TO EXTEND AND DEFEND: ESSAYS ON HOW FIRMS CAN GROW AND PROTECT BRAND EQUITY

A Dissertation

by

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ABSTRACT

Brands are a firm's most valuable assets. Firms invest significant financial resources in building, maintaining and protecting their brands. In this study, I examine the effect of different branding decisions on firm performance. In the first essay, I examine threats that brands face in the marketplace and analyze the financial consequences of a firm's decision to protect its brands in courts. I draw on prior research and my examination of a large database of trademark infringement cases to build a taxonomy of unauthorized uses of brand. I then examine the short- and long-term consequences of defending brands from marketplace attacks.

I find that upon filing of a trademark lawsuit, plaintiff firms experience significant negative short-term abnormal returns. The reaction is stronger if a litigation involves copycats, brand misappropriation, or counterfeits. Examining stock market reaction to the termination of a lawsuit, I show that, while in the short-term, winning a trademark case leads to negative abnormal returns, in the long-term, firms that have won a trademark case enjoy positive abnormal returns.

In my second essay, I focus on new product introductions and analyze the consequences of a firm's decision to use one of the following three new product branding options: 1) launching a completely new brand; 2) extending an existing brand; or 3) creating a sub-brand. To determine the factors underlying this decision, I first propose a theoretical framework that organizes product-level, category-level, and firm-level determinants of new product branding choice. I test this framework using a sample

of new product introductions in the Consumer Packaged Goods industry. I then examine the extent to which deviations from the average industry practice (revealed by model predictions) have financial implications for the firm.

I find that for innovative new products or products introduced in highly competitive categories, firms are more likely to use a new brand name or a sub-brand. Firms with high advertising spending are better positioned to launch a new brand, while firms with a large portfolio of brands should use a direct extension. Analyzing the stock market value of the firms in my sample, I document that firms that follow these recommendations have higher firm value than those that deviate.

DEDICATION

Dedicated to my daughter Alina who has been the main motivation for me throughout the PhD program.

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Contributors

This dissertation was supervised by a committee consisting of Dr. Alina Sorescu, and Dr. Rajan Varadarajan from the department of Marketing at Mays Business School, Texas A&M University; Dr. Mark B. Houston from the department of Marketing at Neeley School of Business, Texas Christian University; and Dr. B. Dan Wood from the department of Political Science, Texas A&M University. The Data analyzed in Chapter 4 was obtained through Texas A&M library database subscription. Data analysis and other work conducted for the dissertation was completed by the student independently.

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CHAPTER I

INTRODUCTION

Branding is a frequently studied topic in academic research. However, several aspects of brand management remain relatively under-researched. This dissertation attempts to shed light on two aspects of brand management that have significant effect on performance of companies: (1) brand protection, and (2) new product branding.

In my first essay, I examine different types of brand or trademark infringements. I propose a conceptual model and offer empirical evidence of the financial consequences of protecting brands in courts. I show that investors react negatively when a trademark infringement lawsuit is filed, as well as when the plaintiff wins such a lawsuit. Although the immediate stock market reaction to winning a trademark case is negative, I document positive six-month abnormal returns following these wins. These results offer new insights into the financial effects of using litigation to protect brands. Moreover, the findings add to an emerging stream of research showing that investors respond to complex events by weighing a negative signal more heavily than a positive one (Benartzi and Thaler 1995).

In the second essay, I attempt to bridge the branding and new product performance literatures. I propose a conceptual framework for decisions faced by managers of every new product: should the product be branded as a direct extension, a sub-brand, or a new brand? Using empirical evidence obtained from the analysis conducted on a sample of over 20,000 new product introductions, I provide evidence to

managers on how to choose the right type of brand name for new products.

This dissertation makes several contributions to marketing theory and practice. First, it contributes to the literature on brand extensions by providing a theoretical framework of determinants of the new product branding decision. Brand extensions are one of the most heavily-studied phenomena in marketing (Keller and Lehmann 2006), yet this stream of research mostly relies on findings from lab experiments, and primarily studies consumers' evaluations of brand extensions, as well as changes in perceptions resulting from using an existing brand to introduce new products to new and existing categories (e.g. Boush and Loken 1991; Broniarczyk and Alba 1994; Loken and John 1993). While these studies provide valuable insights into consumer psychology and help understand how brand extensions are evaluated and perceived, they do not provide insights into the conditions under which a particular branding strategy should be selected, or what factors determine firms' choices in branding new products, nor do they account for the effect of relevant contextual factors as well as studies based on secondary data can do.

Second, this dissertation contributes to the brand protection literature. Research on unauthorized uses of brands has focused on consumers' responses to a few types of threats (e.g., Aribarg et al. 2014; Chaudhry and Stumpf 2011; Van Horen and Pieters 2012; Wilcox, Kim, and Sen 2009). In contrast, in this dissertation, I propose a classification that organizes *all* major types of trademark infringements, thus providing the field with a classification of brand threats for use in future research. Additionally, despite the prevalence of trademark infringement lawsuits, little is known

about the financial consequences of protecting a brand in court. By analyzing stock market response to filing and termination of trademark infringement cases, I provide the first conceptualization of all infringements threats that brands face and empirical analysis of financial implications of brand protection.

Overall, this dissertation contributes to the growing stream of literature that investigates the value relevance of marketing decisions (Joshi and Hanssens 2010; Srinivasan and Hanssens 2009). I demonstrate significant effects of brand management choices on firm financial performance. I also provide prescriptive implications to managers in the realm of brand protection and new product branding. The findings of this dissertation can help managers make strategic choices that can potentially lead to increases in the stock market value of the firms.

CHAPTER II

HANDS-OFF MY BRAND! THE FINANCIAL CONSEQUENCES OF PROTECTION BRANDS THROUGH TRADEMARK INFRINGEMENT LAWSUITS*

Well-known brands are frequently imitated, misused, or tampered with. Firms facing brand-related threats routinely turn to the legal system and file trademark infringement lawsuits in an attempt to prevent revenue losses and brand equity dilution. In this essay, I address the largely unexplored issue of brand protection. First, I categorize all major types of trademark infringements. Second, using signaling and prospect theories, I present a conceptual model that outlines the financial consequences of defending a brand in court. I test the predictions of this framework using a large sample of trademark infringement lawsuits and find that although investors react negatively in the short term to firms' filing and even to firms' winning such cases, the long-term performance of firms that successfully leverage the legal system to protect their brands is positive.

INTRODUCTION

Brands are among a firm's most valuable assets, and firms invest significant resources in building, developing, and maintaining brand equity (Cohen 1991; Keller

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and Lehmann 2006). Not surprisingly, branding is a frequently studied topic in academic research. However, one aspect of brand management that remains relatively under researched is brand protection.

Brands face many threats in the marketplace. Competitors can imitate firms' trademarks (brand names, logos, and slogans) or falsely claim superiority in advertisements. Other market participants can sell counterfeit merchandise or redirect online consumers to unauthorized websites. The consequences of such actions can be severe, ranging from creating undesirable associations with the brand to brand erosion and loss of revenues (Collins-Dodd and Zaichkowsky 1999; Commuri 2009; Satomura, Wedel, and Pieters 2014). For example, estimates of losses to counterfeits range between $200 and $250 billion per year in the United States and $1 trillion globally (Chaudhry and Zimmerman 2013).

To protect their brands, many firms employ full-time personnel to monitor their brands and uncover potential infringement (e.g., Ford Motor Company's "Global Brand Protection Group"). When threats are identified, firms can turn to the legal system and file a trademark infringement lawsuit. Indeed, more than 3,000 such lawsuits are filed each year in U.S. district courts (Maltby 2010), but these actions are not without costs. Litigation is expensive: The average cost of a trademark infringement trial ranges from $375K to $2M per case, depending on the claimed damages (American Intellectual Property Law Association 2013). Intuition suggests that such litigation expenses are wise investments, because firms should signal their willingness to protect their brands. However, the filing itself reveals to investors and other stakeholders of the firm that the

firm's brand is under attack, bringing into focus a potential loss of revenue and damage to brand equity. How, then, do investors react when learning that a plaintiff has filed a trademark lawsuit? What contingencies alter this reaction? How do investors react at the conclusion of the lawsuit, whether settled out of court or pursued to a verdict?

Despite the prevalence of trademark lawsuits, extant research does not provide clear answers to these questions. The main focus of research on unauthorized uses of brands is on understanding consumers' responses to specific threats (e.g., Aribarg et al. 2014; Chaudhry and Stumpf 2011; Van Horen and Pieters 2012; Wilcox, Kim, and Sen 2009). For example, Aribarg et al. (2014) show that private label copycats decrease relative preference not only for the imitated brand but also for other brands in the category. Similarly, Commuri (2009) shows that consumers often abandon counterfeited brands. Other studies have identified consumer-based negative consequences of trademark infringement. However, to the best of my knowledge, there has been no attempt to systematically categorize and comparatively examine all types of threats to brands. Thus, the first objective is to propose a taxonomy of unauthorized uses of brands that categorizes all potential threats that brands are likely to encounter in the marketplace due to illegal actions of their competitors and other market participants. This taxonomy provides the structure necessary to explore various contingencies that determine how investors react to trademark litigation lawsuits. The second objective is to assess this investors' reactions and, in doing so, address another gap in the literature: Does the stock market view efforts to protect the brand positively? The commitment to protect the brand is a positive signal to investors following the firm, while the potential damage revealed

in the lawsuit is a negative signal. Which effect prevails, and over what time horizon needs to be researched?

Researchers in the fields of finance and law have examined the stock market reaction to filing of lawsuits by firms claiming antitrust, product liability, and patent infringement, among others (Bhagat, Bizjak, and Coles 1998; Bhagat, Brickley, and Coles 1994; Bizjak and Coles 1995). By and large, the investor reaction to plaintiffs' filing a lawsuit ranges from non-significant (Bhagat, Bizjak, and Coles 1998) to slightly positive in cases of patent infringement (Raghu et al. 2008) and antitrust litigations (Bizjak and Coles 1995).[1] However, in the domain of brand protection, there seems to be only a single article that examines the consequences of trademark litigation lawsuits on the stock returns of plaintiffs: Bhagat and Umesh (1997) analyze a sample of 88 such lawsuits and find no significant investor reaction to either their filing or termination. The null effect they obtain could be the result of the low power associated with an event study conducted on a small sample. As trademark infringement lawsuits signal important information about firms' discount rates and future cash flows, a more thorough investigation on a larger sample is warranted.

Against this backdrop, the goal of this research study is to provide a more comprehensive examination of investors' reactions to firms engaging in a litigation process to protect their brands. I measure this reaction at the time of the filing and the

[1] There is stronger evidence of a negative investor reaction to firms being named defendants in lawsuits (Bhagat, Bizjak, and Coles 1998; Bizjak and Coles 1995; Raghu et al. 2008). The focus herein is not on the penalty incurred by defendants but on changes in the stock price of plaintiffs that file trademark lawsuits.

termination of each lawsuit, over both short- and long-term time windows, using a sample of 1,911 trademark lawsuits (filed from 2009-2013) obtained from Lex Machina, a comprehensive database of all trademark infringement lawsuits filed in U.S. district courts. The database provides detailed information on each lawsuit, from filing to termination, allowing to account for the previous litigation history of each firm, and for contingencies that affect the stock market reaction to firms' protecting their brands in court.

The analysis indicates that a holistic, long-term perspective is necessary to fully understand the consequences of trademark litigation lawsuits. I argue that the effect of these lawsuits depends on firms' history of litigation, the type of threat, and the outcome of the case. I also propose that because of the difficulty of fully assessing the damage to a brand under attack, the consequences of these actions should be examined over both short- and long-term horizons. The findings highlight several categories of trademark infringement lawsuits that elicit a negative investor reaction to their filing. At the same time, I also find that investors react negatively to plaintiffs' winning of trademark cases, possibly because this outcome confirms the legitimacy of the threat and signals potential brand damage to investors. Yet the long-term stock performance of firms that won such lawsuits is positive, suggesting that successfully stopping a brand threat pays off in the long run, despite short-term losses documented around the termination of the lawsuit.

The rest of the article proceeds as follows: I begin by presenting a taxonomy that organizes different types of brand threats. Then, I theorize the effect of filing and termination of a trademark lawsuit on firm value. I describe the data and the method

used to test the hypotheses and summarize the results. Finally, I discuss the implications of this research for theory and practice and present limitations.

HOW BRANDS ARE HARMED: A TAXONOMY OF BRAND THREATS

Trademark infringement is the unauthorized use of a trademark (e.g., brand name, logo, slogan) in a manner that is likely to cause harm to the reputation of the trademark or create confusion among consumers about the origin of goods or services that carry the trademark (e.g., Cohen 1991; Conway-Jones 2002). Infringement typically occurs when an identical or a confusingly similar trademark is used. Its legal boundaries are formally established by the Lanham Act and several follow-up legislations (see Appendix for an overview).

Several distinct actions qualify as trademark infringement. A brand can appear without alterations on unaffiliated or counterfeited products. For example, the high fashion brands Gucci, Louis Vuitton, and Chanel can often be found on counterfeited products sold on eBay or on unauthorized websites designed to look authentic. Alternatively, a product can carry a slightly modified version of a trademarked brand, while still maintaining sufficient elements that would evoke it in the minds of consumers. For example, Economy Lodge is a hotel modeled after Econo Lodge (*Choice Hotels International, Inc. v. JSM Lodging et al*. 2013), and Newprot is a brand of herbal incense products that visually imitates the famous cigarette brand Newport (*Lorillard Tobacco Company et al. v. Wilson Wholesale & Distributors et al.* 2011). Finally, infringement occurs when a competitor falsely depicts a brand in a disparaging manner

in an advertisement.

Prior research has examined consumer responses to several of these brand threats. For example, distinct streams of research on brand imitation and counterfeiting investigate when and why consumers buy copycats and knockoff products (Eisend and Schuchert-Güler 2006; Phau and Teah 2009), as well as the consequences of these activities for the targeted brand (Aribarg et al. 2014; Nia and Zaichkowsky 2000; Wilcox, Kim, and Sen 2009). The impact of these actions on consumer outcomes such as purchase intentions and brand preferences is typically negative. However, the prescriptive implications of these studies are limited by the lack of insights into how to reduce or eliminate the threats. Indeed, such insights are mainly available in opinion pieces (e.g., Cesareo and Stöttinger 2015).

The first step toward developing effective brand protection strategies is to have a clear understanding of all potential threats a brand faces in the marketplace from illegal actions of its competitors and other market participants. To this end, I propose a taxonomy of unauthorized uses of brands. I construct this taxonomy by a process in which I (1) meticulously examine and content analyze all threats that underlie the trademark infringement lawsuits from the Lex Machina database from which I build the sample, and then (2) create (through multiple iterations) a comprehensive system of categories into which I sort all cases. I then carefully review threats that have previously appeared in the literature to ensure that I have not overlooked a meaningful type of threat. In the next subsection, I discuss each category of brand threats in detail and review research that has examined their consequences. The complete taxonomy,

depicted in Figure 1, includes six categories. Three of these categories (counterfeiting, brand misappropriation, and false advertising) involve the use of unaltered elements of the brand. Two categories (copycats and cross-industry imitation) involve using (deceptively) modified elements of the brand. The last category, cybersquatting, involves the misuse of a brand on the web and can occur concurrently with other types of threats. These categories are conceptually distinct (though a single lawsuit may allege multiple types of infringement), and the taxonomy captures the full domain of the context. I next discuss the definitions and examples of each brand threat proposed and summarize them in Table 1.

FIGURE 1

A Taxonomy of Unauthorized Uses of Brand*

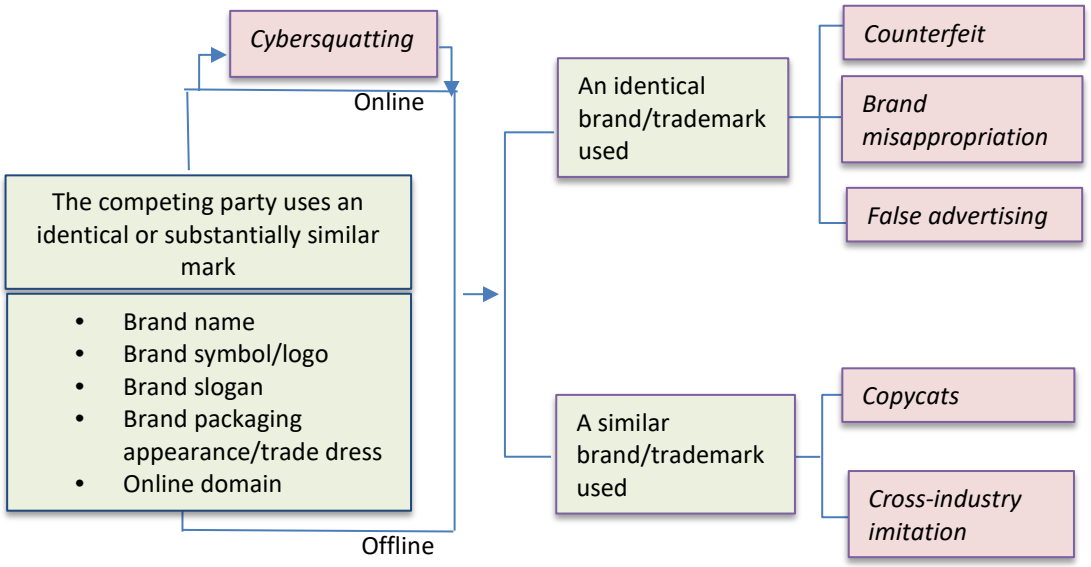

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TABLE 1
Definitions and Examples of Brand Threats*

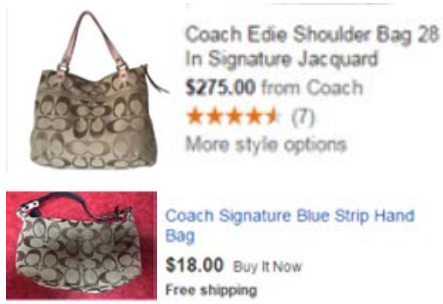
Threat	Definition	Example	Illustration
Counterfeiting	The practice of manufacturing, importing/exporting, distributing, selling, or otherwise dealing in goods, under a trademark that is identical to or indistinguishable from a registered trademark, without the approval or oversight of the registered trademark owner	Authentic Coach bags are sold on the the company's official web page for $250–$450. Identical in appearance, counterfeit bags can be purchased online from eBay and other websites for $18–$20 .	
Brand Misappropriation	Unauthorized use of an identical brand name or brand elements to falsely claim affiliation with that brand or capitalize on its equity	Best Buy Mattress store capitalized on the famous Best Buy brand until the lawsuit filed by Best Buy Co., Inc. stopped this illegal practice.	
False Advertising	False attacks and unsubstantiated statements that suggest the relative merits of a competitor (i.e., making either false statements about an advertiser's own goods/services or false statements about a competitor's goods or services)	Television commercial aired by Clorox in 2011 compared two brands of cat litter, Fresh Step by Clorox and its competitor, Super Scoop by Church & Dwight. In the commercial, cats prefer Fresh Step, and the video is accompanied by claims that were further refuted by Fresh Step's independent study.	

