guided by several considerations. First, firms are knowledgeable about consumers' understanding and perceptions of brands, in part because they undertake formal and informal assessments of their brands (e.g., market research studies). Second, firms generally provide accurate information in annual reports because they are under constant scrutiny from stock analysts and shareholders, and face potentially severe consequences if errors are discovered (Bettman and Weitz 1983, Yadav et al. 2007). Third, annual reports are available for multiple firms over several time periods (Eggers and Kaplan 2009). Annual reports have been widely used in prior research on firms' strategic orientations (Noble et al. 2002), strategic and cultural changes (Lee and Grewal 2004), and chief executive officer behavior (Yadav et al. 2007).

Following the historical approach to data collection (e.g., Golder 2000, Lee and Grewal 2004), two judges first independently surveyed firms' annual reports for the years in which they announced brand licensing agreements, and then compared notes and reached agreement. The judges identified attributes, benefits, and product-related descriptions for all licensed brands in our database (see Keller 1993).

To ensure the validity of brand descriptions from annual reports, we also surveyed another company source (company press releases) and an independent data source (newspaper and magazine articles) during the year of the licensing announcement following the

[5] See http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.

same steps. Two new teams comprised of two judges each independently accessed these sources through Factiva; collected data on attributes, benefits, and product-related descriptions of brands in the years of the brand licensing announcements; and then compared notes and reached agreement. We were able to retrieve brand descriptions using company press releases for all but four brands in our data set; brand descriptions from trade press articles were found for 51% of the announcements. Brand descriptions obtained from annual reports were then compared with descriptions retrieved from company press releases and trade press articles. Approximately 80% of the brand descriptions retrieved from annual reports were also found in company press releases; similarly, 61% of the brand descriptions mentioned in annual reports were also found in newspaper and magazine article, indicating convergent validity.

Next, we assessed the relevance of brand descriptions for their respective licensee products. Two new judges were independently provided brand descriptions obtained from annual reports and asked to indicate the extent to which a brand's description was relevant for a given licensee product on a three-point scale (1 = little or no relevance, 2 = moderate relevance, and 3 = high relevance). To eliminate possible confounding by judges' current brand associations, the judges were not presented with actual brand names; rather, brands were described in terms of their associations (descriptions) only. The judges' responses have a proportional reduction in loss reliability of 0.81, which is well above the 0.70 cutoff recommended by Rust and Cooil (1994). As such, an index of the two judges' ratings was used in the analysis (see Appendix C for specific examples). Finally, we take the natural logarithm of this score to lower the influence of extreme values.

Brand Breadth. We retrieved the number of product categories in which a brand was present as of the day of the licensing announcement using trademark applications filed with the USPTO database. Trademark applications list specific product categories actively associated in commerce with a brand and capture a brand's product variety for a range of brands across time and over a wide range of industries (see Gao and Hitt 2012). We counted a brand's number of unique product categories (per the USPTO's international class classification) listed as active as of the day of the announcement and took the natural logarithm of this number to measure brand breadth.

Firm Size. Following prior research, we use the natural log of the total sales of the firm reported in its annual report covering the announcement day as a measure of its size (see Shankar 2006, Srinivasan et al. 2007). The size of the firm, as reflected by the firm's sales revenues, has been hypothesized to impact a firm's marketing actions (see, for example, Gatignon et al. 1989). This metric was obtained from Compustat.

Firm Licensing Experience. We measure firm licensing experience as the number of brand licensing agreements announced by the firm during the five years immediately prior to the day of the licensing announcement. The data were hand collected using the electronic search engine Factiva that searches prominent newspapers and trade publications for brand licensing announcements related to the firm. To lower the effect of extreme values, this variable was log transformed.

Control Variables. With the exception of *Product Fit*, all control variables and their measures and sources are described in Table 1 to conserve space.[6] *Product Fit* refers to the fit between a brand's products and the licensee product. Because most brands are present in multiple product categories, we first identified each brand's product prototype as of the day of the licensing announcement, which was then used to measure the fit with the licensee product. A product prototype represents "a kind of average or central tendency" of the category members (Mao and Krishnan 2006, p. 42; see also Loken et al. 2007). Two judges were presented with each brand's product categories obtained from the USPTO database (without mentioning the brand name). The judges independently reviewed each brand's product categories and provided an average, or central tendency (i.e., product prototype), then met and reached agreement.

A second team of two judges then assessed the fit between the brand's product prototype and the licensee product, again without mentioning the brand name. The judges responded to five questions about the similarity of the licensee product to the brand's product prototype with respect to (1) needs the products satisfy, (2) situations in which they are used, (3) skills required to manufacture them, (4) skills required to sell them, and (5) their physical features (see Aaker and Keller 1990). They rated the similarity on a three-point scale (1 = little or no similarity, 2 = moderate similarity, and 3 = high similarity). An index of the five ratings was used in the analysis as a measure of product fit (see Appendix C for examples of this procedure).

3.4. Data for Selection Equation Variables and Their Measures

Data for the outcome equation comprised 171 observations of brand licensing *announcements* made by 51 licensor firms between 1999 and 2006. The selection equation involves analyzing the *brands* (in these 171 announcements) that were licensed and competing firms' brands that were *not* licensed in the same year.

[6] We thank two anonymous reviewers for suggesting key control variables.

Table 1 Other Variables, Measures, and Data Sources

Variable	Measure	Data source
Corporate Brand or Not	Equals 1 if the brand being licensed is a corporate brand and 0 otherwise	10-K filings
Estimated Brand Equity	Brand equity is estimated as follows. First, we use the Simon and Sullivan (1993) method to calculate a ratio of firm-level brand equity (attributable to all the brands of a firm) scaled by firm's tangible assets. Second, we multiply this ratio by the tangible assets of the firm to obtain a dollar value for the firm-level brand equity and log transform the variable. Third, we estimate brand equity of a brand by multiplying the firm-level brand equity by the ratio of the brand's advertising spending to firm's total advertising spending. To avoid multicollinearity due to the correlation between brand advertising investments and estimated brand equity of the brand, we regress it on brand advertising investments and use the residuals as the control variable in the outcome and selection equations (see Grewal and Tansuhaj 2001).	USPTO, AdSpender, Corporate affiliations, LexisNexis, Compustat, SEC filings
Prior Brand Licensing Categories	Number of brand's product categories (defined by USPTO's International Class classification) for which licensee products were publicly announced during the five years preceding the licensing announcement; the variable is log transformed	Factiva, USPTO
Firm Licensing Revenue Disclosure	Equals 1 if the firm identifies brand licensing as a significant source of revenues in its annual reports and 0 otherwise	10-K filings
Firm Earnings	Annual operating income before depreciation of the firm (Compustat data item OIBDP) scaled by total assets (Compustat data item AT)	Compustat
Licensee Licensing Experience	Number of public announcements involving the licensee acquiring brand licenses during the five years preceding the day of the licensing announcement; the variable is log transformed	Factiva
Publicly Listed Licensee	Equals 1 if the licensee if a publicly listed firm and 0 otherwise	Compustat, CRSP
Foreign-Based Licensee	Equals 1 if the licensee is a firm based in the United States and 0 otherwise	Factiva, licensee website
Industry Dummy Variables	Industry dummy variables corresponding to the five major industries in our sample: (1) apparel, footwear and jewelry (SIC two-digit codes 23, 31, 51, 59); (2) printing, chemicals, and rubber (SIC two-digit codes 27, 28, 30, 38); (3) communications, transportation, and entertainment (SIC two-digit codes 35, 36, 37, 48, 70, 79); (4) games, sports, and retail furniture (SIC two-digit codes 25, 39, 58); (5) business services (SIC two-digit codes 67, 72)	Compustat
Whether Firm Previously Licensed a Brand	Equals 1 if the firm had licensed a brand in the previous five years and 0 otherwise	Factiva
Firm Leverage	Total long-term debt of the firm (Compustat data item DLTT) scaled by the market capitalization of the firm, which is the product of the stock price at the end of the fiscal year (Compustat data item PRCC_F) and the total number of outstanding shares (Compustat data item CSHO)	Compustat
Firm Liquidity	Ratio of the current assets (Compustat data item ACT) to the current liabilities (Compustat data item LCT) of the firm	Compustat

Notes. Variables in the outcome equation were measured as of the licensing announcement day or the end of the month prior to the month of the announcement. When these data were not available, they were measured as of the year of the licensing announcement. Variables in the selection equation were measured as of the year of the licensing announcement. (*Whether Firm Previously Licensed a Brand*, however, was identified as of the year prior such that the 171 announcements pertaining to the outcome equation would not contribute to the firms' licensing experience.)

