MYOPIC MANAGEMENT AND SHORT-TERMISM IN MARKETING: AN EXAMINATION OF EXTERNAL AND INTERNAL INFLUENCES AND CONSEQUENCES

By

ATANAS NIKOLAEV NIKOLOV

(Under the Direction of SUNDAR G. BHARADWAJ)

ABSTRACT

In the first essay of my dissertation, I draw on agency theory and marketing strategy and develop a set of hypotheses that explore whether the investment horizon of institutional investors moderate the impact of a firm's product innovation on its financial value. In the second essay, I examine the antecedents of myopic marketing which refers to the relatively common practice among publicly traded companies of reducing so-called discretionary expenses in an effort to show improved current-period financial performance. Using agency theory, I propose that myopic management depends on external and internal influences. I measure the impact of the antecedent factors on 1) the odds that firms would engage in the practice of myopic management, and 2) subsequent firm performance of firms that do so. In essay three I focus on a measure of managerial short-termism which captures a wide range of drivers of intertemporal managerial decision making. I code and textually analyze language patterns of senior management in conference calls and test the consequences for marketing and innovation and firm performance.

INDEX WORDS: Myopic Management, Institutional Investor, Managerial Temporal Tendencies, Agency Theory, Information Asymmetry

MYOPIC MANAGEMENT AND SHORT-TERMISM IN MARKETING: AN EXAMINATION OF EXTERNAL AND INTERNAL INFLUENCES AND CONSEQUENCES

by

ATANAS NIKOLAEV NIKOLOV

B.B.A., University of Georgia, 2005

M.B.A., Georgia State University, 2009

A Dissertation Submitted to the Graduate Faculty of the University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2016

MYOPIC MANAGEMENT AND SHORT-TERMISM IN MARKETING: AN EXAMINATION OF EXTERNAL AND INTERNAL INFLUENCES AND CONSEQUENCES

By

ATANAS NIKOLAEV NIKOLOV

Major Professor:	Sundar G Bharadwaj
Committee:	Anindita Chakravarty Guiyang Xiong

Electronic Version Approved:
Suzanne Barbour
Dean of the Graduate School
The University of Georgia
May 2016

ACKNOWLEDGEMENTS

This dissertation was made possible by the invaluable guidance of Dr. Sundar G. Bharadwaj, as well as the members of my dissertation committee Dr. Anindita Charkavarty and Dr. Guiyang Xiong and the faculty at the marketing department at the University of Georgia. I am also thankful for my classmates, Yang He and Keith Smith, with whom I have spent the past five years of my professional life and have shared multiple hours of fruitful conversations, as well as all the frustrations and exhilarations of the PhD process. Furthermore, my research coffee breaks would not have been the same without Ashish Sharma. I must acknowledge my senior students Plamen Peev, Stefan Sleep, Dong Jung Min, and Tim Norvell for the guidance and encouragement throughout. Finally, I would like to thank Dr. Tom Leigh for believing in me.

Most of all, however, I would like to acknowledge my wife Monique Nikolov for completing the PhD together with me and for taking great care of our “PhD babies”, Maria and Georgi Nikolov.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ……....iv

CHAPTER

1 INTRODUCTION AND LITERATURE REVIEW ……..1

2 MYOPIC MANAGEMENT BY FIRMS: IS IT THE AGENT OR THE PRINCIPAL? ……8

3 FINANCIAL MARKET REACTION TO NEW PRODUCT INNOVATION: THE MODERATING ROLE OF INSTITUTIONAL INVESTORS' INVESTMENT HORIZON …….. 62