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TABLE 1 Continued

Threat	Definition	Example	Illustration
Copycats	Using a confusingly similar brand name, package (trade dress), logo, or slogan on a product or service in the same industry	JetEx Management Services is an enterprise involved in providing transportation, delivery, and shipping services. The company uses the name and logo similar to those of the famous FedEx brand and may potentially mislead and deceive consumers into believing that JetEx is affiliated or endorsed by FedEx.	
Cross-Industry Imitation	Using a confusingly similar brand name, package (trade dress), logo, or slogan on an unrelated product or service	Bonesicle is a dog treat made of a flavored ice modeled after the famous Popsicle brand.	
Cybersquatting	Registering an Internet domain name using a trademark belonging to someone else to gain profit	Facebook Inc. filed a trademark infringement lawsuit in 2011 in which the company listed 219 domain names that were intentionally misspelled or an altered version of its facebook.com website. A similar case was filed by Microsoft Corp. in regard to its Hotmail brand.	facevook.com faecbook.com facemook.com facebooik.com wwwfaccbook.com facecbook.com ffacebook.com faceboook.de ho0tmail.com hotma9l.com hnotmail.com hlotmail.com hotmajil.com hotmaipl.com ho6mail.com ho9tmail.com hotma8l.com hotgmail.com hot5mail.com

Brand Infringement Using an Identical Brand/Trademark

The first insight that emerged from the review of trademark infringement cases was that many involve the usage of a brand name or one of its elements (e.g., its logo, slogan, or package design) without any alterations. After careful review of the content of each of these cases, I classify unauthorized uses of trademark involving an identical brand or one of its elements into one of three categories: counterfeiting, brand misappropriation, and false advertising.

Counterfeiting is "the practice of manufacturing, importing/exporting, distributing, selling or otherwise dealing in goods … under a trademark that is identical to or indistinguishable from a registered trademark, without the approval or oversight of the registered trademark owner" (Dhaliwal 2016, p. 4243). Counterfeiting is a severe global problem that is more prevalent in fashion and luxury goods markets, but is encountered in virtually any industry (Cesareo 2016; Green and Smith 2002; Wiedmann, Hennigs, and Klarmann 2012).

Despite global anti-counterfeit measures included in the North American Free Trade Agreement and the Agreement on Trade-Related Aspects of Intellectual Property Rights by the World Trade Organization (Chaudhry and Walsh 1996; Green and Smith 2002), sales of counterfeit products continue to increase. With the advent of the Internet, consumers are now one click away from counterfeit products manufactured across the globe; goods that previously crossed borders in containers and could be potentially detected by customs agencies are now sold online and shipped in small quantities

directly to consumers (Cesareo and Pastore 2014; Cesareo and Stöttinger 2015). In 2013, U.S. Homeland Security (2013) seized 1,413 websites distributing counterfeit products.

The days when counterfeits were clearly inferior low-grade knockoffs are also far behind (Eisend and Schuchert-Güler 2006; Gentry, Putrevu, and Shultz 2006). Contemporary counterfeit goods are comparable to the original products in quality and are often outsourced from the same factories (Phau and Teah 2009; Phillips 2007; Wilcox, Kim, and Sen 2009). This trend has contributed to an expansion of the customer base for counterfeit products from a lower- to a higher-income population (Hoon Ang et al. 2001; Tom et al. 1998). Recent research suggests that wealthy consumers who can afford original products are increasingly likely to buy similar quality, lower-price counterfeits, in turn weakening the status and exclusivity of the original brand (Cesareo and Stöttinger 2015; Eisend and Schuchert-Güler 2006).

Non-luxury brands can also be harmed by counterfeits. Zippo Manufacturing, a well-known manufacturer of lighters, reportedly lost one-third of its worldwide sales to counterfeit products between 1995 and 2001. The company was also brought to court on two separate occasions for incidents involving lighters it did not produce (Premo and King 2008). This case highlights an important consequence of counterfeiting: Consumers are often not aware that the product they buy is a fake. As a result, they attribute any negative experiences with the counterfeit product to the original brand. In summary, regardless of the counterfeit quality and whether consumers understand that specific goods are fake or not, counterfeits damage the equity of the targeted brand (Commuri 2009; Wilcox, Kim, and Sen 2009).

Brand misappropriation occurs when a trademarked brand or one of its elements is used without permission of its owner to claim affiliation with the brand and to capitalize on its equity. In contrast to counterfeiting cases where infringers' intention is to fully replicate all visible traits of a branded product, misappropriation cases typically involve copying only one trademarked element, such as the brand name. Misappropriation is relatively more subtle than counterfeiting and in general seeks to simply establish associations with the original brand, rather than mislead consumers into buying a fake product. Such actions can occur in the same industry, as in the case of Harley Roads, a motorcycle store that had no legal affiliation with the Harley-Davidson brand and no right to use the famous Harley mark (*H-D Michigan, LLC et al. v. Ayala et al.* 2011). Alternatively, they can occur in different industries, such as when Best Buy Mattress and Best Buy Furniture attempted to leverage the brand associations with Best Buy Stores (*BBY Solutions Inc. et al. v. Leather Expo Inc. et al.* 2011). Particularly if the brand misappropriation occurs in the same category, confused consumers may believe that the infringing goods or services are licensed, sponsored, or otherwise affiliated with the targeted brand. Consequently, the targeted brand may lose some of its business to the infringing firm.

Extending the brand to unrelated categories can also damage the brand equity of the targeted brand, even if the perceived "fit" between the product and the category is low (Aaker and Keller 1990; Völckner and Sattler 2006). A disconnect between the brand image and the category can lead to formation of undesired brand associations and cause brand image dilution, even public outrage. Consider the case of A-List Inc., a

California-based fashion designer that introduced a new apparel collection named "designer drugs" in August 2013. The collection consisted of shirts prominently bearing the names of well-known prescription drugs, including that of Vicodin, a semisynthetic opioid that can create addiction with repeated use. The collection was targeted at young adults and caused significant controversy, especially among parents and people affected by drug abuse, some of whom sent scathing letters of criticism to Vicodin's manufacturer AbbVie, unaware that they were not producing the shirts[2]. AbbVie sued A-List Inc. for trademark infringement and the sales of the shirts were halted by court orders, but the reputational cost for AbbVie was potentially long-standing (*AbbVie Inc. v. A-List Inc.* 2014).

False advertising refers to false attacks and unsubstantiated statements that suggest the relative merits of a competitor—that is, making false statements either about an advertiser's own goods or services or about those of a competitor (Tushnet 2011). One type of false advertising is the use of *deceptive comparative ads*, in which false information or misrepresentation of facts is used to compare competing products. Consider Clorox's 2011 television commercial that compared its cat litter, Fresh Step by Clorox, with Church & Dwight's Super Scoop. The commercial depicted four cats appearing to prefer Fresh Step to Super Scoop and claimed the superiority of Clorox's

[2] For instance, the text of the following e-mail message was included as evidence during the trademark infringement suit of AbbVie vs. A-List Inc et al. "I just wondered how AbbVie feels about their registered trademark "Vicodin" being used in this fashion? Or did you license the name to the designer of these shirts targeted at young people? While it may be publicity for your drug, I certainly feel the shirts are in bad taste and infer that Vicodin is hip and cool. Of course, maybe that's something you don't mind. But as the father of a recovering addict, this type of product offends me greatly. I'd be curious to hear your thoughts."

product. When challenged in court, it was revealed that Clorox's claims were based on a study of eight cats; in contrast, Church & Dwight presented evidence from a study of 158 cats, disproving Clorox's superiority claims (*Church & Dwight Co., Inc. v. The Clorox Company* 2012). Claims made in deceptive ads that have been successfully challenged in the legal system also include product availability (Verizon being challenged by AT&T on false claims about coverage) and pricing (Direct TV challenging Dish Network on pricing.)

False information can also be communicated to consumers without direct comparison with a competing product. *Non-comparative deceptive advertising* can make superiority claims about the advertiser's *own* products that can be indirectly disparaging to competitors. For example, UPS aired a national television commercial in 2009 that claimed that UPS "just ranked the most reliable shipping company." While this ad did rely on the results of a 2008 Morgan Stanley Parcel Return Survey, UPS continued to air the commercial even after the 2009 edition of the survey no longer ranked UPS first, leading to a trademark infringement lawsuit by FedEx (*Federal Express Corporation v. United Parcel Service, Inc.* 2013).

Perhaps the most malicious type of false advertising is the *non-comparative negative advertisement* that presents false information to explicitly discredit competitors. In contrast with other types of false advertising, negative deceptive ads mostly rely on nontraditional media, such as online consumer platforms or direct mailings to consumers' physical or Internet address. Bank of America (BOA) fell victim to this type of advertising when US Loan Auditors contacted BOA's mortgage loan clients to offer

them auditing and consulting services, stating that BOA had engaged in predatory lending practices and was currently under investigation for federal law violation (*Bank of America v. U.S. Loan Auditors, LLC 2010*). These false claims were later refuted in court, and US Loan Auditors was ordered to cease its illegal advertising practices.

The fallback from false advertising largely depends on the content of the false claims. Negative claims by competitors can prove damaging for the targeted brand. Prior research shows that compared with positive information, negative statements are more influential, can be more easily recalled and their impact often persists despite a firm's own advertising efforts even after the claims have been refuted (Carlston 1980; Tybout, Calder and Sternthal 1981; Xiong and Bharadwaj 2013). As a result, consumers exposed to false negative ads may switch to competitors, leading to lost sales and profits and to undesirable or weakened brand associations.

Infringement Using a Similar Brand/Trademark

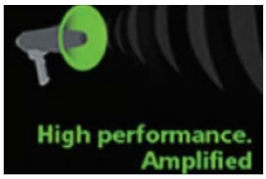
Having examined three categories of trademark infringement cases in which a competitor uses unaltered brand elements without authorization, I now turn to cases in which marketplace participants harm brands by using *modified* versions of these brands or their elements. I begin by examining copycats and cross-industry imitation.

Copycats "imitate features of leading brands to free-ride on their equity … and take advantage of their positive associations and marketing efforts" (Van Horen and Pieters 2012, p. 83). Although copycats can imitate any element of the brand (e.g., the brand name, logo, mascot, even the slogan), package design is the most frequently copied type of trademark. Figure 2 presents examples of different types of copycats.

FIGURE 2
Examples of Copycats*

<table>
<tr>
<td>Package design copycats
 
</td>
<td>Logo/mascot copycats
 
</td>
</tr>
<tr>
<td>Brand name copycats
 


</td>
<td>Slogan copycats
Accenture
 

Deloitte
 
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Manufacturers of copycats blur the distinctions between their product and an original brand in the hopes that consumers will mistakenly purchase the copycat. For example, retailers commonly use this practice when designing private brands. Using the data from supermarkets, Morton and Zettelmeyer (2004) show that more than 50% of private labels mimic packages of national brands in size, shape, and color and are strategically placed next to the imitated brand on stores shelves. This practice can increase the sales of copycat products relative to those of their branded counterparts in two ways. First, a rushed consumer may unintentionally pick up the imitating brand from the shelf, even though he or she intended to buy the original. Indeed, results from a large-scale, multi-country survey show that between 50% and 60% of consumers (varied by country) report having purchased a copycat by mistake at least once or twice (Johnson, Gibson, and Freeman 2013). Second, even if the consumer recognizes the difference between the copycat and the original, the similar package may lead to high inferences of substitutability between the two products. Thus, consumers may falsely extend quality associations from the original to the copycat (Warlop and Alba 2004), diminishing the original's uniqueness (Commuri 2009). This can reduce the sales of the original, diminish its ability to differentiate (Satomura, Wedel, and Pieters 2014), and decrease its advertising effectiveness (Collins-Dodd and Zaichkowsky 1999).

Cross-industry imitation refers to the practice of using a similar brand name or brand elements on a good or service in an unrelated industry. It is less common to see firms attempting to appropriate positive associations from brands in other industries, but this practice can nevertheless harm the targeted brands by wrongfully extending them to

categories incompatible with their main associations and positioning. An example of such cross-industry imitation is Bonesicle, a dog treat made of a flavored ice modeled after the famous Popsicle brand (*Unilever Supply Chain, Inc. v. Koolpets Products, Inc. et al.* 2011).

Cybersquatting

All the aforementioned brand threats can occur both online and offline. Furthermore, any infringement occurring online is often accompanied by an additional illegal action called "cybersquatting." Cybersquatting involves registering an Internet domain name using a trademark belonging to someone else to gain a profit (Borgman 1999). For example, competitors can use a well-known brand name as part of a web address (domain name) and thus deceive consumers into believing the website is affiliated with that brand. An infringing domain name can be a misspelled version of a well-known website (e.g., hoymail.com instead of hotmail.com) or can include the actual brand name along with other related words (e.g., tiffany-collections.com, a website selling counterfeit products carrying the Tiffany brand). This type of infringement is frequent, as the online environment provides countless opportunities to redirect consumers to competitors. For example, Facebook filed a trademark infringement lawsuit in 2011 in which it listed 219 domain names that were intentionally misspelled or altered versions of its facebook.com website, including faecbook.com, facemook.com, facebooik.com, and facebook.cm. Table 1 presents other examples of cybersquatting.

Competitors can profit from cybersquatting in many ways. Unsuspecting

consumers can view and click on the ads placed on infringing websites, buy offerings from these websites (often counterfeits), or be redirected to third-party web pages. Consumers often engage with infringing websites only because they believe the sites are affiliated with the legitimate brands. These practices capitalize on the equity of established brands and misappropriate the goodwill associated with them. Cybersquatting can lead to all previously described consequences of brand threats: lost sales and dissatisfied customers, damaged reputation, and/or tarnished brand equity (Kurtz and Mehoves 2002).

STOCK MARKET REACTION TO TRADEMARK INFRINGEMENT LAWSUITS

Firms faced with trademark infringement can turn to the legal system to stop the threat and be compensated for losses. Several pieces of legislation, starting with the Trademark Act of 1946, also known as the Lanham Act, outline the rights of trademark holders and guarantee protection of their brands against unauthorized use.

While the legal system provides the means to protect the brand, initiating a trademark lawsuit also reveals information about the brand threat. Litigation news involving famous brands is highly publicized and reaches all market participants, including consumers, business partners, and competitors. Investors, in particular, pay close attention to this information: Their goal is to accurately assess the true value of the firm, compare it with the market value as reflected in the firm's stock price, and use this relative value to make investment decisions. The trademark litigation filing contains information that helps investors estimate future cash flows and the appropriate discount

rate for the firm, given the inferred loss in sales and damage to the brand equity and the expected relief obtained from the lawsuit. The change in stock price associated with the announcement of a trademark lawsuit reflects this investor assessment and provides a measure of the value added by the lawsuit and, implicitly, by the efforts to protect the brand. I therefore use the stock market reaction at relevant points in the lawsuit timeline to determine the financial consequences of firms using the legal system to protect their brands.

In the course of the litigation process, investors receive new information about potential brand damages at two points: the filing and the termination of the lawsuit. The litigation starts when a firm files a complaint describing the allegations and facts pertaining to the case. All civil court filings are open to the public and can be freely accessed. During the litigation process, the parties may choose to settle the case; although a settlement is public record, terms of the settlement are generally confidential. If a settlement is not reached, the lawsuit proceeds to trial. Information on the court's decision is public record; the lawsuit ends when this decision is reached or when the case is dismissed due to settlement.

Stock Market Reaction to the Filing of a Trademark Infringement Lawsuit

As previously noted, the filing of a trademark lawsuit contains two conflicting signals. On the positive side, the firm is proactive in protecting its brand. On the negative side, the damage to the brand is significant enough to require an upfront investment of resources in litigation (Bhagat, Bizjak, and Coles 1998; Bhagat, Brickley, and Coles 1994). I argue that at the time of filing, the potential loss of revenue due to the brand

infringement, coupled with the uncertainty of the trial outcome, will loom large in the eyes of investors. As a result, investors are likely to update their estimates of the firm's future cash flows downward. Therefore, I expect the stock market reaction to the filing of a trademark lawsuit to be negative, on average.

> H_1: Plaintiff firms experience a negative stock market reaction when filing a trademark infringement lawsuit.

I expect all threats identified in the taxonomy to elicit a negative stock market reaction because each potentially leads to lost sales. I also argue that the magnitude of investors' response to the filing of a trademark suit depends on the severity of the threat, the extent to which the brand has incurred damages as a result of the threat, and the extent to which the threat can be contained. I do not articulate formal hypotheses for the determinants of the stock reaction to trademark lawsuits, but I provide empirical evidence of the effect of contextual factors subsequently. For example, I expect that counterfeits and copycats, which are *direct substitutes* for the imitated branded products, are more likely to redirect sales from the branded products to their own products; therefore, they are likely to elicit a stronger negative investor reaction. Counterfeits are also an example of a threat that is likely to be particularly detrimental to the firm because they are difficult to contain: banned infringers can easily resume business under a different name. A case in point is Amazon.com, whose efforts to eliminate counterfeit products have been characterized as a game of "whack-a-mole" (Levy 2016).