We identify competing firms' brands by first looking up the primary four-digit Standard Industrial Classification (SIC) codes for each of the 51 licensor firms. Next, we identified their competitors, i.e., all publicly listed firms in the primary four-digit SIC code of each licensor firm for each year T in which it licensed a brand. This yielded a total of 1,550 firms (including the 51 licensor firms in the data set comprised of variables in the outcome equation) across 33 four-digit SIC codes. Restricting firms to the same SIC code enables us to control for the effects of industry-specific factors likely to influence the decision to license a brand. Following this, we manually searched each of the competitors' annual reports to identify brands owned by them in each of the years the competitors were publicly listed. This led to the identification of 4,593 brands, which, together with the 74 licensed brands included in the data set comprised of variables in the outcome equation, yielded a total of 4,667 unique brands for potential inclusion in the data set for variables in the selection equation.

We used Kantar Media's AdSpender to manually collect data on brand advertising spending for each of these brands for five years ending the year in which the brand or a competitor's brand was licensed (for measuring *Brand Advertising Investments*). We were able to obtain advertising spending data for 1,138 brands owned by 390 firms. We then collected data from the USPTO to compute *Brand Breadth* for each brand at the end of each year. We were able to obtain trademark filings at the USPTO for 1,021 brands. These data collection efforts yielded 1,806 observations (pertaining to 1,021 brands owned by 372 firms during 1999–2006). However, data for several variables in the selection equation (*Firm Earnings*, *Firm Size*, *Firm Liquidity*, *Firm Leverage*, *Estimated Brand Equity*) were only available for 1,570 observations comprising 858 brands owned

Table 2 Abnormal Returns for Brand Licensing Announcements

Day	*N*	Average AR (%)	Number of announcements with positive (negative) AR	Percentage of announcements with positive (negative) AR (%)	CsectErr (*T*)	*p*-value	Rank test (*Z*)	*p*-value	Jackknife (*Z*)	*p*-value
−5	171	−0.04	88 (83)	51 (49)	−0.20	0.42	0.07	0.47	−0.52	0.30
−4	171	−0.09	82 (89)	48 (52)	−0.39	0.35	−1.28	0.10	−0.79	0.21
−3	171	−0.04	84 (87)	49 (51)	−0.17	0.43	−0.04	0.48	−0.38	0.35
−2	171	0.00	90 (81)	53 (47)	−0.01	0.50	0.70	0.24	0.23	0.41
−1	171	0.12	85 (86)	50 (50)	0.70	0.24	0.65	0.26	0.32	0.37
0	171	0.33	96 (75)	56 (44)	2.69	0.00	2.78	0.00	2.74	0.00
1	171	0.14	91 (80)	53 (47)	0.90	0.18	1.34	0.09	1.85	0.03
2	171	0.21	88 (83)	51 (49)	0.98	0.16	0.56	0.29	0.29	0.39
3	171	0.11	92 (79)	54 (46)	0.67	0.25	0.52	0.30	0.21	0.42
4	171	0.14	86 (85)	50 (50)	0.78	0.22	0.46	0.33	0.82	0.21
5	171	0.13	91 (80)	53 (47)	0.79	0.21	0.96	0.17	0.92	0.18

Notes. *N*, number of observations pertaining to the outcome equation; AR, abnormal returns; CsectErr (*T*), cross-sectional error *T*-statistic.

by 310 firms. These 1,570 observations were used for model estimation.

Selection equation variables common to the outcome equation, as well as additional variables (such as *Firm Leverage* and *Firm Liquidity*) were measured as of each year included in the sample. *Whether Firm Previously Licensed a Brand*, was identified as of the year prior such that the 171 announcements pertaining to the outcome equation would not contribute to the firms' licensing experience. Measures and data sources for these additional variables are described in Table 1.

4. Results

We first report the average of the abnormal returns for the 171 brand licensing announcements, on the day of the announcement and on each of the five days before and after the licensing announcement. In addition, we use three statistics to test for their statistical significance (see Table 2). First, we use the cross-sectional standard deviation *T* statistic that standardizes the abnormal returns by using the standard deviation of the estimation period of abnormal returns (Brown and Warner 1985). Second, we use a nonparametric rank test (Corrado 1989). Third, we use the jackknife test that assesses the robustness of conclusions to the exclusion of each observation (Giaccotto and Sfiridis 1996). Across all three tests, we find that average abnormal returns on the days preceding and following the announcement day are not statistically significant. This is consistent with the argument that stock markets are efficient and incorporate new information almost immediately (Kothari and Warner 2007). Importantly, we find that the abnormal returns calculated on the announcement day reach highest significance level compared to cumulative abnormal returns over other event windows. In addition, we computed average abnormal returns using wider windows such as (−2, +2), (−3, +3), and found these were not statistically significant.

We find that, on average, brand licensing announcements generate significant positive abnormal returns (0.33%, $p < 0.001$) for licensor firms on the day of the announcements. However, there is substantial variance in the abnormal returns, as nearly 44% of the brand licensing announcements in our sample resulted in *negative* abnormal returns. This wide variation in investor reactions underscores the importance of identifying factors that lead to high (low) abnormal returns.

4.1. Results of Hypotheses Tests

Table 3 provides descriptive statistics of the variables in the outcome and the selection equations. Table 4 provides results of the simultaneous estimation of the outcome and selection equations using maximum likelihood estimation. We outline both the results of a simple model that includes only the control variables (in column 1, Table 4) and the full model containing the hypothesized variables (in column 2, Table 4). As shown in Table 4, inclusion of the hypothesized variables results in a significant increase in the model fit, and thus provides evidence for the relevance of the hypothesized variables ($\chi^2(5) = 26.23$, $p < 0.01$).[7] We therefore discuss results from estimating the full model.

Contrary to expectations, we find a negative relationship between a licensed brand's advertising investments and its abnormal returns ($\gamma_1 = -0.418$, $p < 0.01$). Thus, Hypothesis 1 is not supported. Results provide strong support for Hypothesis 2, the expectation that brand licensing agreements involving greater brand fit with licensee products are associated with higher abnormal returns ($\gamma_2 = 0.791$, $p < 0.05$). Similarly, Hypothesis 3 is also supported, as we find that abnormal returns from brand licensing announcements are higher for broader brands ($\gamma_3 = 0.378$, $p < 0.05$). Hypothesis 4 is also supported, as we find larger firms have higher abnormal returns ($\gamma_4 = 0.195$, $p < 0.05$). However,

[7] The Shapiro–Wilk *W* test (Shapiro and Wilk 1965) fails to reject the null hypothesis that errors are normally distributed ($W = 0.990$, $p > z = 0.259$). We thank an anonymous reviewer for suggesting this test.