Stock Market Reaction to the Termination of a Trademark Infringement Lawsuit

A trademark infringement lawsuit can have three distinct outcomes: the plaintiff wins, the plaintiff loses, or the parties settle the case. The three outcomes vary in their

consequences for the plaintiff firm and therefore send different signals to the stock market. A loss for the plaintiff means that the firm's efforts to defend the brand have been futile. The damage to the brand was either not significant, in which case the legal expenses incurred during the litigation process were wasteful, or significant, but the firm failed to convincingly argue the case. In either case, losing a litigation lawsuit translates into lost revenues for the firm. Investors will likely recognize this decrease in cash flow and react negatively to a lost trademark infringement case. Thus:

> H_{2a}: Plaintiff firms that lose a trademark suit experience a negative stock market reaction when the litigation case concludes.

Alternatively, a win for the plaintiff firm means that the firm was successful in protecting its brand and effectively stopped the threat that had the potential to damage its brand equity and lower sales. Winning a trademark lawsuit also sends a signal to the firm's competitors and other market participants that the firm will not leave brand infringements unpunished, which may decrease the probability that others will attempt to attack the brand in the future (Bhagat and Umesh 1997). This outcome is a positive resolution of uncertainty about the future expected cash flows of the firm, and investors will likely react positively to it. Thus:

> H_{2b}: Plaintiff firms that win a trademark suit experience a positive stock market reaction when the litigation case concludes

Winning or losing a trademark infringement case sends a relatively clear signal to investors of how successful the plaintiff firm was in defending its brand. The consequences of a settled case, however, are more difficult to ascertain because of the confidentiality of the settlement agreement and its terms. Keeping the outcome of a

settlement confidential benefits both the plaintiff and the defendant because it prevents future litigants from forming "unreasonable expectations" and makes it impossible to use the terms of the current settlement in future settlement negotiations (Stevens, Subar, and Burdge 2012). This information asymmetry prevents a full resolution of uncertainty surrounding the case. In the absence of new information, investors are not likely to update their prior expectations of the outcome of the lawsuit; thus, I expect the stock market to have no reaction when cases are settled.

EMPIRICAL CONTEXT AND METHODOLOGY

To understand the financial consequences of defending a brand in court, I use data obtained from Lex Machina, a comprehensive database and a legal analytics platform that contains detailed information on all intellectual property and antitrust lawsuits filed in the U.S. district courts. The database provides the date of filing and termination of a lawsuit, defendants' and plaintiffs' names, the case resolution, damages awarded to the plaintiff, the text of the original complaint, and court opinions.[3] To assemble the sample, I selected all legal cases classified as trademark infringement cases in Lex Machina for which the plaintiffs were publicly traded U.S. firms. The sample includes 1,911 cases filed between 2009 and 2013 that had been terminated by the time I collected the data in 2015. The sample includes 536 firms operating in 222 different industries, identified by

[3] A court opinion is "a statement that is prepared by a judge or court announcing the decision after a case is tried; [it] includes a summary of the facts, a recitation of the applicable law and how it relates to the facts, the rationale supporting the decision, and a judgment" (Phelps and Lehman 2005, vol.3 p. 248).

four-digit Standard Industrial Classification (SIC) codes.

I classified all these cases according to the proposed taxonomy using the definitions presented in Table 1. Table 2 presents the frequency of each threat outlined in the cases in the sample. The two most frequent types of threats are brand misappropriation, claimed in 49.8% of cases, and counterfeiting, alleged in 28.2% of cases. Not surprisingly, the least frequently litigated threat is cross-industry imitation, claimed in only 2.9% of the cases. The total counts of threats depicted in Table 2 exceed the number of lawsuits in the sample because several of these lawsuits allege more than one type of threat; for example, as noted previously, cybersquatting is often alleged in combination with other illegal actions.

Table 2 also presents information on litigation outcomes. I find that 51.9% of the trademark infringement lawsuits included in the sample are settled. Of the remaining cases, 45.8% of litigations are resolved in favor of the plaintiff, and only a small fraction of all trademark lawsuits (2.3%) are won by the defendant. A comparison of the different threat categories by outcome reveals that the majority of counterfeit lawsuits and litigations involving cybersquatting are won by the plaintiff firm, while most of the false advertising and copycat cases, as well as cases associated with brand misappropriation, end in a settlement.

TABLE 2
Descriptive Statistics of Trademark Infringement Lawsuits*

A. Frequency of Threats		
Brand Threat	**Frequency**	**Percentage (%)**
1. Counterfeiting	539	28.21
2. Brand misappropriation	952	49.82
3. False advertising	97	5.08
4. Copycats	317	16.59
5. Cross-industry imitation	55	2.88
6. Cybersquatting	397	20.77
B. Frequency of Outcomes		
Outcome		
Plaintiff won	876	45.84
Plaintiff lost	44	2.30
Case settled	991	51.86

C. Frequency of Outcome by Threat

Brand Threat	**Outcome**			
	Win Frequency (percentage of total)	**Lost** Frequency (percentage of total)	**Settled** Frequency (percentage of total)	**Total**
1. Counterfeiting	366 (67.90%)	4 (0.74%)	169 (31.35%)	539 (100%)
2. Brand misappropriation	394 (41.39%)	30 (3.15%)	528 (55.46%)	952 (100%)
3. False advertising	15 (15.46%)	6 (6.19%)	76 (78.35%)	97 (100%)
4. Copycats	91 (28.71%)	7 (2.21%)	219 (69.09%)	317 (100%)
5. Cross-industry imitation	28 (50.91%)	0 (0%)	27 (49.09%)	55 (100%)
6. Cybersquatting	229 (57.68%)	2 (0.50%)	166 (41.81%)	397 (100%)

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The analysis proceeds as follows: First, I conduct event studies to examine the stock market reactions at the time of filing and termination of a lawsuit. An event study can isolate the change in investors' expectations of future cash flows or a discount rate associated with an event (in this case, the filing and termination of trademark infringement lawsuits) that provides new information to investors. From each event study, I extract a measure of the magnitude of investors' reaction to the lawsuit. Second, I estimate a model of determinants of the change in stock prices that captures this reaction. Finally, considering the uncertainty about the long-term consequences of brand threats, I also conduct additional analysis that examines the stock market reaction over longer time windows, to provide a more complete picture of the effectiveness of litigation in preserving the financial value of brands.

SHORT-TERM INVESTOR REACTION TO THE FILING AND TERMINATION OF TRADEMARK LITIGATION

Methodology: Event Study

Event study methodology is widely used in research in marketing to understand short- and long-term stock market reaction to firms' corporate announcements (Boyd, Chandy, and Cunha 2010; Raassens, Wuyts, and Geyskens 2012; Swaminathan, Murshed, and Hulland 2008), or events external to the firm, such as product recalls issued by the Consumer Product Safety Commission (Chen, Ganesan, and Liu 2009), or the entry of a

new competitor into a country market (Gielens et al. 2008). In line with recommendations made in a recent review of the event study methodology (Sorescu, Warren and Ertekin 2017), I use the market model to calculate abnormal return as the difference between the actual and the expected stock return (also see Chen, Liu, and Zhang 2012; Geyskens, Gielens, and Dekimpe 2002; Houston and Johnson 2000). I estimate the expected stock market return using ordinary least squares over an estimation period of 255 trading days ending 46 trading days before the event date:

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt}), \quad (1)$$

where AR_{it} is abnormal return of firm *i* on day *t*, R_{it} is the stock market return rate of firms *i* on day *t*, R_{mt} is the return rate of the stock market on day *t*, and $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the parameters estimated from the market model ordinary least squares regression. I then aggregate abnormal returns to obtain cumulative abnormal returns (CAR) over a time window (t_1, t_2) around the event:

$$CAR(t_1,t_2) = \sum_{t=t1}^{t2} AR_{it}. \quad (2)$$

A common practice in selecting the appropriate event window is to calculate CARs for different windows and use the one with the most significant t-statistic (Swaminathan and Moorman 2009). According to these guidelines, the event window selected for the analysis around the *filing* date of a lawsuit is (0,2), and the event window on *termination* is (–1,2). I obtain stock return data from CRSP.

Event Study Results

Filings. Overall, the average CAR at the time of filing across all types of trademark infringement cases is not significantly different from zero (event day: CAR = –.06%, t = –1.12; $p = .13$; (0,2) window: CAR = –.08%, t = –.85; $p = .20$). However, the analysis of the 1,911 trademark litigation cases reveals interesting differences in the frequency with which firms engage in trademark lawsuits. Several firms in the sample file multiple cases per year, with a few firms filing trademark cases monthly. It is important to note that when investors observe recurring firm-specific events, they incorporate expectations of the future occurrence of these events in the firm's current stock price. As a result, when the recurrent/expected event occurs, the reaction is smaller than it would have been had the event been unexpected (Warren and Sorescu 2016). In this context, a firm that files a large number of lawsuits every year would not experience a strong stock market reaction to the filing or termination of a lawsuit, because investors are likely to have already incorporated expectations of the lawsuit and its outcome in the firm's stock price. Thus, I control for the number of cases the firm files when analyzing the stock market reaction. To do so, I construct the variable *Number of Cases Filed*, which is the count of all cases the firm files in the six months before the filing of each case. The average number of cases filed in the sample during a six-month period is 4.9. I then examine the abnormal returns of the firms that filed five or fewer cases in the six months before each focal case; I find that these firms experience significant, negative abnormal returns of –.12% (t = –2.08; $p < .05$) on the filing date and –.20% (t = –2.17; $p < .05$) in the (0,2) window around the filing date. These results provide support for H_1. Firms that file more than five trademark cases in the six months before each focal case do not

experience abnormal returns that are significantly different from zero at the time of the filing. The difference in average CARs between firms that file more than five cases and those that file fewer cases in the previous six months is significant ($t = –2.11$; $p < .05$).

In terms of the stock market reaction to specific threats, I find that the average CARs to the filing of a lawsuit are –.17% ($t = –1.70$; $p < .05$) for cases involving an *actual* brand and -.35% ($t = –1.75$; $p < .05$) for those involving a *similar* brand. Moreover, I find that brand misappropriation and copycats are associated with significant, negative CARs of –.23% ($t = –1.99$; $p < .05$) and –.38% ($t = –1.66$; $p < .05$), respectively. The average CAR of firms alleging cybersquatting is marginally significant (–.31%, $t = –1.62$; $p < .10$), while CARs associated with counterfeits, false advertising, and cross-industry imitation do not differ significantly from zero.

Termination. Analysis of the abnormal returns at termination of a trademark infringement lawsuit shows that firms filing five or fewer cases in a six-month period experience negative abnormal returns of –.14% ($t = –1.43$; $p < .10$) in the (–1,2) window. Further analysis of the three types of outcomes (win, lose, and settle) reveals that these negative abnormal returns upon termination are only associated with one particular outcome. Surprisingly, only firms that win the lawsuit experience significant, negative abnormal returns of –.26% ($t = –1.77$; $p < .05$), while firms that settle or lose the case have mean abnormal returns not different from zero. These findings are in contrast with my predictions in H_{2a} and H_{2b}. A plausible explanation for these unexpected results is that winning a trademark case confirms the legitimacy of the threat and the damage the brand incurred, while preserving the uncertainty related to recovering from this brand

attack. In contrast, losing a case suggests the absence of a serious threat to the brand and may signal that investors do not need to further adjust the stock price of the plaintiff.

DETERMINANTS OF THE SHORT-TERM INVESTOR REACTION TO THE FILING AND TERMINATION OF TRADEMARK LITIGATION

Firms have private information that can potentially affect both their decision to file a trademark infringement lawsuit and the financial outcomes associated with it. To account for this potential bias, I use the conditional event study methodology (Acharya 1993; Maddala 1996). This method allows me to analyze the determinants of abnormal return to the filing and termination of a trademark lawsuit and understand the effects of case- and firm-specific characteristics, conditional on a firm's decision to file a case in court.

The conditional event study is a two-stage method. In the first stage, I model the likelihood of a firm filing a trademark infringement lawsuit. In the second stage, I model the determinants of the magnitude of the stock reaction to the filing of the lawsuit. To estimate the first-stage model, I need a control sample of firms that are similar to those in the main sample but have not engaged in trademark litigation. To construct the control sample, I use publicly traded firms that operate in the same industry as the focal firms. All the firms in the control sample belong to the same four-digit SIC codes as the firms in the main sample, but did not initiate any type of trademark lawsuit between 2006 and 2013, the period of the analysis. The resulting sample has 8,919 observations for the filing model (which includes 949 focal firms and 7970 control firms) and 10,644

observations for the termination model (which includes 1012 focal firms and 9632 control firms); the slight reduction in the sample of trademark lawsuits is due to missing data in some of the explanatory variables used in the model. I model the likelihood to initiate a trademark infringement lawsuit as a function of firm size (proxied by firm total assets), firm value (Tobin's q, a ratio of the market value of a company's stock to the replacement value of its assets), market position (market share, calculated as a ratio of a firm's sales to total sales in the industry), and marketing capabilities (proxied by advertising expenditures of a firm). I computed the variables using the most recent accounting data before the lawsuit, available in COMPUSTAT and CRSP. I chose these variables because I believe that the larger the firm, the higher is the relative value of its intangibles, and the more it has invested in building its brands through advertising, the more likely it is to take action and protect its brand. Specifically, I estimate the probability of filing a trademark lawsuit using the following probit model:

(3) $$I_{ik} = \beta_0 + \beta_1 \text{Firm Size}_{i,k} + \beta_2 \text{Tobinsq}_{i,k} + \beta_3 \text{Market Share}_{i,k} + \beta_4 \text{Advertising Expenditures}_{i,k} + \Omega C_{i,k} + \varepsilon_{i,k},$$

where I_{ik} is the observed indicator that takes the value of 1 if a firm *i* files trademark lawsuit *k* and 0 otherwise, the independent variables are as described previously, and $C_{i,k}$ are control variables that include industry and year fixed effects. I also use clustered errors to account for potential dependencies in error structure.

The first-stage model serves to compute the term w_{ik}, which I use as an additional regressor in the second-stage model to correct for self-selection bias:

(4) $$w_{ik} = I_{it} \frac{\phi_{ik}}{\Phi_{ik}} - (1 - I_{ik}) \frac{\phi_{ik}}{1-\Phi_{ik}},$$

where $\oint_{ik}$ is the density function and Φ_{ik} is the cumulative distribution function calculated with the predicted valued of parameters β from Equation 3.

In the second stage, I model the stock market reaction to filing and termination as a function of case and firm characteristics. For both the filing and termination models, I use a regression with robust clustered errors, where the dependent variable is the CARs defined in Equation 2. As described previously, I used the event window with the largest t-statistic, which is (0,2) in the filing case.

The determinants of CARs at the time of the filing of the lawsuit include brand threat dummies and case-specific variables. Specifically, I controlled for whether the case involved a dispute over a slogan or logo and whether the preliminary injunction was requested and prior efforts to resolve the dispute were made. I also accounted for the number of cases the firm filed during the six months preceding each case, for the firm-level branding strategy, and for industry and year fixed effects, and I included lagged measures of firms' financial performance that are determinants of CARs.

(5) $$CAR_{\text{filing }(0;2)i,k} = \alpha_0 + \alpha_1 \text{Counterfeits}_{i,k} + \alpha_2 \text{Brand Misappropriation}_{i,k} + \alpha_3 \text{False Advertising}_{i,k} + \alpha_4 \text{Copycats}_{i,k} + \alpha_5 \text{Cross-industry Imitation}_{i,k} + \alpha_6 \text{Cybersquatting}_{i,k} + \alpha_7 \text{Logo}_{i,k} + \alpha_8 \text{Slogan}_{i,k} + \alpha_9 \text{Dilution}_{i,k} + \alpha_{11} \text{Precourt Resolution Attempts}_{i,k} + \alpha_{12} \text{Preliminary Injunction}_{i,k} + \alpha_{13} \text{Number of Cases Filed}_{i,k} + \alpha_{14} \text{Leverage}_i + \alpha_{15} \text{Firm Size}_i + qw_{i,k} + \alpha_{16} \text{House-of-Brands}_i + \alpha_{17} \text{Mixed Branding Strategy}_i + \alpha_{18} w_{i,k} + \Omega C_{fi,k} + \varepsilon_{fi,k},$$

where *i* stands for firm, *k* stands for case, CAR_{ik} are as in Equation 2, $w_{i,k}$ is as in Equation 4, and $C_{f,k}$ are control variables that include year and industry fixed effects. (I describe the independent variables in detail in the next subsections.)

Modeling CARs upon *termination* enables me to test the differential effects of case outcomes. For termination, the event window with the largest t-statistic is (–1, 2),

suggesting that the outcome of the case is occasionally leaked before it is documented in court. I also examine the effect of the amount of damages awarded to the plaintiff and the length of the litigation. Firm-level controls are the same as in the filing model.

(6) $CAR_{termination(-1;2)i,k} = \theta_0 + \theta_1 \text{Plaintiff Wins}_{i,k} + \theta_2 \text{Case Settled}_{i,k} + \theta_3 \text{Damages}_{i,k} + \theta_4 \text{Litigation Length}_{i,k} + \theta_5 \text{Number of Cases Filed}_{i,k} + \theta_6 \text{Leverage}_i + \theta_7 \text{Firm Size}_i + \theta_8 \text{House-of-Brands}_i + \theta_9 \text{Mixed Branding Strategy}_i + \theta_{10} w_{i,k} + \Omega C_{ti,k} + \varepsilon_{ti,k}$.

Where *i* denotes firm, *k* denotes case, CAR_{ik} are as in equation (2), the independent variables are described in detail below, $w_{i,k}$ is as in equation (4), $C_{t,k}$ are control variables that include year and industry fixed effects.

Case-Specific Variables

I used the information provided in the Lex Machina database to construct variables that reflect the specific details of each litigation. For example, using the text of the complaint, I constructed dummy variables *Logo* and *Slogan*, which take the value of 1 when the case involves a dispute over these branding assets and 0 otherwise.

The type of threat faced by the brand. I use the text of the complaint filed by the firm to determine what type of threat its trademark was facing. The description of the actions a defendant takes is typically very detailed and allows for an unequivocal classification of cases into the six categories from the taxonomy. Each of the brand threats is a dummy variable that takes the value of 1 when present in the legal case and 0 otherwise.

Case outcome. Lex Machina provides information on the resolution of each lawsuit. I use this information to construct three outcome dummy variables: "plaintiff win," "defendant win," or "case settled."