Table 3 Descriptive Statistics and Correlation Matrix

						Correlation matrix														
	N(*n*)	Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Outcome equation																				
1 *Abnormal Returns*	171	0.336	1.582	−3.870	6.100	1.000														
2 *Brand Advertising Investments*	171	3.542	1.648	0.134	6.951	−0.211	1.000													
3 *Brand Fit*	171	0.825	0.311	0.000	1.099	0.139	0.065	1.000												
4 *Brand Breadth*	171	2.022	0.705	0.000	2.996	−0.044	0.373	0.101	1.000											
5 *Firm Size*	171	6.796	1.956	1.292	9.636	−0.048	0.625	−0.010	0.132	1.000										
6 *Firm Licensing Experience*	171	1.850	2.419	−6.908	4.111	−0.113	−0.091	−0.053	−0.038	−0.173	1.000									
7 *Product Fit*	171	0.571	0.385	0.000	1.099	−0.023	−0.202	−0.130	−0.162	−0.141	0.024	1.000								
8 *Corporate Brand or Not*	171	0.608	0.490	0.000	1.000	−0.176	0.152	0.069	0.354	−0.265	0.081	−0.098	1.000							
9 *Estimated Brand Equity*	171	0.000	0.462	−1.434	1.005	0.085	0.000	0.009	−0.043	0.199	−0.007	−0.029	−0.124	1.000						
10 *Prior Brand Licensing Categories*	171	0.117	2.194	−4.605	2.198	−0.110	0.109	−0.031	0.314	−0.161	0.498	0.030	0.346	0.017	1.000					
11 *Firm Licensing Revenue Disclosure*	171	0.813	0.391	0.000	1.000	−0.107	−0.313	0.005	0.155	−0.448	0.502	0.033	0.383	0.012	0.459	1.000				
12 *Firm Earnings*	171	0.147	0.107	−0.409	0.379	−0.040	0.263	0.016	0.108	0.563	−0.056	−0.051	−0.129	0.125	0.044	−0.183	1.000			
13 *Licensee Licensing Experience*	171	−4.675	3.565	−6.908	2.398	−0.143	0.022	−0.133	0.026	0.187	−0.116	−0.075	−0.242	0.100	−0.048	−0.056	0.072	1.000		
14 *Publicly Listed Licensee*	171	0.228	0.421	0.000	1.000	−0.135	0.021	−0.025	0.137	0.198	−0.149	0.023	−0.192	0.088	−0.183	−0.061	0.053	0.547	1.000	
15 *Foreign-Based Licensee*	171	0.211	0.409	0.000	1.000	0.101	−0.002	−0.027	0.011	−0.162	0.051	0.059	0.150	−0.051	0.085	0.027	−0.181	−0.200	−0.178	1.000
Selection equation																				
1 *Brand Licensing Announcement or Not*	1,570	0.109	0.312	0.000	1.000	1.000														
2 *Brand Advertising Investments*	1,570	0.569	2.925	−6.266	5.625	0.296	1.000													
3 *Brand Breadth*	1,570	1.076	0.911	0.000	2.833	0.351	0.389	1.000												
4 *Firm Size*	1,570	6.537	1.950	1.292	9.636	0.047	0.235	0.122	1.000											
5 *Whether Firm Previously Licensed a Brand*	1,570	0.510	0.500	0.000	1.000	0.323	0.223	0.218	0.262	1.000										
6 *Corporate Brand or Not*	1,570	0.260	0.439	0.000	1.000	0.278	0.204	0.302	−0.126	−0.075	1.000									
7 *Estimated Brand Equity*	1,570	−0.001	0.393	−0.761	1.397	0.221	0.082	0.180	0.090	−0.024	0.232	1.000								
8 *Firm Earnings*	1,570	0.132	0.127	−0.409	0.379	0.041	0.160	0.044	0.512	0.004	0.054	0.048	1.000							
9 *Firm Leverage*	1,570	0.337	0.582	0.000	3.128	−0.031	−0.105	−0.083	0.041	−0.092	−0.022	−0.030	−0.087	1.000						
10 *Firm Liquidity*	1,570	2.345	1.423	0.462	6.515	0.023	−0.042	−0.002	−0.277	0.132	0.137	0.012	−0.050	−0.163	1.000					

Notes. In the outcome equation, all correlations greater than |0.15| are significant at $p < 0.05$. In the selection equation, all correlations greater than |0.045| are significant at $p < 0.05$. $N(n)$, number of observations pertaining to the outcome (selection) equation; SD, standard deviation; Min, minimum; Max, maximum.

Table 4 Factors Predicting Abnormal Returns

	M1: Controls variables only model		M2: Full model	
	Coeff.	(SE)	Coeff.	(SE)
Outcome equation				
Brand Advertising Investments			−0.418	(0.095)***
Brand Fit			0.791	(0.389)**
Brand Breadth			0.378	(0.180)**
Firm Size			0.195	(0.086)**
Firm Licensing Experience			−0.042	(0.061)
Product Fit	−0.282	(0.274)	−0.248	(0.273)
Corporate Brand or Not	−0.427	(0.438)	−0.425	(0.343)
Estimated Brand Equity	0.369	(0.168)**	0.238	(0.201)
Prior Brand Licensing Categories	−0.048	(0.070)	−0.018	(0.063)
Firm Licensing Revenue Disclosure	−0.141	(0.556)	−0.324	(0.525)
Firm Earnings	−0.527	(0.779)	−1.393	(0.915)*
Licensee Licensing Experience	−0.057	(0.028)**	−0.039	(0.031)*
Publicly Listed Licensee	−0.292	(0.278)	−0.568	(0.275)**
Foreign-Based Licensee	0.400	(0.312)*	0.491	(0.274)**
Industry Dummy 1	−1.029	(0.564)**	−1.250	(0.471)***
Industry Dummy 2	−0.967	(0.798)	−0.979	(0.673)*
Industry Dummy 3	−0.926	(0.813)	−1.094	(0.674)*
Industry Dummy 4	−1.046	(0.663)*	−1.110	(0.535)**
Constant	1.558	(0.851)**	2.205	(0.710)***
Selection equation				
Brand Advertising Investments	0.149	(0.048)***	0.145	(0.044)***
Brand Breadth	0.344	(0.151)**	0.355	(0.141)***
Firm Size	−0.171	(0.084)**	−0.172	(0.084)**
Whether Firm Previously Licensed a Brand	2.127	(0.373)***	2.129	(0.373)***
Corporate Brand or Not	0.799	(0.314)***	0.796	(0.315)***
Estimated Brand Equity	0.301	(0.193)*	0.297	(0.185)*
Firm Earnings	1.510	(0.852)**	1.531	(0.846)**
Firm Leverage	0.193	(0.186)	0.175	(0.186)
Firm Liquidity	−0.155	(0.102)*	−0.157	(0.100)*
Constant	−3.476	(0.366)***	−3.476	(0.367)***
ϱ	0.069	(0.271)	−0.172	(0.170)
$N(n)$	171 (1,570)		171 (1,570)	
Wald chi-square (df)	29.78 (13)***		91.78 (18)***	

Notes. Coeff., coefficient; SE, standard error; $N(n)$, number of observations pertaining to the outcome (selection) equation; *Industry Dummy* 1, apparel, footwear, and jewelry; *Industry Dummy* 2, printing, chemicals, and rubber; *Industry Dummy* 3, communications, transportation, and entertainment; *Industry Dummy* 4, games, sports, and retail furniture.