Pre-court resolution attempts. In the text of the complaint, plaintiff firms provide details about their efforts to resolve the dispute before taking the matter to court. Often, plaintiff firms send official requests to the other party asking it to cease the infringing activities (a cease and desist letter) before they formally file a lawsuit. In some cases, information about cease and desist letters is available in news outlets. For example the *Wall Street Journal* reports that Apple sent a cease and desist letter to GetJar over its trademark App Store in July 2011 (Kane and Ante 2011). If the firm made prior public attempts to resolve the case, the stock reaction to the filing of a case will be smaller in magnitude, as the reaction only constitutes an update of expectations of the firm filing a trademark lawsuit. I use a dummy variable to control for such attempts when analyzing the stock performance of the plaintiff firm.

Preliminary injunction. I also use a dummy to account for the cases in which the plaintiff requested a *preliminary injunction* when filing a trademark lawsuit. Preliminary injunction refers to a temporary order made by a court to restrain the defendant from the infringing activities for the duration of the litigation until the case is resolved (Phelps and Lehman 2005). Requesting a preliminary injunction in the firm's original complaint typically indicates that the brand threat is severe, which can lead to a more negative stock market reaction.

Dilution. Lex Machina provides a tag for the cases that involve claims of trademark dilution prohibited by the Lanham Act. Claiming dilution means that the brand has been seriously damaged, which in turn may negatively affect investors' expectations of the financial performance of the plaintiff. I use this tag to construct

a dummy for dilution.

Damages. At the end of the litigation process, the court can award a successful plaintiff compensation for the losses it has incurred as a result of the defendant's illegal actions. Damages are awarded if the plaintiff has proved that the infringing actions led to actual financial losses for the firm, such as a loss of sales or profits or the cost of corrective advertising. The plaintiff can also recover the defendant's profits if these profits resulted from the unauthorized use of the plaintiff's trademarks. Award of damages is a positive signal for the stock market, as it indicates that the firm was successful in recouping some of the financial losses due to the infringement.

Litigation length. Reaction of the stock market to a termination of a lawsuit may depend on the length of the litigation. Investors may be more aware of legal cases that last longer and may react more strongly to the termination of such lengthy lawsuits. Litigation length is the duration of a lawsuit in days calculated by the date of filing and termination of a lawsuit.

Firm-Specific Variables

Number of cases filed. I calculate a rolling window variable that reflects the total number of trademark infringement cases that the firm filed six months before the filing of each case. As previously argued, this variable allows me to control for the expectation that the firm will continue to file trademark lawsuits.

Leverage. In line with extant event study procedures, I control for firms' financial leverage, calculated as the ratio of the long-term book debt to a firm's total assets (Homburg, Vollmayr, and Hahn 2014; Wiles, Morgan, and Rego 2012).

Firm size. Prior research suggests that the size of a firm is an important factor when evaluating the stock market reaction to the filing of a trademark lawsuit (Bhagat and Umesh 1997). Large firms typically have more financial resources than smaller firms and may also employ a full-time legal team or be able to hire top attorneys to handle the litigation; these factors can increase the likelihood of a successful case resolution, which in turn can improve investors' view of the litigation. I use firms' total assets as a measure of firm size.

Firm-level branding strategy. I use the categorization proposed by Rao, Agarwal, and Dahlhoff (2004) to capture firm-level branding strategy. A corporate branding strategy refers to the use of the corporate name on all the firms' products (e.g., Nike). In a mixed branding strategy, the corporate name appears on some of the firm's products and individual names on others. For example, Coca-Cola owns the brands Sprite and Dasani, in addition to its Coke line. In a house-of-brands strategy, the firm does not use its corporate name on its products but rather operates an "independent set of stand-alone brands," such as Unilever (Aaker and Joachimsthaler 2000, p. 10). The firm-level branding strategy may affect investors' reaction to the filing and termination of a trademark lawsuit because the consequences of trademark infringement may be more severe for a firm that uses one corporate brand than for a firm that owns a portfolio of brands, only one of which is the subject of infringement. I coded firm-level branding strategy using the brand portfolio information obtained from the Hoovers database. I coded firms that use the corporate name on all their products as following a corporate branding strategy, firms that have products both with independent brands and under the

corporate brand as mixed, and firms that do not use their corporate name on any products as house-of-brands.

Results and Discussion

First stage: selection model. Table 3 reports the results of the selection models used in the filing and termination analyses. The results suggest that the probability of a firm filing a trademark lawsuit increases as firm value increases. I also observe a significant, positive effect of the firm's market share and marketing expenditures on the probability of engaging in trademark litigation. Thus, better-performing firms with high market share and high marketing capabilities are more likely to face trademark infringement as well as take actions to protect their brands. These firms tend to invest significant resources in their brands and have high value trademarks. While these trademarks are more likely to be infringed upon, they are also more likely to be closely monitored and protected by the firms to which they belong. Controlling for other variables, the size of the firm does affect the probability of filing a trademark lawsuit.

TABLE 3
Results of the First-Stage Equation in the Selection Model*

	Filing Sample	**Termination Sample**
	Dependent variable: Filing a trademark case	
Variables	Coefficient (SE)	Coefficient (SE)
Constant	-2.80 (.35)***	-4.31 (.36)***
Tobin's q	.23 (.06)***	.21 (.05)***
Market share	1.51 (.24)***	1.40 (.24)***
Advertising expenditures	.0004 (.0001)***	.0004 (.0001)***
Firm size	2.54e-07 (1.94e-07)	1.52e-07 (1.97e-07)
Wald χ^2	260.31***	313.55***
Sample size	8,919	10,644

* $p \leq .05$.
** $p \leq .01$.
*** $p \leq .001$.
Notes: Standard errors are in parentheses. The models include year and industry dummies, which are omitted from the table for parsimony

Second stage: determinants of the abnormal returns at filing and termination of a trademark lawsuit. Table 4 lists the descriptive statistics and correlation matrix of variables used in the second-stage estimation, and Table 5 reports the findings. For the *filing model*, consistent with the average CARs presented previously, I find a more negative stock market reaction when the filing includes claims of brand misappropriation ($\beta = –.01$; $p < .05$) and copycats ($\beta = –.01$; $p < .05$). Counterfeiting is also associated with lower CARs ($\beta = –.01$; $p < .05$). Finally, when I control for all other threats and

* Adapted with permission form "Hands-Off My Brand! The Financial Consequences Of Protection Brands Through Trademark Infringement Lawsuits" by Ertekin, Sorescu, Houston, 2018. *Journal of Marketing*, 82(5), 45-65.

contextual variables, cases that include false advertising, cross-industry imitation, and cybersquatting do not exhibit a significantly lower investor reaction. In the case of false advertising, this could be because investors have seen the advertisements that make false claims and therefore have incorporated this negative information into their expectations reflected in the stock price. Thus, I do not observe a strong stock market reaction to the filing of a false advertising case. Cross-industry imitation may represent a relatively less severe brand threat as its potential for lost sales is lower than that with other unauthorized uses of trademarks. Finally, online threats are more visible than offline threats. Anyone typing a company name into the web browser can uncover potential cybersquatting problems the firm is facing. Therefore, filing a cybersquatting case may not reveal new information, as investors may already be aware of the problem, as in false advertising cases.

TABLE 4
Descriptive Statistics and Correlation Matrix for Filing and Termination Models*

A. Filing Model																		
Variable	**M**	**SD**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1. CAR_filing	-.001	0.31	1.00															
2.Counterfeiting	.36	.48	.02	1.00														
3. Brand misappropriation	.44	.50	-.02	-.63	1.00													
4. False advertising	.04	.19	.05	-.15	-.13	1.00												
5. Copycats	.17	.37	-.05	-.32	-.35	-.06	1.00											
6. Cross-industry imitation	.02	.15	-.01	-.12	-.11	-.03	-.07	1.00										
7. Cybersquatting	.25	.43	-.04	0.13	-.06	-.07	-.08	.18	1.00									
8. Logo	.09	.29	-.01	-.24	.10	-.01	.19	-.03	-.08	1.00								
9. Slogan	.02	.12	-.04	-.10	-.08	.02	.24	-02	.01	.07	1.00							
10.Precourt resolution attempt	.34	.47	.00	-.41	.35	.01	.06	-.04	-.09	.05	.02	1.00						
11. Preliminary injunction	.63	.48	.04	.16	-.11	.01	-.10	-.02	.10	-.01	-.06	-.10	1.00					
12. Dilution	.48	.50	.01	-.01	-.00	-.10	.08	.03	-.17	.14	.06	-.05	.06	1.00				
13. Number of cases filed	4.86	8.44	.09	.49	-.28	-.09	-.21	-.07	-.03	-.12	-.07	-.23	.17	.06	1.00			
14. Leverage [a]	.24	.38	-.05	-.28	.30	-.01	-.04	-.02	-.15	.00	-.04	.27	-.05	-.08	-.16	1.00		
15. Firm size [a]	39800.6	221753.7	-.01	-.10	.11	.05	-.05	.02	.06	.01	-.01	.07	.05	.03	-.08	-.04	1.00	
16. House-of-brands	.29	.46	-.01	-.00	.00	-.04	-.00	-.01	.03	-.01	-.03	.03	-.06	-.12	.00	.20	-.09	1.00
17. Mixed branding strategy	.28	.45	-.00	-.27	.20	-.05	.10	.01	-.03	.12	-.00	.14	.00	.13	-.29	-.05	.11	-.41

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TABLE 4 Continued

A. Termination Model

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. CAR_ termination	-.001	.04	1.00									
2. Plaintiff wins	.48	.50	-.02	1.00								
3. Case settled	.50	.50	.00	-.97	1.00							
4. Damages[a]	1.49	15.74	.04	.10	-.09	1.00						
5. Litigation length	258.74	219.58	-.01	-.02	.01	-.05	1.00					
6. Number of cases filed	5.24	9.16	.03	.02	-.01	.04	.00	1.00				
7. Leverage	.25	.39	.03	-.02	-.00	-.05	.09	-.15	1.00			
8. Firm size	36030.5	183361	-.01	.05	-.04	-.02	-.01	-.08	-.04	1.00		
9.House-of-brands	.29	.45	.02	.12	-.14	.11	.01	-.06	.28	-.09	1.00	
10. Mixed branding strategy	.28	.45	-.02	-.05	.06	-.04	-.04	-.29	-.06	.10	-.39	1.00

[a] Statistics are in millions of dollars.

TABLE 5
Determinants of CARs at Filing and Termination of a Trademark Lawsuit*

	Filing Model	**Termination Model**
Variables	Coefficient (SE)	Coefficient (SE)
Constant	.02 (.01)*	-.01 (.01)
Case Characteristics		
Counterfeiting	-.01 (.01)*	
Brand misappropriation	-.01 (.01)*	
False advertising	-.002 (.01)	
Copycats	-.01 (.01)*	
Cross-industry imitation	-.01 (01)	
Cybersquatting	-.002 (.002)	
Plaintiff wins		-.02 (.01)*
Case settled		-.02 (.01)
Logo	-.001 (.004)	
Slogan	-.01 (.01)	
Precourt resolution attempt	.002 (.003)	
Preliminary injunction	.002 (.002)	
Dilution	-.0002 (.002)	
Damages		7.45e-05 (3.33e-05)*
Litigation length		-3.18e-06 (4.32e-06)
Firm Characteristics		
Number of cases filed	.0003 (.0001)*	.0002 (.0001)**
Leverage	-.01 (.002)*	.003 (.005)
Firm size	-2.56e-09 (2.78e-09)	2.23e-09 (4.40e-09)
House-of-brands strategy	.002 (.003)	2.03e-05 (.003)
Mixed branding strategy	.002 (.003)	-.0005 (.003)
w	-.003 (.003)	.005 (.003)
F	*5.49****	*16.42****
Sample size	949	1012

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The *termination model* suggests a more negative reaction when defendants win the case ($\beta = -.02$; $p < .05$), while I observe no differences between losing and settling a case. I also find that awarding damages to the plaintiff has a significant, positive effect on the firm's CARs. Damages compensate for the losses the plaintiff incurs as a result of illegal actions of the defendant. Awarding of damages signals that the plaintiff firm was able to mitigate some of the negative financial effects of the infringement; this explains the significant, positive effect of awarded damages on plaintiffs' abnormal returns upon termination of the trademark case. As noted earlier, the number of cases firms filed in the previous six months is a significant predictor of CARs in both the filing and termination models.

ADDITIONAL ANALYSIS: LONG-TERM ABNORMAL RETURNS

To further examine the counterintuitive negative effect of winning a trademark case on firm value, I conducted a long-term event study of abnormal returns to different outcomes of an infringement case. Long-term event studies can shed light on the financial impact of complex events, whose consequences are not straightforward and can only be assessed over time as new information becomes available (Brav and Heaton 2002). In this context, the effect of protecting a brand may not be immediately visible, and therefore investors may take time to update their expectations as the long-term benefits of stopping a threat become more evident. I calculated buy-and-hold abnormal returns (BHAR) six months after the termination of a lawsuit for different types of case outcomes, as follows:

(7) $$\text{BHAR}_i = \prod_{t=1}^{t=T}(1 + R_{it}) - \prod_{t=1}^{t=T}(1 + R_{pt}),$$

where R_{it} the rate of return of firm i in month t and R_{pt} is the return of a control portfolio p (Sorescu, Chandy, and Prabhu 2007).

The results reveal that six months after termination of a case, the winning firm experiences positive and significant average abnormal returns of .48% ($t = 2.44$; $p < .01$). Although the immediate stock market reaction to winning a trademark case is negative, this BHAR result indicates that in the long run, the stock performance of the winning firm improves, compensating for the original dip in the stock price. The average long-term abnormal returns of firms that lost or settled a case are not significantly different from zero.

I also examined the long-term abnormal returns of the firms *before* filing a trademark infringement lawsuit. I find that firms engaged in a trademark litigation experience significant, positive *long-term* abnormal returns of 1.04% ($t = 5.42$; $p < .01$) six months before the filing date. This indicates that six months leading up to the filing of a lawsuit, plaintiff firms tend to outperform their peers, suggesting that successful firms are more likely to be emulated and, thus, more likely to face trademark infringement.

IMPLICATIONS AND LIMITATIONS

No firm is immune to trademark infringement. Knockoff products, copycats, and deceptive advertising have become common currency in today's marketplace. Counterfeits are so ubiquitous that some business leaders seem to legitimize them

by being resigned to their presence. For example, Jack Ma, the founder of Alibaba, one of the largest e-retailing platforms, conceded that "Chinese-manufactured fake products are just as good – if not better – than the real deal" (Yan 2016). Faced with this reality, firms that have invested significant resources into building strong brands still turn to the legal system to protect their investment rather than watching idly as their brand equity and revenues erode.

As highlighted in an earlier section, trademark infringement is an umbrella term for a large set of distinct illegal activities. The unique data set of legal cases allows me to develop a useful taxonomy for categorizing various trademark lawsuits filed in U.S. district courts. Some of the brand threats identified in the taxonomy of unauthorized uses of trademarks, such as counterfeits and copycats, have previously been identified in consumer behavior literature; however, other categories, such as brand misappropriation, have not received much attention. This insight is useful because I find that brand misappropriation is the most frequent type of trademark infringement in the sample of U.S. publicly traded firms and one with significant consequences for the brand and the firm's financial performance. Thus, I contribute to the literature on brand protection and complement the stream of research focused on consumers' attitudes toward trademark infringement with an empirical investigation of the financial consequences of protecting brands in court.

While the legal system's trademark protection mechanism is well-established, the financial consequences of leveraging these protections are not well understood. The analysis shows that firms initiating trademark litigation should expect a negative short-

term stock market reaction. This negative reaction, however, only occurs for certain types of cases: those involving brand misappropriation and copycats. In contrast, litigations related to false advertising, cross-industry imitation, and cybersquatting do not significantly alter the plaintiff's stock price.

To advance theory, research could further probe each type of infringement to determine other contextual factors that might alter investors' reactions to trademark protection litigation. The taxonomy of unauthorized brand use provides structure to guide such studies. Behavioral researchers could also systematically compare consumers' responses to these differing threats. Some of these trademark infringements attempt to deceive customers into believing that they are dealing with "the real thing" (Johnson, Gibson, and Freeman 2013). Thus, scholars could investigate conditions (e.g., time-pressed decision making or other states) under which consumers are most susceptible, or evaluate whether certain types of consumers (e.g., those with low need for cognition) are more vulnerable to each threat. Other actions seek to persuade consumers that the infringing brand is a worthy substitute, hoping that the true brand's quality associations will spill over (Warlop and Alba 2004). Uncovering the degree to which these and other mechanisms are at play across the six types of trademark infringement would be a useful direction for research to advance theory and guide managerial interventions.

Considering the high costs of litigation, it is not entirely surprising that new information about a significant brand threat elicits a decrease in the stock price at the time of filing of a trademark case. More surprising, however, is the negative stock

reaction to firms' *winning* a trademark infringement case, news that seems positive. A likely explanation for this negative reaction is that investors perceive this news as confirmation that a severe problem exists, while not fully eliminating uncertainty about future consequences. Managers can take action to help investors appreciate the likely cash flow implications. For example, I speculate that issuing a press release on the verdict that specifically (1) highlights positive outcomes of the litigation, such as the damages awarded to the firm, and (2) offers a clear statement on how eliminating the threat will improve the firm's cash flows may help mitigate the negative effects. I emphasize, however, that the impact of this communication strategy has not yet been proven. The results suggest another action: Although firms initially experience a short-term drop in value upon winning the case, evidence from the analysis shows a long-term positive impact on performance. Therefore, another specific step that managers could take before launching a trademark infringement action is to educate executives and directors on the likely pattern of impact on the firm's stock price: It will experience a short-term hit, but a courtroom victory should produce long-term value. Together, these findings inform managers of the potential effects of litigation on firm value and highlight the importance of taking legal actions to defend the brand.

The findings also have a general implication for research that examines stock price reactions to any event. Because investors' expectations adjust to accommodate events that occur with regularity, failing to account for the frequency of occurrence can mask the true effects of interest (Warren and Sorescu 2016). In this study, the market had little reaction to lawsuits by firms that filed trademark protection litigations more

frequently than the sample average, suggesting that investors expected such actions and had already priced them into the stock.

One limitation of this study is that I do not observe the terms of settled cases, because they are typically confidential. Investors are also not privy to these terms, which may explain why the long-term abnormal returns to settlements do not differ significantly from zero, even though settlements could include terms favorable to the plaintiff.

In addition, my investigation is limited to publicly traded firms engaged in trademark litigation in the United States. Firms initiating a trademark lawsuit in other countries may have a completely different experience, in terms of both the outcome of the case and its financial consequences. Trademark laws and legal standards vary greatly across countries and may lead to inconsistent results across similar cases. An example is the trademark infringement case brought against eBay for allowing the sale of counterfeit goods on its platform. Almost identical claims yielded very different results in different countries: A counterfeit case filed by the luxury goods company LVMH in France was resolved in favor of the plaintiff, and eBay was ordered to pay €38.6 million ($60.8 million) in damages. However, eBay prevailed in a similar lawsuit filed by Tiffany in the United States, and all claims were dismissed (Saunders and Berger-Walliser 2011). Differences in legal standards may shape investors' expectations of trademark lawsuits, and thus the stock market reaction to the filing and termination of a case may differ depending on where the case is filed. Thus, my findings may not generalize to foreign legal systems.

CHAPTER III

WHAT BRAND NAME SHOULD I USE FOR MY NEW PRODUCT? THE IMPACT OF NEW PRODUCT BRANDING DECISION ON FIRM VALUE

Every new product introduction entails a branding decision: whether to name the product using a direct extension, a sub-brand or a new brand. Despite the importance of this decision, there is a dearth of research that examines how managers actually choose from among the three alternatives; little evidence exists on the determinants of the choice or how firms' stock market value is subsequently affected. I propose a theoretical framework that organizes product-, category- and firm-level determinants of firms' new product branding decisions and empirically test the framework's predictions using a sample of over 20,000 new product introductions (consumer packaged goods). I also quantify the negative impact on the stock market value of firms when, across their portfolio, firms make branding choices that are inappropriate for the conditions facing a new product. Conceptually, I attempt to bridge the branding and new product performance literatures, and present findings that extend knowledge from behavioral research on brand extensions. Empirically, I provide evidence to managers on how to choose the right type of brand name for new products.

INTRODUCTION

Over 250,000 new products are introduced globally every year (Forbes 2010). The market performance of these products is critical to the survival of their parent firms,

particularly in ultra-competitive markets, such as consumer packaged goods (CPG), where "marketers who fail to lead the evolution […] will be pushed out of the way – and literally right off the retail shelves" (IRI New Product Pacesetters 2014, p.2). In response, researchers have analyzed determinants of new product success, ranging from product features to the resources that support the product launch (e.g., Henard and Szymanski 2001). A key decision that can make the difference between success and failure is the brand name that is given to each new product.

Managers can choose among three new product branding options. In a *direct extension*, a firm pairs an existing brand with a generic description that connotes unique characteristics of the new product or its uses (Milberg, Park, and McCarthy 1997; e.g., Procter and Gamble's (P&G) Tide Washing Machine Cleaner and Unilever's Dove Regenerating Hand Cream). *Sub-branding* refers to a firm again taking an existing brand, but combining it with a new proper name so that it stands apart from the parent (Milberg, Park, and McCarthy 1997; Sood and Keller 2012). For example, P&G paired the existing brand, Olay, with a new name, ProX, to create the new sub-brand, Olay ProX. The term "ProX" does not itself suggest any particular function or use, but instead is a unique name created simply to distinguish a new line of targeted products, while still connecting to the parent brand. Finally, firms can introduce a new product under a *completely new name*, as did the Coca-Cola Company when it launched the sports drink Powerade.

The appeal of using an existing brand – whether in a direct extension or a sub-brand – stems from the power of existing brand associations held by customers. These

associations can spillover and increase recognition and trial for a new product, thus decreasing marketing costs associated with launching the product (Keller 1993). Cherry Coke is an example of a product that benefited greatly from positive parent brand associations and was deemed a success soon after its introduction, despite little marketing support (Pitta and Katsanis 1995). But brands can also be harmed by new products. Case in point is Unilever's Persil Power, a new detergent introduced in the UK using one of the company's star brands, Persil. Although an extremely powerful stain remover, this product had an undesirable side effect of damaging clothes when used at high temperatures. Persil Power was withdrawn from the market, but the losses – over £200 million – went well beyond a mere product failure. The perceptions of quality for the entire Persil brand were weakened dramatically, and even Unilever's overall reputation was harmed (Haig 2003).

As these examples suggest, choosing the right brand name for a new product requires balancing risks against potential rewards of leveraging a brand resource. Yet, despite the importance of this decision and the significant breadth of the brand management literature, "the relationship between branding and innovation is still relatively under-researched" (Brexendorf, Bayus, and Keller 2015, p. 548). I address two specific questions that are important for theory and practice but have yet to be studied: *Can externally observable product, firm, and category characteristics be used to inform a firm's choice of branding strategy for a new product*? *What are the financial consequences (i.e., impact on firm value) of new product branding decisions*?

In this essay, I propose and empirically test a theoretical framework of the

determinants of the new product branding decision. I draw from the brand extension and the new product performance literatures (e.g., Aaker and Keller 1990; Gatignon and Xuereb 1997; Henard and Szymanski 2001; Völckner and Sattler 2006), two mature, but relatively independent streams (Brexendorf, Bayus, and Keller 2015), and identify two countervailing forces underlying the use of a particular new product branding approach: the *resources* that firms can leverage and the *risks* to be mitigated. In turn, consistent with theory and empirical precedence, the product-, firm- and category- characteristics in the proposed framework constitute either resources that facilitate the branding decision or risks for which managers must account. I first assess the extent to which each new product is branded in line with average industry practice; following Anderson's (1988) approach, I posit that a descriptive model that captures average industry practice has normative value. Further, consistent with institutional theory (Ertimur and Coskuner-Balli 2015), I examine the extent to which deviations from average industry practice (revealed by model predictions) have financial implications for the firm. I match new product characteristics (from Product Launch Analytics, a database of CPG new product introductions), with firm-level data (Compustat and CRSP), and empirically test a set of hypotheses on a sample of 20,878 new product introductions made by 73 firms between 2000 and 2012. Findings identify the most appropriate branding decision for the specific context of each new product introduction. Further, I find there is "wisdom in the crowds," as deviating from the average industry practice in terms of the strategy used to brand new products has negative implications for firm value.

This essay makes three useful contributions to research and practice. First, it

compares *all three* branding alternatives within a single theoretical framework and within an empirical model estimated with actual new product introduction data. This contrasts with the majority of prior research on the determinants of the branding decision that compares either a direct extension to a sub-brand (Milberg, Park, and McCarthy 1997; Sood and Keller 2012) or an extension in general (direct or sub-brand) to a new brand (McCarthy, Heath, and Milberg 2001; Smith and Park 1992; Sullivan 1992). A unique dataset enables insights that complement those from behavioral research on brand extensions, but also new insights that are outside the scope of data obtained in lab studies. For example, prior research reveals that relying on a brand that has been repeatedly extended leads to more positive consumer evaluation of the new product (Dacin and Smith 1994). The results refine this view by showing that such brands are better leveraged as sub-brands, versus direct extensions. In terms of new insights, this research is first, to my knowledge, to explain what type of branding strategies are appropriate for products that are innovative, introduced in competitive categories, and come from firms with broad product portfolios.

Second, because the sample contains only new products, I am able to zoom in on the product-level branding decision at the time of introduction (when this decision is likely to have a larger impact on customers), and then zoom out to the aggregated brand portfolio level to examine the financial consequences for the parent firm. My approach differs from the sub-stream of research in the literature based on scanner data that focuses on store brand choice and incidence of purchase (Balachander and Ghose 2003; Erdem and Sun 2002; Erdem and Chang 2012). Samples in those studies contain mostly

established products in mature categories (e.g., ketchup, yogurt) in which purchases are mainly driven by price and promotional efforts, making it difficult to disentangle the financial consequences of the *type* of brand used on each product.

Third, by linking branding decisions to firm value, I contribute to a growing stream of research that investigates the value relevance of marketing decisions (Joshi and Hanssens 2010; Pauwels et al. 2004; Srinivasan and Hanssens 2009). Within this stream, scholars highlight that more progress is needed to fully understand the financial impact of branding (e.g., Madden, Fehle, and Fournier 2006). While C-suite executives may deem the branding of an individual new product to be a minor corporate action, this research demonstrates that, taken as a whole, these decisions significantly impact the stock market value of their parent firms.

In the next section, I present hypotheses on the determinants of the new product branding decisions and firm level consequences. I then describe the data, explain the methods, and present results. I conclude by identifying theoretical and managerial implications, along with limitations.

THEORY AND CONCEPTUAL DEVELOPMENT

Types of Branding Options for New Products

Unless partnering with another firm in a co-branding arrangement, a firm's branding options for new products can be categorized into three broad categories: direct

extensions, sub-brands, and new brand names.[4] I summarize prior research pertaining to each option.

Direct extension. A direct extension is the use of an existing brand along with a generic description to name a new product (Milberg, Park, and McCarthy 1997). Using an existing brand may reduce the costs associated with introducing a new product and may enhance its potential revenues (Aaker and Keller 1990). Prior research reveals a positive stock market reaction to the launch of brand extensions of a high-quality parent brand (Lane and Jacobson 1995). Further, successful direct extensions can reinforce and strengthen the image of the parent brand, and can even broaden its meaning, thereby significantly contributing to its equity (Aaker 1990; Brexendorf, Bayus, and Keller 2015). There are, however, risks with direct extensions. An unsuccessful brand extension can lead to brand image dilution and impair performance of the parent brand in other categories (Swaminathan, Fox, and Reddy 2001). In addition, a successful new product can damage the equity of the existing brand by creating undesirable associations that are inconsistent with the parent brand image (Aaker 1990; Ambler and Styles 1996).

Sub-brand. Sub-branding refers to launching a new product using a combination of an existing brand name and a proper name not previously associated with the brand. This option may be used for products that are positioned differently than the flagship

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[4] We control for co-branded status of a new product rather than treating co-branding as a separate strategy. This is because within co-branded products we observe firms using all three branding alternatives (e.g. Crunch Toons – a *new brand* introduced by Poore Brothers with Disney characters on the package; Pampers Feel 'n Learn - Advanced Trainers Training Pants - Dora the Explorer – a *sub-brand;* Febreze - Candle - with Gain Original Scent – *a direct extension*).

brand products (e.g. Courtyard by Marriott, a lower-end alternative of a high-end hotel chain), as well as for products introduced into categories in which differentiation is critical (e.g. Flora by Gucci, a perfume that evokes the quality perceptions associated with Gucci, while creating a unique identity). Milberg, Park, and McCarthy (1997) show that using sub-brands rather than direct extensions improves consumers' evaluations of the product and mitigates the negative effects that occur when a new product elicits brand associations that do not fully align with the image of the parent brand. Although sub-brands may allow the product to forge an independent set of associations, they also carry the risk of diluting the parent brand image, but less so than direct extensions.

New brand name. Firms can use a completely new brand name on a new product. Doing so allows the firm to choose the most appropriate brand image and positioning for the new product without creating incompatible brand associations that damage the equity of existing brands. It also allows firms to target niche segments (Aaker and Joachimsthaler 2000), as well as categories and markets for which the associations of existing brands are not appropriate (Aaker 1990). Further, each newly created brand is a valuable asset that can be a foundation for future growth and can be leveraged into new extensions (Aaker 1990). Indeed, Aaker refers to a "forgone opportunity to create a new brand equity" as "the worst potential result" of a brand extension (1990, p. 54). However, building a brand from the ground up takes time and requires higher expertise and deployment of resources (e.g., advertising and promotional expenditures). Moreover, introducing new products under unknown brand names creates a high degree of uncertainty and is riskier than brand extensions (Aaker and Keller 1990; Ambler and

Styles 1996). Consequently, managers may prefer to rely on existing brands to facilitate the launch of new products, even though no conclusive empirical evidence exists to indicate that products branded under a new name are more likely to fail (Ambler and Styles 1996; Morrin 1999).

In sum, managers desire to see new products succeed, but they are also concerned with protecting current brand equity. A review of literature pertaining to the three types of branding decisions highlights two countervailing types of factors that can impact this equity. First, firms should take stock of available resources that enable them to either leverage an existing brand or build a new one. This focus on aligning resources to build customer and firm value is consistent with a resource-conscious view of marketing (Kumar 2015). Second, managers should carefully consider the risks associated with new product launch and strive to mitigate these risks and protect their existing brand equity. Drawing on theory and prior research, in the next section, I structure the hypotheses around these two dimensions: leveraging resources and mitigating risks.

Branding Decision: Leveraging Resources

From studying the literature, I identify three resources that impact a firm's new product branding decisions: the strength of the brands within their brand portfolio, the breadth of their overall brand portfolio, and the availability of financial resources needed to support the launch.

Although a high-equity brand may not necessarily have extensions, it is unlikely that a firm would choose to repeatedly employ a brand name on new products unless that

brand was strong. Thus, I argue that the frequency with which a firm has leveraged a brand is an indicator of brand strength. Accordingly, I define *brand leverage* as the extent to which a brand has been used in the past in new product introductions. A highly leveraged brand used on a variety of products is more likely to have high brand awareness and equity and thus is better positioned to benefit a new product. However, as the number of new products using the same brand name increases, so does the risk of overextending the brand, which can lead to the brand being stretched to the point where it no longer has a clear image and positioning (Morrin 1999). In this situation, using a sub-brand for a new product, i.e., adding a new element to the product name that can carry a new set of associations, would allow the firm to capitalize on the brand equity of a well-known brand, but also to avoid a potential risk of overextension. Thus:

> *H_{1a}: A firm with highly leveraged brands in its portfolio is more likely to use a sub-brand (versus a new brand or a direct extension) to name a new product.*

Portfolio breadth is defined as the number of brands in a firm's brand portfolio. All else equal, portfolio breadth increases the likelihood of having an existing brand in the portfolio that precisely fits the new product, minimizing the need for a new brand or a unique sub-brand. Using a direct extension may strengthen the equity of the brand (e.g., result in positive reciprocal spillover, Balachander and Ghose 2003), attract existing customers and potentially increase market share, all while decreasing new product introduction costs. Further, extending an existing brand to a new product costs less and prompts faster customer response (due to familiarity) compared to launching a new brand. As the likelihood of success and the attractiveness of the potential outcomes are high, a firm may be motivated to employ a direct extension when portfolio breadth is

high. I therefore hypothesize that:

> *H_{1b}: A firm with high portfolio breadth is more likely to use a direct extension (versus a sub-brand or a new brand) to name a new product.*

Finally, turning to resources needed to support the launch, I focus on the level of *advertising resources* that firms can *expend*. Because introducing a new brand to channel partners and to customers is a costly endeavor, firms that have the resources to provide strong advertising support for a new product are more likely to take on a capital-intensive task of building a new brand (Aaker and Keller 1990). New successful brands represent opportunities for growth, create value for firms, and can boost long-term profitability. While all firms would benefit from building additional brands and growing their portfolio, firms with the ability to spend more on advertising are better positioned to do so. I therefore argue that these firms are more likely to use a completely new name for their new products while firms with low advertising expenditures will be more likely to introduce direct extensions and sub-brands.

> *H_{1c}: A firm with low advertising expenditures is less likely to use a new brand (versus a sub-brand or a direct extension) to name a new product.*

Branding Decision: Mitigating Risk Factors

A major threat to the equity of a brand is that of negative *reciprocal* spillover, which can occur when the brand is extended to an unsuccessful new product. Negative effects range from parent brand image dilution and decreased evaluations of the parent brand, to lower probability of repeat purchases of the brand (Chen and Chen 2000; Loken and John 1993; Milberg, Park, and McCarthy 1997, Ng 2010; Swaminathan, Fox, and Reddy 2001). I thus argue that firms should avoid using their established brands

when the risk of new product failure is high.

To capture risk, I tap specific characteristics at the product (product innovativeness), firm (whether the firm is new to the new product category), and category (category competitiveness) levels that impinge upon the success of the new product. An *innovative* new product is one that brings a significant new consumer benefit to the market (Chandy and Tellis 1998; Sorescu and Spanjol 2008). Extant literature suggests increased uncertainty surrounding the performance of innovative new products (e.g. Gourville 2005; Robinson and Min 2002). Consumers' responses to innovative products can be hard to predict; in fact, innovativeness can be detrimental to new product success if customers are not sufficiently familiar with the nature of the new product (Calantone, Chan, and Cui 2006). Thus, the more innovative the new product, the more difficult it is to accurately predict success; the risk of technical failure is high and market acceptance – by channel partners and customers – is uncertain. Therefore, I expect firms to use a new brand as they seek to protect existing brand names from the potentially damaging reciprocal spillover effects from the new product.

> *H_{2a}: A firm introducing an innovative new product is more likely to use a new brand (versus a direct extension or a sub-brand) to name the product.*

I note one additional product-level risk factor that has been highlighted in the brand management literature: the fit between the extension and the parent brand (e.g., Aaker and Keller 1990; Völckner and Sattler 2006). When fit is low, and to avoid harming existing brand associations, it may be more appropriate to introduce a new brand. However, fit differs from the risk factors in the framework in that it is based on potentially subjective consumer assessments, rather than being a factor that can be

objectively measured with secondary data. In the context of the large sample of new product introductions, this characteristic prevents me from conducting a full scale empirical examination of my expectations of the effect of fit on the new product brand name decision. Thus, I do not offer a formal hypothesis. However, I will provide a post hoc test that sheds light on the robustness of the results in the absence of a fit measure.

At the firm-level, an important risk factor is the familiarity of the firm with the category it enters with the new product. Firms entering *new categories or markets* may lack critical industry knowledge and may not effectively assess customer needs and market gaps. This can also result in poor new product performance and increased new product failure rates (Li and Calantone 1998; Luca and Atuahene-Gima 2007). To protect existing brands, firms entering new categories are likely to mitigate risk by employing a new brand name for new products, rather than taking an easier route with a direct extension or sub-brand approach.