*$p < 0.10$; **$p < 0.05$; ***$p < 0.01$ (one-tailed).

Hypothesis 5 is not supported, as we do not find a relationship between firm licensing experience and abnormal returns ($\gamma_5 = -0.042$, not significant).

4.2. Sensitivity Analyses

To assess the robustness of our results, we conduct a series of sensitivity analyses. First, following prior research (e.g., Tuli et al. 2010), we assess the impact of removing observations with outlier residuals. Second, we examine the robustness of our conclusions to the use of alternative dependent variables. Although we use an equally weighted market index to measure abnormal returns, we also assess whether our conclusions hold when they are measured using a value-weighted market index. Similarly, we examine whether our results hold when we use the Fama and French (1993) three-factor model or the market model (Brown and Warner 1985), as opposed to the Carhart (1997) model, to calculate abnormal returns. As shown in Table 5, our conclusions remain largely unchanged in each of these cases.

We also assess the impact of using alternative measures of firm size—natural logarithm of total assets, market capitalization, and number of employees. In addition, we examine whether the results change if we use the Simon and Sullivan (1993) measure of brand equity that provides a firm-level estimate of brand equity as opposed to the brand-level estimate of brand equity. As shown in Table 5, our conclusions remain unchanged when these alternative measures are used. Furthermore, we examine the sensitivity to using an alternative event window to measure abnormal returns. Finally, we examine sensitivity to using alternative methods of calculating standard errors: clustering errors at the industry level (i.e., two-digit SIC level) as opposed to the firm level; using heteroskedasticity-robust standard errors (Wooldridge 2009, pp. 265–267); using jackknifing, a resampling procedure that assesses the effect of removing one observation at a time from the given sample; and using bootstrapping with 5,000 replications. As shown in Table 5, conclusions remain largely unchanged across these sensitivity analyses.

5. Discussion

The present study is the *first* empirical investigation of the link between brand licensing announcements and licensors' shareholder value. We find that although brand licensing, on average, is associated with an increase in a licensor's shareholder value, as many as 44% of the agreements in our sample are followed by *negative* returns for licensors. The study also identifies likely reasons for favorable (or unfavorable) reactions of investors. These, in turn, offer insights for managers interested in this understudied brand strategy. In addition, our *field-based* study sheds light on the extent to which several laboratory-based findings in the brand extension literature hold in a brand licensing context (see Loken et al. 2010).[8] As discussed later, we find that whereas certain findings about brand extensions hold in a brand licensing context, others do not.

From a theoretical perspective, brand licensing is similar to, but also different from, brand extensions discussed by researchers such as Loken et al. (2010) and Völckner and Sattler (2006). Like a brand extension,

[8] We thank an anonymous reviewer for highlighting the importance of this point.

brand licensing seeks to take advantage of a brand's ability to persuade consumers to purchase a branded product and generate higher revenues and cash flows. A major difference between the two, however, is that unlike brand extensions, brand licensing involves a brand owner (the licensor) ceding control of manufacturing/marketing a product under its brand name to another firm (the licensee). Opportunistic behavior by the licensee can lead to brand dilution and hurt sales of other products marketed under the brand name and hurt the licensor's cash flows. As such, when evaluating a brand licensing announcement by a licensor firm, investors are likely to consider both (i) the brand's ability to stimulate licensee product sales (and thus generate higher royalties for the licensor) and (ii) the licensor firm's ability to limit licensee opportunism (and thus limit brand dilution and its adverse effect on sales of other products marketed under the brand name). We use this theoretical framework (Figure 1) to develop and test five hypotheses that aim to explain licensors' abnormal returns following brand licensing announcements.

5.1. Findings and Implications

We find that brand licensing announcements are associated with the generation of significant *economic value* for licensors on average; the average abnormal return on the day of announcement is positive and statistically significant (0.33%; $p < 0.001$). For the licensors examined in our study, this translates into an average increase of

Table 5 Sensitivity Analyses

	Panel A				
	After dropping outliers		Using different models to estimate DV		
	Residuals in ±1 percentile	Residuals in ±5 percentile	Fama and French (1992) model	Value-weighted model	Market model
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
Outcome equation					
Brand Advertising Investments	−0.429***	−0.345***	−0.308***	−0.308***	−0.004***
Brand Fit	0.874**	0.805**	0.730**	0.629*	0.006*
Brand Breadth	0.422***	0.411***	0.292**	0.326**	0.003**
Firm Size	0.173***	0.134**	0.132**	0.111*	0.001**
Firm Licensing Experience	−0.012	0.043	−0.006	−0.033	0.000
Product Fit	−0.172	−0.012	−0.174	−0.199	−0.002
Corporate Brand or Not	−0.451*	−0.210	−0.281	−0.239	−0.003
Estimated Brand Equity	0.210	0.406**	0.213	0.296*	0.003*
Prior Brand Licensing Categories	−0.031	−0.102**	−0.062	−0.031	−0.001*
Firm Licensing Revenue Disclosure	−0.703*	−0.225	−0.377	−0.161	−0.002
Firm Earnings	−1.407**	−0.972*	−1.267*	−0.773	−0.008
Licensee Licensing Experience	−0.049**	−0.008	−0.020	−0.029	0.000
Publicly Listed Licensee	−0.596**	−0.582***	−0.474**	−0.465**	−0.004*
Foreign-Based Licensee	0.447**	0.490**	0.429**	0.395	0.004*
Industry Dummy 1	−1.176***	−1.168***	−0.958***	−0.870***	−0.010***
Industry Dummy 2	−1.304**	−1.355***	−0.851**	−0.477	−0.007*
Industry Dummy 3	−1.095**	−0.783**	−0.932**	−0.660*	−0.008*
Industry Dummy 4	−1.062**	−1.013***	−1.054***	−0.662**	−0.009**
Constant	2.540***	1.699***	1.890***	1.370***	0.019***
Selection equation					
Brand Advertising Investments	0.145***	0.152***	0.145***	0.146***	0.144***
Brand Breadth	0.347***	0.325**	0.354***	0.352***	0.356***
Firm Size	−0.158**	−0.142**	−0.172**	−0.171**	−0.172**
Whether Firm Previously Licensed a Brand	2.109***	2.131***	2.129***	2.129***	2.126***
Corporate Brand or Not	0.818***	0.833***	0.798***	0.798***	0.797***
Estimated Brand Equity	0.298*	0.285*	0.298*	0.297*	0.301*
Firm Earnings	1.316*	1.115*	1.525**	1.520**	1.531**
Firm Leverage	0.180	0.196	0.171	0.183	0.161
Firm Liquidity	−0.155*	−0.138*	−0.157*	−0.156*	−0.158**
Constant	−3.476***	−3.558***	−3.475***	−3.477***	−3.472***
ϱ	−0.196	0.018	−0.149	−0.0491	−0.278**
$N(n)$	167 (1,566)	154 (1,553)	171 (1,570)	171 (1,570)	171 (1,570)
Wald chi-square (18)	143.85***	161.99***	113.97***	101.79***	102.31***

Table 5 (Continued)