> *H_{2b}: A firm introducing a new product into a new category is more likely to use a new brand (versus a direct extension or a sub-brand) to name the product.*

Finally, turning to the *competitiveness of the new product's category* (Porter 1980; Slater and Narver 1994), the higher the number of products competing in a category, the more difficult it will be for a new product to stand out and be noticed by consumers (Hauser and Wernerfelt 1990; Iyengar and Lepper 2000). Further, new products introduced into highly competitive categories face a higher probability of competitive reaction, which has been shown to reduce pricing power and hamper new product success (Henard and Szymanski 2001). Promotional campaigns and discounts for direct competitors to the new product may divert consumers' attention and increase

the probability of product failure. Thus, I expect that high category competitiveness will increase firms' likelihood of shielding valuable existing brand names from harm by attaching a new brand name (versus an extension or sub-brand) to the new product.

> *H_{2c}: A firm introducing a new product into a highly competitive category is more likely to use a new brand (versus a direct extension or a sub-brand) to name the product.*

This set of hypotheses argues that firms should avoid using a direct extension or a sub-brand for new products that face higher risks. But why, instead, wouldn't managers leverage an establishing brand to increase the success of the product in such risky settings? I argue that brand dilution tips the scale in favor of a new brand; if a new product under a new brand fails, the damage is limited to the product. However, if a risky new product uses an established brand, the damage can spill back to the parent, harming the equity that had been painstakingly built over time, as illustrated in the Persil example (also see Pullig, Simmons and Netemeyer 2006; Sood and Keller 2012; Swaminathan, Fox, and Reddy 2001).

Branding Decision and Firm Performance

I have so far provided arguments on what theory predicts to be the most appropriate branding decisions, given the specific characteristics surrounding each new product launch. I next examine the financial implications of appropriate versus inappropriate branding decisions. At the product level, I could address this question by examining new product performance (e.g., sales of each individual product in the first year on the market). However, product-level metrics are not consistently reported by firms. Further, while the specificity of such a measure is an advantage, a disadvantage is

that it would not account for spillover effects on the parent brand (this data is rarely available; e.g., see the movie industry, e.g., Hennig-Thurau, Houston, and Heitjans 2009). A new product may either strengthen or weaken brand associations of existing brands and these effects are not captured in the performance of the new product.

Given the challenges of studying the financial consequences of branding decisions at the individual product level, I choose to focus on the aggregate impact of new product branding decisions on the parent firm. Specifically, I examine the effect of the portfolio-level deviance from appropriate branding decisions on the stock market value of the firm. The limited prior evidence on the impact of extensions on firm market value is mixed; extant research suggests that not every extension elicits a positive stock market reaction (Lane and Jacobson 1995).

I draw from two different theory bases - population ecology and institutional theory - that suggest the same relationship: firms that brand their new products in accordance with average industry practice will have higher market value than firms which deviate from the model. Note that I am hypothesizing about the *type* of brand chosen (extension, sub-brand, new), not about the market position of the specific brand name (where a unique positioning relative to existing products could lead to better performance). I adopt the approach of Anderson (1988) who draws from Darwinian and population ecology theories to argue that a descriptive model which captures average industry practice has normative value because market mechanisms enforce optimal behavior. While individual mistakes are possible, rational firms will, in aggregate, make correct decisions because market forces penalize “wrong” decisions (also see Lilien

1979).

This perspective is also consistent with the institutional theory view that firms competing in the same context end up following very similar strategies because "individual efforts to deal rationally with uncertainty and constraint often lead, in the aggregate, to homogeneity in structure, culture, and output" (DiMaggio and Powell 1983, p. 147; also see Thornton and Ocasio 1999). Following the same strategy is not akin to imitation in product design or in the timing of introduction of new products; firms can display relative heterogeneity in output and behavior while still following certain general norms that represent best practices in their specific context.

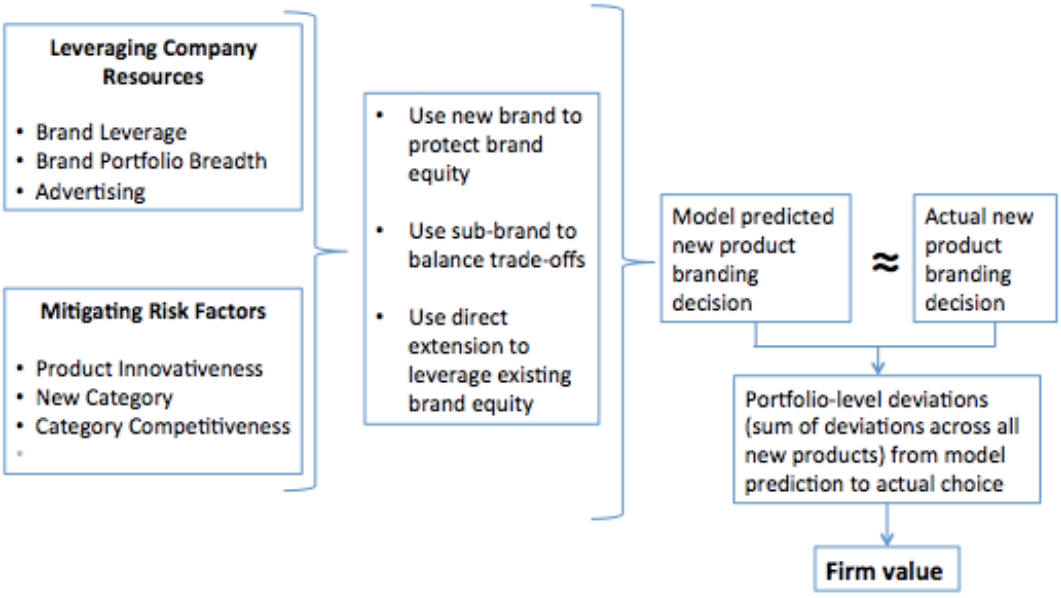
In sum, I argue that, given the similarity of conditions faced by firms within an industry, deviations from average industry practice – which I infer from the predictions of proposed theory-based model of new product branding decisions – will result in lower financial performance. As investors in the market recognize these suboptimal branding decisions, expectations for future net cash flows will be lower, lowering the stock market value of the firm. I note that this is a portfolio-level prediction and that an individual new product under unique conditions might depart successfully from industry norms. However, such successful deviations will be the exception or else most competitors would learn and eventually follow, creating a new average industry practice. I hypothesize that:

> *H_3: The more a firm deviates from average industry practice in branding new products, the lower the stock market value of the firm.*

A graphical representation of the theoretical model is presented in Figure 3.

Figure 3

Effect of New Product Branding Decision on Firm Value



METHOD

Data and Sample

To test the hypotheses, I need a large number of new product branding decisions across a variety of firms. After considering a number of data sources, I chose to conduct empirical analyses in the context of the consumer packaged goods (CPG) industry. This industry is one of the largest in the U.S., with sales reaching almost $737 billion in 2014 (IRI Times and Trends Report 2014). In addition, this industry is characterized by frequent new product introductions, with over 11,000 new products introduced per year in the United States, as reported by Product Launch Analytics.

I obtained data on new product introductions from Product Launch Analytics. It contains detailed product-level information, including product name and introduction date, manufacturer, category in which the product is introduced, co-branded status, and a rating of the new product's innovativeness. The database has been used to examine fluctuations in private label share (Lamey et al. 2012), the financial value of co-branding (Cao and Sorescu 2013), and performance consequences of delaying new product introductions (Moorman et al. 2012).

The main sample contains 20,878 new products introduced between 2000 and 2012 by 73 publicly traded US firms. This sample was obtained after excluding products introduced by firms for which financial information is unavailable. I also use data from 1995 to 2000 to compute variables that require a backward-looking rolling window. Firm-level information, including advertising expenditures, firm size, and firm value, is obtained from COMPUSTAT and CRSP.

Measures and Models

I use two models to test the hypotheses. First, to empirically test hypotheses H_{1a}-H_{1c} and H_{2a}-H_{2c}, I model the new product branding decision as a function of product, firm, and category characteristics. This model describes the effects of firm resources and risk factors on the choice of a branding alternative for a new product. Second, I model the impact of branding decisions on firm value to examine how deviating from the average industry practice in selecting branding alternatives for new products affects firm value (H_3). I follow prior research and calculate these deviations using the output of the new product branding choice model and then include them as determinants of firm value in a second equation (Brouthers, Brouthers, and Werner 2003). Next, I explain the models, in turn, and describe the variables (and operationalizations) that are used in each. The variables are summarized in Table 6.

TABLE 6. Variables, Measures, and Data Sources

Variable	Description	Data Source
Dependent Variables		
New product branding alternative	Dummy variables for 1.Direct Extension 2. Sub-Brand 3. New Brand	Product Launch Analytics
Tobin's Q	Ratio comparing the market value of a company's stock with the replacement value of its assets	COMPUSTAT CRSP
Independent Variables		
Brand Leverage	Total number of brands divided by the total number of new products over a 5 year backward rolling window	Product Launch Analytics
Brand Portfolio Breadth	Total number of brands used for new products during the five years prior to the new product introduction	Product Launch Analytics

TABLE 6. Continued

Variable	Description	Data Source
Advertising	Total advertising expenditures of a firm	COMPUSTAT
Innovativeness	Dummy variable: 1 if innovative 0 otherwise	Product Launch Analytics
New Category	Dummy variable: 1 if product is introduced to a new for a firm category 0 otherwise	Product Launch Analytics
Category Competitiveness	Log of number of products introduced in the same category as the new product during five years preceding its introduction	Product Launch Analytics
Past Use	Alternative specific variable: Total number of products introduced as direct extensions, sub-brands, and new brands in the past five years prior to each new product introduction	Product Launch Analytics
Co-branded	Dummy variable: 1 if co-branded 0 otherwise	Product Launch Analytics
Licensed	Dummy variable: 1 if licensed 0 otherwise	Product Launch Analytics
Sales Growth	Percentage increase in sales from previous year	COMPUSTAT
Firm Size	Total assets	COMPUSTAT
Extendibility	Number of times brand used for a new product was used during 5 years prior to the new product introduction	Product Launch Analytics
Firm-level Branding Strategy	Dummy variables for 1. House of Brands 2. Branded House 3. Mixed strategy	Product Launch Analytics
Leverage	Ratio of long term book debt to total assets	COMPUSTAT
Enter New Category	Dummy variable: 1 if firm entered one or more new categories in a year 0 otherwise	Product Launch Analytics
Operating Margin	Net income divided by sales	COMPUSTAT
Advertising	Advertising expenditures divided by total assets	COMPUSTAT

Modeling the New Product Branding Choice

To test the determinants of the new product branding decision, I use a conditional logit model (McFadden 1973), with the choice among three branding alternatives (direct extension, sub-brand, and new brand) as dependent variable, and product, firm, and category characteristics as independent variables that tap relevant resources and risks. The conditional logit model is appropriate in this context because it allows to model the utility of each alternative as a function of alternative invariant terms (e.g. characteristics of the firm), as well as alternative specific terms (e.g., how often the alternative has been used in the past) (Greene 2012). The conditional logit model should only be used for nominal outcomes that are distinct and independent (i.e., the utilities associated with different outcomes are uncorrelated with each other and the odds of choosing one alternative over another are not affected by the presence or absence of additional alternatives); this assumption is also known as the "Independence of Irrelevant Alternatives" (IIA). I test this assumption using Hausman-McFadden test (Hausman and McFadden 1984), which compares the fit of model parameters estimated using the full choice set and a restricted choice set. The IIA assumption holds as the test statistic is insignificant at 0.1.

I now describe the branding choice model. Let U_{ijk} be firm *i*'s utility of choosing branding strategy *j* for product *k*. I have,

(1)

$$
\begin{aligned}
U_{ijk} = {} & \alpha_j + \beta_{1j}\text{Brand Leverage}_i + \beta_{2j}\text{ Brand Portfolio Breadth}_i \\
& + \beta_{3j}\text{Advertising}_i + \beta_{4j}\text{Innovativeness}_{ik} + \beta_{5j}\text{New Category}_{ik} \\
& + \beta_{6j}\text{Category Competitiveness}_{ik} + \beta_7\text{Past Use}_{ij} + \beta_{8j}\text{Co} - \text{branded}_{ik} \\
& + \beta_{9j}\text{Licensed}_{ik} + \beta_{10j}\text{Sales Growth}_i + \beta_{11j}\text{Firm Size}_i \\
& + \beta_{12j}\text{Extendibility}_{ik} + \beta_{13j}\text{House of Brands}_i + \beta_{14j}\text{Mixed Strategy}_i \\
& + \sum_{2001}^{2012} \beta_{lj}\text{Year dummy}_l + e_{ijk}
\end{aligned}
$$

where e_{ijk} is a random error, which is assumed to have an extreme value distribution (Guadagni and Little 1983). [I] also control for year fixed effects with year dummies and account for potential dependencies in error structure by clustering errors at the firm level. The firm-level variables indexed with the subscript "i" are measured at the time product "k" is introduced.

Let P_{ijk} denote the probability of branding strategy *j* being chosen for product *k* by firm *i*.

(2)

$$
P_{ijk} = P(y = j|x) = \frac{e^{U_{ijk}}}{\sum_{j=1}^{J} e^{U_{ijk}}}
$$

Note that the branding strategy with the highest predicted probability P_{ijk} among the three alternatives is considered to be the choice predicted by the model.

Dependent variable: New Product Branding Alternative. Product Launch Analytics provides the complete name of each new product, which I use to determine the branding alternative. If the brand name was used for the first time (as determined by searches across the entire Product Launch Analytics database as well as web searches), the branding decision was coded as a "New Brand." If the brand name was previously used by the firm and it appears on a new product alongside a generic description, the

branding decision was coded as a "Direct Extension." A generic description is a common descriptive dictionary word (or combination of words). Examples of products coded as direct extensions include *Tide* Liquid Laundry Detergent, *Farmland* Fully Cooked Meat, *Heinz* Fruit and Vegetable Wash Spray, *Avon* Hand Lotion, *Del Monte* Tomato Sauce (brand name italicized). Products assigned to a "Sub-Brand" category are those whose name includes an existing brand, paired with another proper name/non-dictionary word (e.g. *Estee Launder* Re-Nutriv, *Max Factor* Lipfinity, *Dial* NutriSkin) or a dictionary word that does not constitute a direct, generic description of product use (e.g. *Avon* Smooth Minerals, *Olay* Total Effects, *Arm & Hammer* Complete Care, *Revlon* Luxurious Color). To assess the reliability of the coding, a subsample of the data (1,000 branded products randomly selected from the overall sample) was coded by a second (independent) rater. The Index of Reliability (Perreault and Leigh 1989) between the two coders indicated acceptable reliability (I_r = .82) and all discrepancies were resolved by discussion.

Independent variables. I first construct a firm-level variable that indicates the extent to which the firm has extended its brands in the past. Specifically, *Brand Leverage* is computed as the total number of brands used on new product introductions divided by the total number of new products introduced by the firm over the five years prior to a new product introduction. I define highly leveraged brands as those that have been frequently used in the past in new product introductions; by construction, this variable will take on lower values for highly leveraged brands. *Brand Portfolio Breadth*, a firm-level variable, is the total number of brands used for new products during five

years prior to the new product introduction. While *Brand Leverage* captures the extent to which the firms' brands have been used, on average, to name new products, *Portfolio Breadth* reveals how many brands the firm can draw from when considering an appropriate name for a new product; in my sample, the correlation of these variables is .04. I measure *Advertising* using annual total advertising expenditures (in dollars) of each firm. For *Product Innovativeness*, each product in Product Launch Analytics is classified at the time of its introduction by the database staff as non-innovative or innovative across five specific domains: formulation, technology, positioning, merchandising, or packaging benefits. Similar to previous research, I assign the value 1 if a product is rated as innovative in any of the five domains and 0 otherwise (e.g. Cao and Sorescu 2013).[5] I measure *Category Competitiveness* by calculating, for each product introduction, the logarithm of the total number of products introduced into the same category during the five years preceding the introduction. While I do not capture the intensity of competition among incumbents in the category, I argue that a large number of new product introductions is an indication of high market potential and high competition in the category. Finally, I use manufacturer information and category classification to identify whether a product is introduced into one of the firm's existing categories or whether the category is new for the firm (i.e., *New Category*). I conduct searches across all products recorded in the database since 1980. If the firm had no prior

[5] Although this operationalization may appear to be a low threshold for a product to be categorized as innovative, only a small proportion of products in the sample (less than 4.5%) reached this standard.

new products in the category, the category is considered new for the firm and the variable takes the value 1; otherwise, it takes the value 0.

Control variables. I use seven control variables in the model (Past Use, Co-brand, Licensed, Sales Growth, Firm Size, Extendibility, and Firm-Level Branding Strategy). *Past Use* is the total number of products introduced by each firm as direct extensions in the five years prior to each new product introduction (also captured for sub-brands and new brands). Next, *Co-brand* captures whether a product, reflecting collaboration between two firms, has brand names, logos, or other brand identifiers of both firms present on the new product, whether in the product name (e.g. Arm & Hammer Eureka – Odor Eliminating Vacuum Bags), in the product description (Febreze - Fabric Refresher Spray - with Downy April Fresh Scent), or graphically on the package (Oral-B Kid's toothbrush with pictures of Disney characters on the package). *Licensed* refers to products that use a brand that has been licensed from another firm. I use firms' sales data to calculate *Sales Growth*, or percentage increase in sales from the preceding year. Firms with high sales growth may be more likely to build a new brand, while firms with declining sales should leverage brand equity of their existing brands and introduce a direct extension or a sub-brand. Consistent with prior studies I use firms' total assets as a measure of *Firm Size*. Prior research suggests larger firm size signals competence and reliability to consumers (Aaker 2004); it may therefore be easier to extend existing brands belonging to larger firms. Alternatively large firms may be more likely to introduce new brands, as they have the slack to deploy resources needed for brand building. I measure the *Extendibility* of the brand used in a new product introduction as

the total number of new products on which that brand was used during the previous five years. Brands with high extendibility can be deemed more successful. I note that extendibility is a brand-specific measure, whereas brand leverage is a brand portfolio level variable.