	Panel B								
	Using alternative measures				Using alternative abnormal returns window (0, 1)	Using alternative standard errors			
	Firm size (total assets)	Firm size (market cap.)	Firm size (employees)	Firm-level brand equity		Clustering at SIC 2-digits	Robust standard errors	Jackknife standard errors	Bootstrapped standard errors
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
Outcome equation									
Brand Advertising Investments	−0.382***	−0.387***	−0.389***	−0.527***	−0.601***	−0.418***	−0.418***	−0.418***	−0.418***
Brand Fit	0.770**	0.771**	0.772**	0.863**	0.474	0.791***	0.791***	0.791**	0.791**
Brand Breadth	0.386**	0.365**	0.358**	0.411***	0.374*	0.378**	0.378**	0.378**	0.378**
Firm Size	0.135**	0.128**	0.136**	0.320***	0.365**	0.195**	0.195**	0.195**	0.195*
Firm Licensing Experience	−0.049	−0.044	−0.040	−0.033	−0.045	−0.042	−0.042	−0.042	−0.042
Product Fit	−0.251	−0.257	−0.248	−0.280	−0.007	−0.248	−0.248	−0.248	−0.248
Corporate Brand or Not	−0.466*	−0.485*	−0.469	−0.382	−0.393	−0.425*	−0.425	−0.425	−0.425
Estimated Brand Equity	0.284*	0.285*	0.245	1.031**	−0.427	0.238*	0.238	0.238	0.238
Prior Brand Licensing Categories	−0.025	−0.020	−0.021	−0.002	−0.157**	−0.018	−0.018	−0.018	−0.018
Firm Licensing Revenue Disclosure	−0.293	−0.348	−0.284	−0.370	0.146	−0.324	−0.324	−0.324	−0.324
Firm Earnings	−0.769	−1.026*	−0.941	−0.858	−3.477**	−1.393**	−1.393	−1.393	−1.393
Licensee Licensing Experience	−0.041*	−0.040*	−0.038	−0.031	0.001	−0.039	−0.039	−0.039	−0.039
Publicly Listed Licensee	−0.551**	−0.573**	−0.557**	−0.640**	−0.769*	−0.568***	−0.568**	−0.568**	−0.568**
Foreign-Based Licensee	0.474**	0.482**	0.467**	0.535**	0.760**	0.491**	0.491**	0.491**	0.491*
Industry Dummy 1	−1.081***	−0.977**	−1.221***	−1.469***	−0.667	−1.250***	−1.250**	−1.250*	−1.250*
Industry Dummy 2	−0.857	−0.739	−0.927	−1.327**	0.038	−0.979*	−0.979	−0.979	−0.979
Industry Dummy 3	−0.922*	−0.757	−1.034*	−1.255**	−0.578	−1.094*	−1.094*	−1.094	−1.094
Industry Dummy 4	−0.932**	−0.821*	−1.067**	−1.531***	−0.382	−1.110**	−1.110*	−1.110	−1.110
Constant	2.049***	2.069***	2.198***	2.439***	2.189**	2.205***	2.205***	2.205**	2.205**
Selection equation									
Brand Advertising Investments	0.140***	0.158***	0.145***	0.175***	0.136***	0.145***	0.145***	0.145***	0.145***
Brand Breadth	0.355***	0.348***	0.376***	0.367***	0.348***	0.355***	0.355***	0.355***	0.355***
Firm Size	−0.115*	−0.189***	−0.185***	−0.161*	−0.171**	−0.172**	−0.172***	−0.172***	−0.172***
Whether Firm Previously Licensed a Brand	2.088***	2.170***	2.068***	2.110***	2.155***	2.129***	2.129***	2.129***	2.129***
Corporate Brand or Not	0.818***	0.726***	0.784***	0.855***	0.803***	0.796***	0.796***	0.796***	0.796***
Estimated Brand Equity	0.257*	0.280*	0.355**	−0.086	0.324**	0.297**	0.297**	0.297**	0.297**
Firm Earnings	0.773	1.495**	1.584**	1.408*	1.548**	1.531**	1.531***	1.531**	1.531**
Firm Leverage	0.163	0.047	0.189	0.179	0.161	0.175	0.175**	0.175**	0.175**
Firm Liquidity	−0.145*	−0.165**	−0.177**	−0.155*	−0.158**	−0.157*	−0.157***	−0.157***	−0.157***
Constant	−3.450***	−3.492***	−3.439***	−3.528***	−3.485***	−3.476***	−3.476***	−3.476***	−3.476***
P	−0.165	−0.203*	−0.167	−0.217	−0.537**	−0.172	−0.172	−0.172	−0.172
Wald chi-square (18)	89.260***	81.740***	98.790***	91.930***	42.050***	258.460***	46.270***	1.800***	32.380***

Notes. Coeff., coefficient; $N(n)$, number of observations pertaining to the outcome (selection) equation (171 (1,570)); *Industry Dummy* 1, apparel, footwear, and jewelry; *Industry Dummy* 2, printing, chemicals, and rubber; *Industry Dummy* 3, communications, transportation, and entertainment; *Industry Dummy* 4, games, sports, and retail furniture.

*$p < 0.10$; **$p < 0.05$; ***$p < 0.01$ (one-tailed).

$37.52 million in market capitalization.[9] This is comparable to the economic impact of announcements of Internet channel additions (£16.38 million, per Geyskens et al. 2002) and new product introductions ($26.68 million, per Chaney et al. 1991). In percentage terms, the average increase in shareholder value following brand licensing announcements (0.33%) is similar in magnitude to the increase following announcements of brand extensions (0.32%, per Lane and Jacobson 1995), celebrity endorsements (0.54%, per Agrawal and Kamakura 1995), and Internet channel additions (0.35% and 0.71%, per Geyskens et al. 2002).

However, there is substantial variation in the returns obtained by licensors. For example, Clorox's shareholder value *increased* by $299.31 million in June 2001 after it announced an agreement to license its Armor All Professional brand to National Services Industries for car wash products. In contrast, Columbia Sportswear's shareholder value *decreased* by nearly $37.89 million in December 2001 after it announced an agreement to license its Columbia brand to Icon Shoe Care for shoe care products and laces. Firms in our sample that

[9] The dollar value of abnormal returns of each firm is calculated by multiplying the abnormal return of the firm by its market capitalization at the close of the day before the brand licensing announcement.

realized positive returns had a mean abnormal return of 1.00% (an average gain of $105 million in shareholder wealth),[10] whereas firms that realized negative returns had a mean abnormal return of −0.50% (an average loss of $45.16 million in shareholder wealth).[11]

The incidence of *negative* abnormal returns in our sample is high—as many as 44% of brand licensing announcements are followed by negative abnormal returns.[12] This suggests that based on the publicly available information at the time of brand licensing announcements, investors expect net reductions in licensor cash flows in nearly half the cases. This raises important questions: What factors lead to positive versus negative abnormal returns, and what can licensors do to generate more favorable returns? Why do so many brand licensing announcements in our sample (i.e., 44%) lead to negative abnormal returns? Our findings offer the following insights into these questions.

We find that investors react more favorably to the licensing of a brand when there is a greater fit between the brand's image and a licensee's product (i.e., when there is a greater "brand fit"). This finding suggests that licensors would reap greater benefits if they first identify products that fit best with their brands' *images* and then look for brand licensing agreements for these products. On the other hand, investors do not appear to care very much about how well a brand's current *products* fit with a licensee's product (i.e., "product fit"). Taken together, these findings suggest that a brand manager considering licensing a brand should give priority to the fit between a brand's image and a prospective licensee's product (i.e., brand fit), and not focus on the brand's products and whether they fit with a licensee's product (i.e., product fit). We also find that investors react more favorably to the licensing of brands that are *broader*, i.e., used on a greater variety of products. This suggests it may be useful for managers to first try to broaden their brands via brand extensions before offering them to licensees.

We find that abnormal returns following brand licensing announcements are more positive when licensors are larger in *size*. This finding lends credence to the hypothesis that investors view larger licensors as having more resources to prevent/limit licensee opportunism that can dilute a brand and hurt sales of other products marketed under the brand name. This suggests that, all else being equal, bigger licensors are at an advantage insofar as using brand licensing to create shareholder value is concerned. We also find that abnormal returns following brand licensing announcements are unrelated to a firm's *licensing experience*. This finding appears to suggest that investors believe a licensor's prior experience in licensing provides insufficient assurance that the licensor will be able to prevent/limit licensee opportunism. Taken together, our findings suggest that investors believe a licensor's size is a better signal of its ability to prevent/limit licensee opportunism than the licensor's licensing experience. This may be viewed as "good news" for firms that are interested in licensing their brands but lack prior experience.

Contrary to our hypothesis, we find that licensing announcements of brands with greater *advertising investments* lead to *lower* abnormal returns. Based on prior brand extension research (e.g., Broniarczyk and Alba 1994, Loken et al. 2010), we had argued that investors expect a heavily advertised brand to generate greater licensee product sales and hence greater royalties for the licensor. Although this may well be the case, investors may *also* see a greater threat of lower sales of other products marketed under the brand name because of *brand dilution*, and believe that greater expected royalties are unlikely to offset lower profits expected from sales of other products. This explanation is supported by two interrelated strands of reasoning. First, greater advertising increases the accessibility of a brand's associations among consumers, making it more likely that consumers will revise these associations downward in response to poor quality marketing and/or manufacturing by an opportunistic licensee; that is, investors are likely to perceive a greater threat of brand dilution when a heavily advertised brand is licensed (see Ahluwalia and Gürhan-Canli 2000 for suggestive evidence in a brand extension setting). Second, a licensor's profits from sales of all products marketed under its brand name generally are much greater than its royalties on sales of a single product of a new licensee. As such, investors are likely to believe that the greater royalties earned from licensing a heavily advertised brand will be insufficient to offset the lower profits expected from lower sales of other products because of brand dilution. This is also consistent with prospect theory, which suggests potential losses tend to be more salient to investors than potential gains (e.g., Barberis and Thaler 2003, Hwang and Satchell 2010).

As noted earlier, as many at 44% of brand licensing announcements in our sample lead to negative abnormal returns. This begs the question of why managers

[10] The average gain is statistically significant with $p < 0.01$ in three tests—the cross-section test ($t = 6.779$), the rank test ($Z = 5.125$), and the jackknife test ($Z = 6.813$).

[11] The average loss is statistically significant with $p < 0.01$ in three tests—the cross-section test ($t = -3.120$), the rank test ($Z = -2.472$), and the jackknife test ($Z = -2.960$).

[12] However, our finding is comparable to the incidence of negative returns reported in previous event studies (56% for appointments of chief marketing officers in Boyd et al. 2010, 36% and 42% for Internet channel additions in Geyskens et al. 2002, 48.7% for customer relationship management outsourcing in Kalaignanam et al. 2013, and 46% for new product development outsourcing in Raassens et al. 2012).

license brands that end up having negative abnormal returns. Results from our selection equation estimation offer some insights into this question. We find that licensors are *more* (rather than less) likely to license heavily advertised brands (coefficient = 0.145, $p < 0.01$; see Table 4), even though investors react negatively to such announcements. Similarly, smaller firms are more likely to license their brands (coefficient = −0.172, $p < 0.01$; see Table 4), even though investors react negatively to such announcements. We offer three possible explanations for firms' decisions to license heavily advertised brands, and smaller firms' decisions to license, which collectively offer insights into why so many (44% in our sample) licensing announcements lead to negative abnormal returns.

First, managers may be aware that licensing brands with greater advertising investments and licensing by smaller firms generate lower abnormal returns, but may choose to license anyways to improve their short-term performance. For example, heavily advertised brands have greater consumer awareness, and hence licensing such brands is likely to quickly generate licensee product sales and licensor royalties. This would improve managers' performance on short-term metrics such as quarterly revenues, on which managers are evaluated. As such, managers may pay more attention to these metrics than to stock prices, especially because they have greater control over short-term revenues/earnings, whereas stock prices are subject to a broader range of influences (for related evidence of myopic behavior by managers, see Mizik 2010). Similarly, small firms tend to have fewer resources, and as such may value immediate access to additional revenues from brand licensing more than larger firms and deliberately trade off stock valuations for greater cash flows.

Second, managers may choose to license heavily advertised brands or to license even when they are relatively small in size if they are privy to licensing execution terms that may warrant greater optimism regarding licensee opportunism and brand dilution. For example, licensors may develop strategies for preventing or limiting licensee opportunism, but not make them public at the time of brand licensing announcements; similarly, licensors may have private information regarding the licensee and the terms of the contract that indicate the threat of licensee opportunism is smaller than what one might otherwise expect. If so, managers are likely to perceive the threat from brand dilution to be smaller than that perceived by investors.

Third, managers may well be unaware that licensing heavily advertised brands or licensing by a smaller firm is suboptimal for maximizing shareholder value. Figuring out a licensor's stock returns from a brand licensing announcement on a given day requires attributing the change in stock prices that day to the announcement from among a host of other factors such as shocks affecting the overall market, the general trend in the licensor's stock price, and other confounding events or actions the licensor may have taken that day. Moreover, managers tend to focus on their own stock prices; they are unlikely to systematically track brand licensing announcements of other firms along with changes in their stock prices as well as characteristics of the brands, licensors, and licensees involved. These difficulties may keep managers from realizing that licensing more heavily advertised brands and licensing by smaller firms can result in lower returns.

These possibilities—managerial myopia, private information, and lack of awareness—offer partial explanations for why so many licensors enter into licensing arrangements to which investors react unfavorably on the day of the announcement. It would be useful to investigate these possibilities in greater depth in future research, not just in brand licensing contexts, but also in other contexts, given that a large proportion of firms that make announcements of various types experience negative abnormal returns (e.g., Kalaignanam et al. 2013, Raasens et al. 2012).

5.2. Limitations and Future Research

Although we observe on average substantial abnormal returns for a licensor on the day of a brand licensing announcement, these gains in economic value represent initial reactions of investors, conditional on the information available to them at the time of the announcement. As more information becomes available, it is possible investors may adjust their initial estimates, and the long-run value created for licensors' shareholders may differ from that suggested by our findings. Furthermore, abnormal returns are near-instantaneous reactions of investors, and may not capture potential longer-term strategic benefits that may motivate firms to license their brands. In addition, we use cross-sectional data to explain variations in abnormal returns; as such, it would be appropriate to exercise caution when making strong causal inferences from the study's results.

Our study uses publicly available data to assess the effects of brand licensing announcements on licensor shareholder value. It would be useful to complement this study with studies using different methodological approaches to examine a broader range of benefits realized by licensors (which may not always be disclosed in licensing announcements). For example, it would be useful to develop grounded theory followed by surveys to assess the impact of specific elements of licensing contracts (such as scope, duration, and comprehensiveness of an agreement) on a variety of benefits realized by a licensor (e.g., competitive blocking, brand building).

We focus on announcements of licensing agreements involving a single brand to establish a clear link between brand characteristics and investor responses.

However, in the course of our data collection efforts, we also identified licensing announcements listing multiple brands. For example, Samsonite Corporation announced licensing agreements for Samsonite and American Tourister, to two licensees in a single announcement in 2000. It would be interesting to examine in future studies whether investors view multiple brands as portfolios, and consider the number of brands licensed and number of product segments in which the brands are offered when determining the value of a licensor's stock.