Finally, I use a typology developed by Aaker and Joachimsthaler (2000) to capture *Firm-Level Branding Strategy*: House-of-brands strategy, Branded House strategy, or Mixed strategy. House-of-brands refers to the strategy of a firm that operates an "independent set of stand-alone brands, each maximizing their impact in the market," such as P&G and Unilever (Aaker and Joachimsthaler 2000, p.10). In contrast, a Branded House is a firm that introduces many products under a single master brand name (e.g., Nike and Sony). Mixed refers to a strategy of a firm that uses a corporate brand name for some products and individual names for others (Rao, Agarwal, and Dahlhoff 2004). For example, Coca-Cola uses its flagship brand name for a set of products, such as Diet Coke, Coke Zero, and Cherry Coke, and new brand names for others, such as Sprite. The firm-level branding strategy may affect firms' new product branding choices such that House-of-Brands firms (firms that have more experience building new brands) may be more likely to introduce new brands, while firms with Branded House and Mixed strategies are more likely to extend existing brands. Firm-level branding strategy is coded using the manufacturer name provided in Product Launch Analytics and brand portfolio data obtained from Hoovers. Firms using the corporate name on all products were coded as Branded House. Those not using their corporate name on any products were coded as House of Brands. Finally, firms whose

portfolios contain both independent brands and products under the corporate brand were coded as Mixed.

Modeling the Impact of New Product Branding Choice Decision on Firm Value

In this section, I describe the second model that reveals the association between firm value and deviations from average industry practice in new product branding decisions. I follow the two-step methodology proposed by Brouthers, Brouthers, and Werner (2003). First, I identify all the instances where the firm's actual branding choice was different from that predicted by the new product branding choice model. Then, I aggregate these instances at the firm-year level, and I use the resulting variable (Deviation Rate) as a predictor in the following model:

(3)

$$\begin{aligned}\text{Tobin's Q}_{it} = {} & \beta_0 + \beta_1 \text{Deviation Rate}_{it} + \beta_2 \text{Leverage}_{it} + \beta_3 \text{Enter New Category}_{it} \\ & + \beta_4 \text{Operating Margin}_{it} + \beta_5 \text{Advertising}_{it} \\ & + \beta_6 \text{Number of Innovative Products}_{it} \\ & + \beta_7 \text{Number of Non} - \text{Innovative Products}_{it} + \beta_8 \text{Sales Growth}_{it} \\ & + \beta_9 \text{Firm Size}_{it} + \beta_{10} \text{Branded House}_{it} + \beta_{11} \text{Mixed Strategy}_{it} \\ & + \sum_{2001}^{2012} \beta_j \text{Year Dummy}_j + u_i + e_{it}\end{aligned}$$

Where *i* refers to the firm and *t* to the year.

A non-significant Hausman specification test (1978) indicates the appropriateness of random effects model. A Wooldridge test for autocorrelation in panel data suggests the presence of first-order autocorrelation. To account for it I fit an autoregressive disturbances model using a Generalized Least Squares estimator. All of the variables used in the model will be described in the following sections except for those that are operationalized in the same way as in the previously described model (i.e.,

Sales Growth and Firm-Level Branding Strategy).

Dependent variable. Tobin's Q, defined as the ratio of the firm's market value to the replacement cost of its assets, is a forward-looking measure of firm performance that captures the extent to which the firm is expected to produce future cash flows, given its asset base. It has previously been used in marketing literature as a measure of firm value and firm performance (Dotzel, Shankar, and Berry 2013; Lee and Grewal 2004; Rao, Agarwal, and Dahlhoff 2004). In the branding literature, Tobin's Q has been used to document the financial value of different corporate branding strategies (e.g., Rao, Agarwal, and Dahlhoff 2004) and of firms' trademark activities (Krasnikov, Mishra and Orozco 2009). Following Kaplan and Zingales (1997) and Sorescu and Spanjol (2008) I calculate Tobin's Q as follows:

(4)

$$\text{Tobin's Q} = \frac{(\text{AT} - \text{CEQ}) + (\text{CSHO} * \text{PRCC}_\text{F})}{\text{AT}}$$

where *AT* is total assets, *CEQ* is total common value of equity, *CSHO* is common shares outstanding, and $PRCC_F$ is fiscal year closing stock price, all data from CRSP-COMPUSTAT.

Independent variable. To compute the *Deviation Rate* for the firm, I find the total number of instances in a year when the firm makes new product branding decisions that differ from the decisions predicted by the new product branding choice model. I then divide this number by the total number of products introduced by the firm that year to obtain a firm-level, annual measure of deviation from the average branding practice used

in the industry, given specific product, firm and category characteristics.

Control variables. I include six new control variables that can impact Tobin's Q (in addition to the controls described in the prior section). *Leverage*, the ratio of a long term book debt to total assets, is a standard control variable in Tobin's Q models. Next, an indicator variable, *Enter New Category*, takes the value 1 if the firm entered one or more new categories in a year and zero otherwise. This is indicative of growth and could therefore positively impact Tobin's Q. I also include *Operating Margin*, as it may indicate cash flow expectations (Rao, Agarwal, and Dahlhoff 2004; Rubera and Droge 2013). *Advertising* can positively affect firm value (Chauvin and Hirschey 1993; Klock and Megna 2000); thus, I use a relative measure of advertising (Rao, Agarwal, and Dahlhoff 2004), computed by dividing advertising expenditures by total assets. I also control for the *Number of Innovative Products* and *Number of Non-Innovative Products* the firm introduced, defined using the innovativeness rating from Product Launch Analytics (Sorescu and Spanjol 2008).

RESULTS

Results from the New Product Branding Choice Model

Descriptive statistics. Table 7 presents descriptive statistics on branding decisions used for new products introduced into the CPG industry between 2000 and 2012. Out of 20,878 new products included in the sample, 14,132 (68%) were introduced as sub-brands, 6,163 (29%) as direct extensions, and only 583 (3%) were new brands. Building a new brand is a long, difficult, and capital intensive task; not surprisingly,

most CPG firms prefer to rely on existing brands when they introduce new products. Brands were highly leveraged (.11), while portfolios contained an average of just under 42 brands. Since CPG is a mature industry, new category entry and innovative products are also infrequent; only 1% of new products were introduced into categories that were new for their firms, and innovative products constitute only 4.5% of the sample. Overall, the sample is comprised heavily of non-innovative products introduced into existing categories as sub-brands. However, while only 2.7% of introductions in an existing category are new brands, when entering new categories that percentage climbs to 17%: firms are cautious about using existing brands in unknown territory. Table 7 presents summary statistics and the correlation matrix for all variables used in the new product branding choice model.

TABLE 7. Descriptive Statistics and Correlation Matrix for the Branding Choice Model

A. The Frequency of Branding Alternatives

Branding Alternative	Number of times the alternative is selected	Percent selected (%)
Direct Extension	6,163	29.52
Sub-Brand	14,132	67.69
New Brand	583	2.79
Total	20,878	100

B. Descriptive Statistics And Correlation Matrix For The Determinants Of Branding Choice

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Brand Leverage	.11	.11	1.00												
2. Brand Portfolio Breadth	41.91	36.74	.04	1.00											
3. Advertising [a]	1528.38	2207.10	-.05	.81	1.00										
4. Innovativeness	.04	.21	.07	.00	-.01	1.00									
5. New Category	.01	.10	.13	-.05	-.05	.02	1.00								
6. Category Competitiveness	7.59	.91	-.32	-.14	-.08	-.07	-.13	1.00							
7. Co-branded	.06	.24	.05	.06	.03	-.00	.00	-.06	1.00						
8. Licensed	.06	.24	.05	.00	-.02	-.02	.01	-.04	.35	1.00					
9. Sales Growth	.07	.57	.10	-.03	-.00	.01	.08	-.01	.00	.00	1.00				
10. Frim Size [a]	24818.05	37640.05	.02	.82	.86	-.01	-.04	-.12	.08	-.00	-.02	1.00			
11. Extendibility	277.17[b]	519.06	-.46	-.34	-.26	-.01	-.04	.21	-.10	-.08	-.01	-.24	1.00		
12. House Of Brands	.30	.46	.19	.70	.54	.01	.00	-.25	.10	.04	-.03	.66	-.30	1.00	
13. Mixed	.68	.47	-.23	-.65	-.51	-.02	-.01	.28	-.09	-.03	.04	-.62	-.32	-.94	1.00
14. Branded House	.02	.15	.14	-.09	-.07	.01	.02	-.10	-.02	-.02	-.01	-.07	-.07	-.10	-.22

[a] Statistics are in millions of dollars

Determinants of new product branding decision: firm resources. To test hypotheses $H_{1a\text{-}c}$ and $H_{2a\text{-}c}$, I estimate a conditional logit model (Equation 1). The model is significant overall and correctly classifies the branding decisions for 71% of the sample (e.g., in 71% of the cases, the highest predicted probability corresponds to the branding alternative chosen by the firm).

The results obtained from estimating the conditional logit model are summarized in Table 8. A positive (negative) coefficient indicates that the variable increases (decreases) the probability of the firm selecting one branding alternative compared to a base alternative. The three columns in Table 8 are to be interpreted as follows: Column 1 (respectively, column 2) uses the direct extension alternative as the base and shows the effect of the independent variables on the probability of a firm selecting a new brand (respectively, a sub-brand) relative to a direct extension. Column 3 uses the sub-brand as the base alternative and tests the effect of the independent variables on the probability of selecting a new brand relative to a sub-brand. For ease of exposition I refer to the model that compares a new brand to a direct extension as Model 1; the model that compares a sub-brand to a direct extension as Model 2; and the model that compares a new brand to a sub-brand as Model 3.

TABLE 8. Results from Conditional Logit Model of New Product Branding Choice

	Branding Choice Models		
Independent Variables	Model 1 New Brand vs Direct Extension (base)	Model 2 Sub-Brand vs Direct Extension (base)	Model 3 New Brand vs Sub-Brand (base)
Brand Leverage	-2.26 (.69)***	-2.82 (.63)***	.56 (.79)
Brand Portfolio Breadth	-.009 (.005)*	-.006 (.003)**	-.003 (.004)
Advertising	3.4e-04(8.7e-05)***	1.5e-04 (.3.5e-05)***	1.9e-04 (7.8e-05)**
Innovativeness	1.21 (.33)***	.23 (.10)**	.97 (.36)***
New Category	.49 (.41)	-.13 (.20)	.62 (.45)
Category Competitiveness	.16 (.08)**	.19 (.06)***	-.03 (.07)
Co-branded	-.68 (.27)**	-.51 (.14)***	-.17 (.29)
Licensed	.17 (.27)	-.94 (.19)***	1.11 (.28)***
Sales Growth	-.04 (.09)	-.004 (.03)	-.04 (.10)
Firm Size	-1.4e-05 (4.98e-06)***	-3.64e-06 (1.91e-06)*	-1.1e-05 (3.79e-06)***
Brand Extendibility	-17.83 (.26)***	3.7e-04 (2.3e-04)	-18.01 (.26)***
House of Brands	1.19 (.26)***	.81 (.20)***	.38 (.30)
Mixed Firm Strategy	.87 (.26)***	.46 (.15)***	.42 (.29)
Alternative Specific Variable			
Past Use	0.001 (.00)***		
Wald χ^2	*33782.84***	*33782.84***	*34158.54***

* $p < 0.10$
** $p < 0.05$
*** $p < 0.01$
Notes: Standard errors are in parentheses. The models include year dummies which are omitted from the table for parsimony.

$H_{1a\text{-}c}$ predict that firms' choices of branding alternatives depend on their resources. In particular, I posit that firms with highly leveraged brands will be more likely to introduce a sub-brand (H_{1a}). In line with my predictions, firms with highly

leveraged brands (low values of brand leverage ratio), are more likely to select a sub-brand than a direct extension (Model 2; β=-2.82; $p<0.01$). New brands are also more likely to be preferred to direct extensions by these firm (Model 1; β=-2.26; $p<0.01$). However, there was no difference in probabilities between a sub-brand and a new brand (Model 3; β=.56; $p>0.10$). Thus H_{1a} is partially supported. The stronger preference for new brands rather than direct extensions suggests that managers would rather undertake the difficult task to create a new brand rather than risk overextending their current brands. Next, I hypothesized that *Brand Portfolio Breadth* increases the probability of using a direct extension compared to the other two branding options (H_{1b}). In support of this hypothesis, the coefficients of *Brand Portfolio Breadth* are negative and significant in Model 1 and Model 2, which implies that firms are less likely to introduce a new brand (β=-.009; $p<0.1$) or a sub-brand (β=-.006; $p<0.05$) compared to a direct extension. I also find support for H_{1c}, which predicts that firms with high advertising expenditures are more likely to introduce a new brand. The coefficients of *Advertising* in Model 1 and Model 3 are positive and significant. This suggests that advertising increases the probability of a new brand as compared to a direct extension (β=.0003; $p<0.01$) and a sub-brand (β=.0002; $p<0.05$). In addition, I find that firms with high levels of advertising expenditures are more likely to choose a sub-brand than a direct extension (β=.0001; $p<0.01$). I summarize the direction of results in Table 9.

TABLE 9. Summary of the Results from the Conditional Logit Model of Determinants of the New Product Branding Decision

Determinants – Resources	**Branding Alternatives**		
	Direct Extension	**Sub-Brand**	**New Brand**
High Leverage	×	✓	✓
High Breath Portfolio	✓	×	×
High Advertising Expenditures	×	×✓	✓
Determinants – Risk Factors			
Innovative Product	×	×✓	✓
New Category	-	-	-
Competitive Category	×	✓	✓

× - Least likely alternative (based on significance of the coefficient with $p<0.10$ or better)
×✓- Alternative less likely than alternative with ✓ and more likely than × (based on significance of the coefficient with $p<0.10$ or better)
✓- Most likely alternative (based on significance of the coefficient with $p<0.10$ or better)
- Coefficients are non-significant with $p>0.10$

Determinants of new product branding decision: risk factors. In H_{2a-c}, I predict that firms are more likely to use a new brand when they undertake a risky new product introduction, in particular when they introduce an innovative product (H_{2a}), enter a new category (H_{2b}) or a competitive category (H_{2c}). The coefficient of *Innovativeness* is positive and significant in all three pairwise comparisons, suggesting that when firms introduce innovative products they are more likely to use a new brand then a direct extension ($\beta=1.21$; $p<0.01$) or a sub-brand ($\beta=.97$; $p<0.01$). Thus H_{2a} is supported. It is also important to note that firms are more likely to prefer a sub-brand to a direct extension for an innovative new product ($\beta=.23$; $p<0.05$). As entering a new category does not impact the choice of branding alternative in any of the models ($p>0.10$), H_{2b} is not supported. This finding could be the result of low power in light of few new category introductions in the sample. Positive and significant coefficients of *Category Competitiveness* in Model 1 and Model 2 indicate that, in line with H_{2c}, firms are more

likely to prefer a new brand to a direct extension (β=.16; $p<0.05$), however firms are also more likely to choose a sub-brand over a direct extension (β=.19; $p<0.01$), with no difference in the likelihood of a new brand and a sub-brand (β= -0.3; $p>0.10$). Thus H_{2c} is partially supported, suggesting that firms avoid using a direct extension, choosing between a sub-brand and a new brand, for a competitive category introduction. While I argued that a new brand is the best option in risky situations, sub-brands can also protect the parent brand from dilution in certain instances, such as prestige brands moving down-market (Kirmani, Sood, and Bridges 1999) or new products with low similarity to their parent brand (Soon and Keller 2012). The results support the notion that sub-brands are viable tools to mitigate the risks of introducing new products into competitive categories.

The effect of control variables is in line with expectations. For example, I find that co-branded products are more likely to be introduced as direct extensions than new brands or sub-brands. This is not surprising, considering the main reason firms engage in co-branding arrangements is to capitalize on the equity of their existing brands, which diminishes the need of creating a new name, either in the form of a sub-brand or a new brand.

Results from the Tobin's Q Model

Descriptive statistics. I use the output of the conditional logit model to calculate the extent to which firms deviate (i.e., deviation rate) from the average industry practice in branding new products. Figure 4 presents average values of Tobin's Q aggregated by deviations quartiles and provides preliminary, model-free evidence in support of H_3.

This graph reveals that firms that deviate more tend to have lower firm value.

Descriptive statistics and the correlation matrix of the variables used in Tobin's Q model are presented in Table 10.

Figure 4.

Tobin's Q by Deviation Quartiles

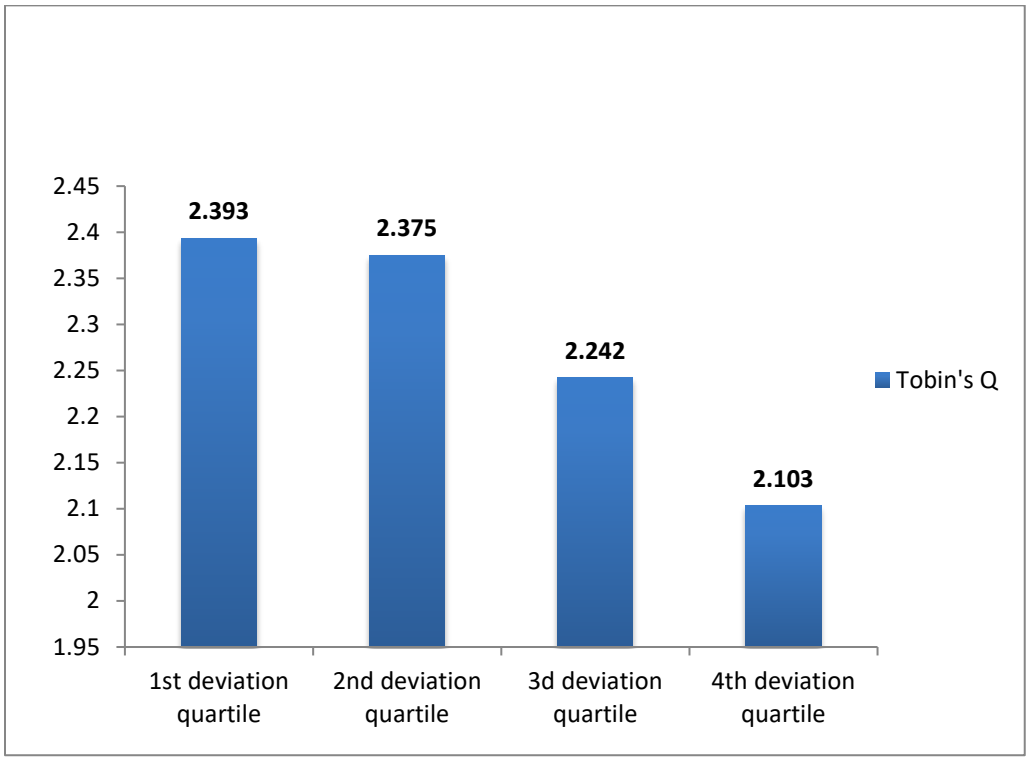


TABLE 10. Descriptive Statistics and Correlation Matrix for Tobin's Q Model

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Tobin's Q	2.29	1.27	1.00									
2. Deviation Rate	.41	.28	-.08	1.00								
3. Leverage	.27	.25	-.05	-.16	1.00							
4. Enter New Category	.21	.41	.02	.00	-.02	1.00						
5. Operating Margin [a]	.06	.09	.28	-.01	-.14	.04	1.00					
6. Advertising [a]	.07	.10	.27	-.10	.09	-.09	-.08	1.00				
7. Innovative Products	1.53	3.25	.21	-.16	-.04	.07	.13	.05	1.00			
8. Non-Innovative Products	32.56	61.56	.21	-.23	.00	.07	.15	.15	.76	1.00		
9. Sales Growth	.14	1.06	-.03	-.02	.02	.05	-.01	-.04	-.01	-.03	1.00	
10. Firm Size*	9715.75	20149.65	.03	-.03	-.06	.02	.32	-.11	.31	.40	.00	1.00

[a] Statistics are in millions of dollars

The impact of new product branding decision on firm value. The results from the Tobin's Q model appear in Table 11. H_3 predicts that deviating from average industry practice in branding new products will negatively affect firm value. In support of H_3, the coefficient of deviation rate is negative (β= -.26; $p<0.01$). This suggests that firms tend to have higher firm value when they take into account product, firm, and category characteristics, and brand their new products in line with the proposed resources-and-risks framework. I also find that introducing innovative products increases firm value (β= .02; $p<0.10$), as does advertising (β= 3.99; $p<0.01$).