Future research could also examine investor responses to voluntary disclosures of licensing revenues by licensors in their earnings announcements. For example, do investors respond more positively to earnings announcements containing such disclosures given that these licensing revenues represent positive cash flows? Or, alternatively, are investors wary of the potential negative effects of brand licensing when licensed brands are heavily advertised or when the licensors are small, and therefore respond less positively to earnings announcements containing such disclosures?

Finally, it would be useful to examine the brand licensing phenomenon from the perspective of licensees. Entering into a brand licensing arrangement enables a licensee to take advantage of a brand's associations to generate higher sales of its products, thus likely increasing its shareholder value. It would be useful to empirically investigate whether and to what extent this actually is the case. Relatedly, it would be interesting to study the types of brands and licensors for which licensees are willing to pay higher royalty rates. For example, do licensees prefer larger, more dominant licensors that have greater market power and hence potentially can help out licensees (e.g., help them get access to preferred shelf spaces in grocery stores)? Or are licensees wary of such firms because their market power can limit the flexibility with which licensees can promote their products bearing the brand name? Addressing these and other similar questions is likely to lead to richer insights into the underresearched topic of brand licensing.

Acknowledgments

The authors thank the department editor and the anonymous associate editor and reviewers for their exceptionally helpful comments, which improved the paper.

Appendix A. Distribution of Brand Licensing Announcements by Year

Year	Number of brand licensing agreements	Percentage
1999	4	2.34
2000	14	8.19
2001	20	11.70
2002	17	9.94
2003	36	21.05
2004	38	22.22
2005	26	15.20
2006	16	9.36
Total	171	100

Appendix B. Distribution of Licensing Agreements and Abnormal Returns by Industry

Industry (two-digit SIC)	Number of brand licensing agreements	Percentage	Average abnormal returns (%)	SD
Apparel, footwear, and jewelry (23, 31, 51, 59)	116	67.836	0.205	1.629
Printing, chemicals, and rubber (27, 28, 30, 38)	23	13.450	0.593	1.275
Communications, transportation, and entertainment (35, 36, 37, 48, 70, 79)	11	6.433	0.372	0.928
Games, sports, and retail furniture (25, 39, 58)	11	6.433	0.075	1.142
Business services (67, 72)	10	5.848	1.500	2.236
Total	171	100	0.33	1.58

Note. SD, standard deviation.

Appendix C. Examples of Brand Fit Measurement

Brand	Year	Brand descriptions in annual report	Brand descriptions in company press releases (*for validation purposes*)	Brand descriptions in trade press articles (*for validation purposes*)	Licensee product	Brand fit
UGG Australia	2004	Luxury brand of sheepskin footwear; functional as well as premium, luxury collection; embraced by Hollywood celebrities, often photographed wearing the brand	Premier sheepskin footwear; growing status in the luxury goods sector	Fur lined outdoorsy boots; existing potential and skillful interest	Outerwear	3
Verizon	2006	Leading provider of communications services; wireless voice and data products and services; the most extensive wireless networks	Leader in delivering broadband and other communication innovations; most reliable wireless network, premier wireline networks	Major cell phone operator; local and long distance services; wired and wireless access networks; telecom behemoth	Headsets	1

Appendix D. Examples of Product Fit Measurement

Brand	Year	Brand's product categories (*source*: USPTO)	Brand's product prototype	Licensee product	Product fit
UGG Australia	2004	Footwear (boots, shoes, clogs, slippers) and footwear made of sheepskin Clothing (coats, jackets, ponchos, skirts, muffs; children's buntings, T-shirts, sweatshirts, shirts, hats, gloves) Sheepskin handbags, carry-on bags, clutch bags, duffle bags, shoulder bags, tote bags, backpacks, daypacks, handbags, knapsacks, pocketbooks, purses, satchels and waist packs Cleaner and conditioner, water and stain repellant for use on sheepskin and leather Retail store services, mail order catalog services and online retail store services featuring footwear, clothing, handbags and home accessories	Apparel, accessories, and luggage	Outerwear	2.33
Verizon	2006	Telecommunications services, namely, transmission of voice, data, images, audio, etc., via a communications network Telecommunications and information technology equipment, components, supplies, etc. Telephone directory services Providing news in the nature of current events reporting and entertainment information via global communications networks Hosting the webpages of others on a computer server for a global computer network	Electronics and telecommunication services networks	Headsets	2.53

References

Aaker DA (2004) Leveraging the corporate brand. *Calif. Management Rev.* 46(3):6–18.

Aaker DA, Keller K (1990) Consumer evaluations of brand extensions. *J. Marketing* 54(1):27–41.

Agins T, Quick R (2001) Calvin Klein faces key test as Warnaco trial opens—Industry will be rapt as high fashion meets dirty laundry and vitriol. *Wall Street Journal* (January 22), http://online.wsj.com/news/articles/SB980112694277050062.

Agrawal J, Kamakura WA (1995) The economic worth of celebrity endorsers: An event study analysis. *J. Marketing* 56(3):56–62.

Ahluwalia R, Gürhan-Canli Z (2000) The effects of extensions on the family brand name: An accessibility-diagnosticity perspective. *J. Consumer Res.* 27(3):371–381.

Anderson EW, Fornell C, Rust RT (1997) Customer satisfaction, productivity, and profitability: Differences between goods and services. *Marketing Sci.* 16(2):129–146.

Barberis N, Thaler R (2003) A survey of behavioral finance. Constantinides GM, Harris M, Stulz RM, eds. *Handbook of the Economics of Finance: Financial Markets and Asset Pricing* (North Holland, Amsterdam), 1053–1123.

Batra R, Lenk P, Wedel M (2010) Brand extension strategy planning: Empirical estimation of brand–category personality fit and atypicality. *J. Marketing Res.* 47(2):335–347.

Bettman JR, Weitz BA (1983) Attributions in the board room: Causal reasoning in corporate annual reports. *Admin. Sci. Quart.* 8(2): 165–183.

Boush D, Loken MB (1991) A process-tracing study of brand extension evaluation. *J. Marketing Res.* 28(1):16–28.

Boyd DE, Chandy R, Cunha M Jr (2010) When do chief marketing officers impact firm value? A customer power explanation. *J. Marketing Res.* 47(6):1162–1176.

Broniarczyk SM, Alba JW (1994) The importance of the brand in brand extension. *J. Marketing Res.* 31(2):214–228.

Brown SJ, Warner JB (1985) Using daily stock returns: The case of event studies. *J. Financial Econom.* 14(1):3–31.

Buckley PJ (1997) International technology transfer by small and medium sized enterprises. *Small Bus. Econom.* 9(1):67–78.

Cameron CA, Trivedi PK (2010) *Microeconometrics Using Stata* (Stata Press, College Station, TX).

Carhart MM (1997) On persistence in mutual fund performance. *J. Finance* 52(1):83–110.

Chaney PK, Devinney TM, Winer RS (1991) The impact of new product introductions on the market value. *J. Bus.* 64(4):573–610.

Corrado CJ (1989) A nonparametric test for abnormal security-price performance in event studies. *J. Financial Econom.* 23(2):385–395.

Dickson PH, Weaver KM, Hoy F (2006) Opportunism in the R&D alliances of SMES: The roles of the institutional environment and SME size. *J. Bus. Venturing* 21(4):487–513.

Draganska M, Klapper D (2011) Choice set heterogeneity and the role of advertising: An analysis with micro and macro data. *J. Marketing Res.* 48(4):653–669.

Eggers JP, Kaplan S (2009) Cognition and renewal: Comparing CEO and organizational effects on incumbent adaptation to technical change. *Organ. Sci.* 20(2):461–477.

Fama EF (1970) Efficient capital markets: A review of theory and empirical work. *J. Finance* 25(2):383–417.

Fama EF, French KR (1993) Common risk factors in the returns on stocks and bonds. *J. Financial Econom.* 33(1):3–56.

Feldman A, He Y, Kravetz A, Worsham H (2010) Corporate and brand licensing: Year in review. *Licensing J.* 30(2):1–6.

Feldman JM, Lynch JG Jr (1988) Self-generated validity and other effects of measurement on belief, attitude, intention, and behavior. *J. Appl. Psychol.* 73(3):421–435.

Gao G, Hitt LM (2012) Information technology and trademarks: Implications for product variety. *Management Sci.* 58(6):1211–1226.

Gatignon H, Anderson E, Helsen K (1989) Competitive reactions to market entry: Explaining interfirm differences. *J Marketing Res.* 26(1):44–55.

Geyskens I, Gielens K, Dekimpe MG (2002) The market valuation of Internet channel additions. *J. Marketing* 66(2):102–119.

Giaccotto C, Sfiridis JM (1996) Hypothesis testing in event studies: The case of variance changes. *J. Econom. Bus.* 48(4):349–370.

Golder PN (2000) Historical method in marketing research with new evidence on long-term market share stability. *J. Marketing Res.* 37(2):156–172.

Greene WH (2005) Censored data and truncated distributions. Mills T, Patterson K, eds. *Handbook of Econometrics: Vol. 1, Theoretical Econometrics*, Chap. 20 (Palgrave, London), 695–736.

Greene WH (2008) *Econometric Analysis* (Prentice Hall, Upper Saddle River, NJ).

Grewal R, Tansuhaj P (2001) Building organizational capabilities for managing economic crisis: The role of market orientation and strategic flexibility. *J. Marketing* 65(2):67–80.

Hwang S, Satchell SE (2010) How loss averse are investors in financial markets? *J. Banking Finance* 34(10):2425–2438.

Kalaignanam K, Kushwaha T, Steenkamp J-BEM, Tuli KR (2013) The effect of CRM outsourcing on shareholder value: A contingency perspective. *Management Sci.* 59(3):748–769.

Kale P, Singh H (2007) Building firm capabilities through learning: The role of the alliance learning process in alliance capability and firm-level alliance success. *Strategic Management J.* 28(10): 981–1000.

Keller KL (1993) Conceptualizing, measuring, managing customer-based brand equity. *J. Marketing* 57(1):1–22.

Kennedy P (2003) *A Guide to Econometrics* (Blackwell Publishing, Oxford, UK).

Kothari SP, Warner JB (2007) The Econometrics of event studies. Eckbo EB, ed. *Handbook of Corporate Finance: Empirical Corporate Finance* (North Holland, Amsterdam), 3–36.

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

Lee RP, Grewal R (2004) Strategic responses to new technologies and their impact on firm performance. *J. Marketing* 68(4):151–171.

Leiblein MJ, Madsen TL (2009) Unbundling competitive heterogeneity: Incentive structures and capability influences on technological innovation. *Strategic Management J.* 30(7):711–735.

License! Global (2013) Top 150 global licensors (May 1), http://www.licensemag.com/license-global/top-150-global-licensors.

Loken B, John DR (1993) Diluting brand beliefs: When do brand extensions have a negative impact? *J. Marketing* 57(3):71–84.

Loken B, Barsalou L, Joiner C (2007) Categorization theory and research in consumer psychology: Category representation and category-based influence. Haugtvedt CP, Herr P, Kardes F, eds. *Handbook of Consumer Psychology* (Lawrence Erlbaum Associates, New York), 133–164.

Loken B, Joiner C, Houston MJ (2010) Leveraging a brand through brand extension: A review of two decades of research. Loken B, Ahluwalia R, Houston MJ, eds. *Brands and Brand Management: Contemporary Research Perspectives* (Psychology Press, New York), 11–42.

MacKinlay AC (1997) Event studies in economics and finance. *J. Econom. Lit.* 35(1):13–39.

Mao H, Krishnan HS (2006) Effects of prototype and exemplar fit on brand extension evaluations: A two-process contingency model. *J. Consumer Res.* 33(1):41–49.

McWilliams A, Siegel D (1997) Event studies in management research: Theoretical and empirical issues. *Acad. Management J.* 40(3): 626–657.

Meyvis T, Janiszewski C (2004) When are broader brands stronger brands? An accessibility perspective on the success of brand extensions. *J. Consumer Res.* 31(2):346–357.

Mizik N (2010) The theory and practice of myopic management. *J. Marketing Res.* 47(4):594–611.

Naik PA, Mantrala MK, Sawyer AG (1998) Planning media schedules in the presence of dynamic advertising quality. *Marketing Sci.* 17(3):214–235.

Noble CH, Sinha RK, Kumar A (2002) Market orientation and alternative strategic orientations: A longitudinal assessment of performance implications. *J. Marketing* 66(4):25–39.

Park CW, Milberg S, Lawson R (1991) Evaluation of brand extensions: The role of product feature similarity and brand concept consistency. *J. Consumer Res.* 18(2):185–193.

Raassens N, Wuyts S, Geyskens I (2012) The market valuation of outsourcing new product development. *J. Marketing Res.* 49(5):682–695.

Rust RT, Cooil B (1994) Reliability measures for qualitative data: Theory and implications. *J. Marketing Res.* 31(1):1–14.

Shankar V (2006) Proactive and reactive product line strategies: Asymmetries between market leaders and followers. *Management Sci.* 52(2):276–292.

Shapiro S, Wilk M (1965) An analysis of variance test for normality. *Biometrika* 52(3–4):591–612.

Simon CJ, Sullivan MW (1993) The measurement and determinants of brand equity: A financial approach. *Marketing Sci.* 12(1): 28–52.

Simonin BL (1997) The importance of collaborative know-how: An empirical test of the learning organization. *Acad. Management J.* 40(5):1150–1174.

Srinivasan S, Hanssens DM (2009) Marketing and firm value metrics, methods, findings, and future directions. *J. Marketing Res.* 6(3):293–312.

Srinivasan R, Haunschild P, Grewal R (2007) Vicarious learning in new product introductions in the early years of a converging market. *Management Sci.* 53(1):16–28.

Stump RL, Heide JB (1996) Controlling supplier opportunism in industrial relations. *J. Marketing Res.* 33(4):431–441.

Swaminathan V, Moorman C (2009) Marketing alliances, firm networks, and firm value creation. *J. Marketing* 73(5):52–69.

Swaminathan V, Fox RJ, Reddy SK (2001) The impact of brand extension introduction on choice. *J. Marketing* 65(4): 1–15.

Tuli KR, Bharadwaj SG, Kohli AK (2010) Ties that bind: The impact of multiple types of ties with a customer on sales growth and sales volatility. *J. Marketing Res.* 47(1):36–50.

Völckner F, Sattler H (2006) Drivers of brand extension success. *J. Marketing* 70(2):18–34.

Wathne KH, Heide JB (2000) Opportunism in interfirm relationships: Forms, outcomes, and solutions. *J. Marketing* 64(4):36–51.

Wooldridge JM (2009) *Introductory Econometrics: A Modern Approach* (South-Western Cengage Learning, Mason, OH).

Wooldridge JM (2010) *Econometric Analysis of Cross Section and Panel Data* (MIT Press, Cambridge, MA).

Yadav MS, Prabhu JC, Chandy RK (2007) Managing the future: CEO attention and innovation outcomes. *J. Marketing* 71(4):84–101.