TABLE 11. Results from the Tobin's Q Model

Variables	**Coefficient (SE)**
Constant	3.14 (.61)***
Deviation Rate	-.26 (0.10)***
Leverage	-.26 (.27)
Enter New Category	.05 (.05)
Operating Margin	.76 (.36)**
Advertising	3.99 (.69)***
Innovative Products	.02 (.01)*
Non-Innovative Products	.001 (.001)
Sales Growth	-.02 (.03)
Firm Size	-8.59e-06 (4.15e-06)**
House Of Brands	-1.19 (.61)*
Mixed Firm Strategy	-.74 (.60)
Wald χ^2	*132.54***

* p < 0.10
** p < 0.05
*** p < 0.01

Robustness Checks and Additional Analysis

Endogeneity and reverse causality. I considered the possibility that Equation (3) may suffer from endogeneity. Specifically, there could be firm specific characteristics I have omitted from the model, such as managerial skill, that could affect both the magnitude of deviations and firm value. In order to test for the presence of endogeneity,

I constructed an instrument for the deviations measure: average annual deviations of all competitors of the firm. I expect this variable to correlate with focal firm deviations but not directly with the firm's performance. Results from a 2SLS estimation using this instrument indicate that average deviations of competitors relates significantly to focal firm deviations, that the instrumented deviations remain significantly negative in the second stage equation, and that the Davidson-MacKinnon test of exogeneity is non-significant (p=.62), indicating that endogeneity of deviations is not a significant problem in the model. Additionally, I also considered the possibility of reverse causality between advertising and branding decisions in Equation (2). Specifically, certain types of branding decisions in year t-1 may drive advertising expenditures in year t. To check for this possibility, I re-estimated the models using lagged advertising expenditures. Although this led to a loss of one year of data, I obtained substantively the same results with lagged advertising as I did with current advertising expenditures.

Interaction effects. I considered the possibility that the resource factors highlighted in this research may mitigate the effect of innovativeness on branding decisions. I re-estimated the branding choice models including interactions of innovativeness with brand leverage, portfolio breadth, and advertising. None of these interactions were significant. I note, however, that this finding could be due to the high collinearity that these interactions bring to the model.

Do deviations also impact ROA? I have shown that deviating from industry practice in branding new products has a negative effect on Tobin's Q. To assess the impact of deviation rate on firm performance, rather than firm value, I use ROA as an

alternative dependent variable in Equation (3). I expect the effect of the deviation rate on ROA to be weaker than on Tobin's Q. While Tobin's Q is a forward looking metric that takes into account all expected discounted future cash flows, ROA only measures current year performance. Thus, ROA does not capture the extent to which misbranding may impact future cash flows from existing products, which could decrease as a result of parent brand dilution. Regardless, I find that the deviation rate has a significant negative effect on ROA (β=-0.1; $p<0.05$), suggesting that firms that misalign their branding decisions with product, firm and category characteristics tend to have decreased firm value as well as firm performance. The ROA model results are presented in Table 12, Panel A.

TABLE 12. Results from Robustness Models

A. Alternative dependent variables and alternative-specific deviations			
	ROA, Main Deviations Model	Tobin's Q Specific Deviations Model	ROA Specific Deviations Model
Deviation Rate	-.01 (.01)**		
Deviation from Direct Extension		-.23 (.12)*	-.01 (.01)
Deviation from Sub-Brand		-.27 (.13)**	-.02 (.01)*
Deviation from New Brand		-.36 (.20)*	-.02 (.02)
Wald χ^2		*132.51***	
F	*41.04*		*37.40****

* p < 0.10
** p < 0.05
*** p < 0.01

TABLE 12 Continued

B. Results from a subsample that excludes new products introduced in new categories using an existing brand					
	Branding Choice Models		Firm Value Models		
	Model 1 New Brand vs Direct Extension	Model 2 Sub-Brand vs Direct Extension	Model 3 New Brand vs Sub-Brand	Tobin's Q Model	ROA Model
Brand Leverage	-2.25 (.73)***	-2.82 (.64)***	.57 (.81)		
Brand Portfolio Breadth	-.008 (.004)*	-.006 (.003)**	-.002 (.004)		
Advertising	3.1e-04 (8.7e-05)***	1.4e-04 (.3.5e-05)***	1.7e-04 (7.8e-05)**		
Innovativeness	1.37 (.32)***	.24 (.10)**	1.12 (.36)***		
New Category	31.56 (.37)***	.65 (.21)***	32.41 (.39)***		
Category Competitiveness	.20 (.08)**	.20 (.06)***	-.002 (.08)		
Deviation rate				-.23 (.10)**	-.01 (.007)*
***Wald* χ^2**	*54259.87***	*54259.87***	*59098.48***	*128.85***	
F					*40.69****

* p < 0.10
** p < 0.05
*** p < 0.01

The effect of alternative-specific deviations on stock market value and performance. In the second model, I used an aggregate measure of deviation rate that does not differentiate among the branding alternatives from which the firm deviated. To assess how deviating from each branding alternative affects a firm's value, I separately compute the deviations from a direct extension, from a sub-brand, and from a new brand. Specifically, I find all the instances in which a firm deviated from each branding alternative and divide these numbers by the total number of new products the firm introduced each year. I use the resulting three deviation rate variables in the Tobin's Q model to test how a specific type (or types) of deviations drive the results. The results

are presented in the last two columns of Panel A in Table 12. In the Tobin's Q model, the coefficients of all three alternative-specific deviations are negative (marginally significant or better), suggesting that going against average industry practice in introducing new brands, as well as extending existing brands, will have a negative effect on firm value. Additionally, I examine the effect of alternative-specific deviations on ROA and I find that deviating from sub-branding has a marginally significant negative effect on firm performance.

The role of fit between the parent brand and the characteristics of the new product. Prior research suggests that fit or similarity between the brand extensions and their parent brand is an important factor in brand extension performance (Aaker and Keller 1990; Park, Milberg, Lawson 1991; Völckner and Sattler 2006). However this effect has been demonstrated mainly in non-competitive settings. When competition is taken into account, Milberg, Sinn, and Goodstein (2010) report that fit with the parent brand does not play an important role in how well brand extensions perform; regardless of the fit, an extension is perceived as risky and tends to have lower evaluations when it competes against a well-known competitor.

While CPG is a competitive industry and I do account for category competitiveness in the analysis, I cannot rule out the possibility that fit could be a deciding factor in selecting a branding alternative for a new product. However, I am unable to construct a reliable measure of fit for my data for two reasons. First, my sample is significantly larger than the ones used in behavioral research; it would be virtually impossible to design a procedure whereby judges would have the multi-

category expertise to reliably code fit between over 20,000 new products and their parent brands. Second, brand associations evolve and a retrospective assessment of fit may not be accurate. While not including fit in the model is a limitation, I conduct one additional analysis to shed light on whether the results could be driven by not accounting for fit.

Following the line of research that measures fit as the similarity between the product category of the extension and existing categories of the parent brand (Aaker and Keller 1990; Boush and Loken 1991), I assume that fit, or the lack of thereof, is a critical issue only for the products introduced into a *new category*, but using an *existing brand* (either as a direct extension or a sub-brand). Products that carry an existing brand into a category in which the firm already has products are less likely to suffer from lack of fit, because consumers have already been exposed to similarly branded products. To assess whether the negative effect of branding decisions on firm value is driven by the lack of fit between the new products and their parent brands, I exclude all the products introduced into a new category as a direct extension or a sub-brand from the sample and repeat the branding choice and firm value analyses. The results are presented in Table 12, Panel B. There is no change in the significance of coefficients in the conditional logit model used to assess branding alternative choice, and the effect of deviation rate on both firm value and firm performance remains negative and significant.

DISCUSSION, IMPLICATIONS AND LIMITATIONS

This essay proposes a conceptual framework for the decision faced by the manager of every new product: should the product be branded as a direct extension, a

sub-brand, or a new brand? The empirical analysis examines the extent to which firms follow the theory-grounded predictions in branding their new products. I also show that deviating from average industry practice, as predicted by the model, negatively impacts firm value.

While the benefits of direct extensions have been touted in prior research, particularly in the behavioral literature, my study shows that this branding alternative is only appropriate where the risk of product failure is relatively low. The unique dataset used in the analyses also allows to offer novel insights on appropriate branding decisions when market outcomes are highly uncertain. In such cases, i.e. when firms launch innovative new products or enter highly competitive categories, using a more unique name, either as a part of a sub-brand or a new brand, may be a better alternative. Firms that have the resources to invest in heavy advertising to build new brand equity for new products are better positioned to launch a new brand. Further, this research suggests how managers can leverage their current branding resources in new product branding decisions. Firms can directly extend their brands when they have a large brand portfolio from which to choose; these firms have greater flexibility to select a brand that would best fit the positioning and features of the new product. However if the brands in the firm's portfolio are highly leveraged, the firm should refrain from using a direct extension to prevent the brand from being overextended; instead, they should introduce a sub-brand or a new brand.

Implications for Theory

A significant part of the brand extension literature has focused on identifying

determinants of brand extension success. Most studies start from the premise that the brand extension decision has been made, and examine how factors such as brand associations and product characteristics contribute to the success of the extension. The prescriptive implications of these studies tend to be dichotomous: extend or do not extend. For instance, Sinapuelas, Wang and Bohlmann (2015) show that non-innovative products introduced as direct extensions are very limited in their ability to leverage the equity of the parent brand. However, an alternative to this less-than-ideal branding option is not provided. In contrast, this research compares all three possible branding alternatives within a theoretical framework that includes product, firm and category characteristics. The proposed *resources-and-risks framework* is validated by the fit of the empirical model, which correctly classifies the brand type ascribed to 71% of the observations included in my extensive sample of actual new product introductions.

This research also contributes to the new product development literature. While researchers have documented that on average, positive changes in stock returns to new product introductions (Pauwels et al 2004; Sorescu and Spanjol 2008), the variance of these returns is high. The eventual success of a new product depends on many contingent factors, and the brand name given to the new product is one such understudied factor. This research demonstrates that misbranded new products not only fail to increase firm value, but consistent with an institutional theory perspective, they actually diminish it, as reflected in the negative effects of this misbranding on Tobin's Q. Because of the forward looking nature of Tobin's Q, which accounts for all expected future cash flows, this negative effect could be driven by either the market failure of misbranded new

products and/or by the spillover negative effect that such products may have on the parent brand. Future research could be designed to tease apart whether differing degrees of market value are destroyed by the struggles of the new product versus by the negative spillover to the parent brand from those struggles. Another interesting avenue for future research is examining the effect of branding decisions in industries where innovative products and technological discontinuities are more frequent: it is possible that building product and brand associations for radical innovations may involve a more frequent usage of new brands than in mature industries, such as CPG, and that industry branding norms may be less pronounced.

Implications for Practice

I began this essay by highlighting the large number of new product introductions that occur every year – each new product requiring a conscious branding decision by managers within a firm. To respond to this practice imperative, I provide a set of specific recommendations to managers on selecting a branding alternative for a new product, which I have summarized at the beginning of the discussion session. The main takeaway from the model is that managers should practice a measured form of creativity: coming up with a distinctive sub-brand that can still leverage associations with the parent brand appears to be the best option if a product is incremental and introduced in a high competition category, as most CPG new entries are. Going the easy route with a direct extension, or going all out with a new brand is only appropriate in cases that are not the norm in CPG – namely, when introducing an incrementally new product in a low competition category, or an innovative product supported by high advertising

expenditures. Although branding decisions should account for the unique goals for the product or any unusual contextual conditions, the model provides a useful starting point.

Many firms, particularly in the CPG sector, operate large brand portfolios with complex structures that include multiple brands, brand extensions, and sub-brands. Consequently, as these portfolios become increasingly unwieldy, and as innovation and branding need to be co-managed, executives must be mindful of how many brands they can manage. This is a top-of-mind issue; for example, in late 2014, P&G announced its intention to sell over 90 brands, more than half of its brand portfolio at the time, while maintaining a commitment to innovation (Farrel 2014). Thus, for the category manager or firm-level innovation steward, the findings quantify the financial consequences of branding decisions for products across the portfolio. While I only consider branding decisions made for new products at the time of the introduction, future research can explore the depth to which the findings generalize to other branding decisions (e.g. decision to re-brand or change brand positioning, expand/alter brand meaning, create additional brand associations). The findings also indicate that branding mistakes that may appear to be relatively minor when viewed individually can, in aggregate, be detrimental to firm value.

Limitations

To identify the antecedents of new product branding decisions, I use an extensive dataset of actual new product introductions. However, as noted in the robustness analyses, I were unable to measure the fit between the new product and firm's existing brands. I also do not have data on consumer quality perceptions for the product and the

parent brand. The extendibility variable captures, to some extent, the potential of the brand, but the valence of associations, per se, which has been shown to positively influence extension evaluations in lab experiments (Broniarczyk and Alba 1994), cannot be reliably obtained for the large sample of new products. With web chatter data being increasingly used to measure the valence of consumer sentiment towards entities of interest to marketers, future research may be able to address this limitation. Finally, I do not have data on physical features of the products in the sample. An examination of the sample suggests that these characteristics may determine the choice of the sub-branded part of the product name, rather than the overall branding decision. This issue is also a potentially interesting future research topic.

CHAPTER IV

CONCLUSION

This dissertation focuses on two areas of brand management: brand protection and brand name choice in new product introductions. Branding decisions associated with these areas have high managerial relevance and, in the case of infringement actions, are unavoidable if firms are to protect their brand equity. However, the financial consequences of these decisions have not been extensively studied in prior academic work. In this dissertation I address this gap in the literature and examine financial implications of protecting a brand from infringement and selecting an appropriate brand name alternative for a new product.

The results of the first essay can help managers assess the trade-offs in pursuing an action that may be costly in the short term but may pay off in the long term. Findings indicate that a long-term perspective is required to fully understand the consequences of trademark litigations. Possible extensions to this research include a closer examination of cases where infringement could potentially lead to a market expansion, as well as infringement of other types of intellectual property beyond brands.

The second essay documents a significant effect of branding decisions on the stock market value of firms. This is an important finding that highlights the significance of branding activities for long-term business success. While I only consider branding decisions made for new products at the time of the introduction, the findings may possibly generalize to other branding decisions (e.g. decision to re-brand

or change brand positioning, expand/alter brand meaning, create additional brand associations) and indicate that branding mistakes that may appear to be relatively minor when viewed individually can, in aggregate, be detrimental to firm value. Potential extensions to this research include focus on industries other than CPG, or as more data becomes available, incorporating the dynamics of competitors' branding strategies.

In sum, this dissertation offers new insights into the financial consequences of branding choices, and contributes to the marketing literature on brand management at the interface of marketing, finance, and law. In addition to its contribution to marketing theory, the findings of this dissertation have high relevance for business practice and can guide managerial decisions in the context of brand protection and new product branding.

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APPENDIX A

LEGAL CONTEXT OF BRAND PROTECTION

Legal boundaries of what constitutes an appropriate use of a trademark have been set forth in several pieces of legislation, starting with the Lanham Act, the first comprehensive federal legislation dedicated to trademark protection. Enacted in 1946, the Lanham Act defines the rights of owners of trademarks and guarantees trademark protection from infringement, dilution, false advertising, and other unfair competition practices. The act outlines the legal procedures trademark owners should follow and remedies they may be entitled to in case of violation of these rights. The remedies include injunction against further infringing and different types of monetary relief.

The Trademark Counterfeiting Act of 1984 (18 U.S.C. § 2320), which introduced criminal penalties for illegal trafficking of counterfeit products and enhanced civil remedies for trademark owners, further strengthened the rights of trademark owners facing counterfeiting. Under this act, trademark owners may obtain an order to seize the counterfeit goods and the means of their production and are entitled to receive monetary compensation for up to three times the amount of sustained damages (treble damages), counterfeiter's profits, and attorney fees. This law was followed by the Federal Trademark Dilution Act of 1995, later amended by the Trademark Dilution Revision Act of 2006 (15 U.S.C. § 1125), which focuses on protecting brands with high levels of recognition against dilution resulting from brand misappropriation or brand imitation.

With the advent of the Internet, brands began facing new threats. The Anticybersquatting Consumer Protection Act (15 U.S.C. § 1117) was introduced in 1999 to resolve disputes over domain names and other types of trademark infringement that occurred online. This law enabled trademark owners to terminate or obtain the ownership of the unauthorized websites, recover the damages incurred as a result of cybersquatting, and obtain other types of monetary relief, such as the defendant's profits or fixed amount of damages (statutory damages) ranging from of $1,000 to $100,000 per domain name.