4 MANAGERIAL SHORT-TERM ORIENTATION & MARKETING……118

5 CONCLUSION …….167

CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

There are no business functions more affected by issues of managerial intertemporal choice making than marketing. Managers make decisions "in which the timing of costs and benefits are spread over time" (Loewenstein and Thaler 1989) on a daily basis in the marketing domain, often without any foresight as to the long run consequences of their actions on firm value, thus the fitting usage of the term managerial myopia in the literature. Marketing is particularly susceptible to suffering from managerial myopia, for a number of reasons: first, return on marketing investments is particularly hard to accurately estimate and track over time. Practitioner evidence suggests that even marketing departments do not know how to track the performance of marketing activities beyond the short term: Moorman (2013) presents survey evidence that 27% of marketers use "managerial judgment" to measure returns on marketing investments in their firms, while even more worrisome is the report that another 15% of marketers do not measure it all. Second, accounting treatment of marketing and innovation spending does not distinguish between expenses and investments in those domains, instead treating all marketing activities as expenses to be deducted in the current accounting quarter (Srinivasan and Hanssens 2009), and giving rise to the notorious accounting practice of real-activities manipulation (Gunny 2010). Furthermore, the reliance on myopic actions at the expense of marketing has increased in recent years after the passage of the 2001 Sarbanes-Oxley Act which increased the repercussions for other accounting irregularities such as accruals manipulation.

In summary, it is not surprising that at the corporate level, marketing and innovation are the first line items to be cut when firms engage in intertemporal borrowing: survey evidence suggests that over 78 percent of CFOs adhere to the practice of cutting marketing and research and development expenses in order to meet the current period earnings target (Graham, Harvey, and Rajgopal 2005; Deleersnyder et al. 2007). The challenge for the marketing academicians and practitioners appears to rest in establishing the drivers and the potentially deleterious consequences of neglecting important marketing and innovation investments in order to maximize short-term profitability.

Recent marketing studies have started to identify some of the negative consequences of managerial myopia: firms that engage in myopically managing their marketing and R&D investments tend to experience a significant underperformance in the stock markets (Mizik 2010), even after being able to "fool" the markets in the initial periods. Other related work has started to identify the stock market drivers of potentially myopic changes in marketing and R&D budgets (Chakravarty and Grewal 2011). Most other research on the subject in the marketing field focuses on specific contexts in which managerial myopia is observed (e.g., promotional spending, stockpiling behavior, overproduction and discounting, brand equity "milking" practices) (Aaker 1991; Pauwels, Silva-Risso, Srinivasan, and Hanssens 2004; Chapman and Steenburgh 2011). However, more work needs to be done in order to more fully analyze and evaluate the issue of managerial myopia and intertemporal choice.

Given the relatively limited knowledge base about the drivers and impact of myopic management, as well as the outsized negative impact on marketing and innovation by such managerial practices, I focus on a spectrum of firm internal and external factors that I propose influence this practice and affect overall downstream firm performance. First, I take a broad

overview of the concept of myopic management and investigate two important internal (top executive team compensation) and external (institutional investor ownership) drivers, as well as the payoffs of myopic actions in the financial markets under those factors. Next, I examine how the degree of product innovativeness (breakthrough vs. incremental product introductions) is moderated by the short-term pressures imposed on the innovating companies by the presence of large institutional investor funds in the ownership structure. Finally, I look at the issue of managerial myopia as conceptualized in marketing and attempt to reconcile it with the literature on the broader issue of managerial short-termism originating with Hayes and Abernathy (1980) in the management and organizational science literatures. Following is a brief summary of each manuscript.

The first essay investigates the detrimental effects of myopic management through the manipulation of marketing and innovation budgets on firm performance and attempts to shed more light on the limited understanding of the antecedents of this practice. Drawing on agency theory of the firm, I propose that top management's compensation horizon and institutional investors' investor horizon influence the practice of myopic management. Econometric analysis of a panel of public firms shows that greater ownership by short-term institutional investors and greater emphasis on short term CEO compensation increase the odds that a firm will engage in myopic management of marketing and innovation investments. Furthermore, I identify a number of stock market (risk, leverage, stock returns) and information asymmetry factors (analyst following and competitive intensity) which moderate the main effects of short term investor ownership and CEO compensation. The results are robust to endogeneity concerns and alternative measures and are consistent over a range of sensitivity analysis.

The second essay examines the impact of the investor horizons of large institutional funds on the relative degree of firm innovativeness and subsequent financial performance of innovating firms. Prior studies on the financial market reaction to product innovation provide mixed results. Notably, these studies treat investors as a homogenous entity, failing to recognize their heterogeneous investment horizons. Institutional investors, who are leading drivers of stock prices, are heterogeneous in their investment horizon and thus value marketing investments differentially. I draw on research in marketing, accounting, and finance to test hypotheses regarding how institutional investors' investment horizon moderates the effects of product innovation on firm financial performance. Econometric analyses of panel data sets from the consumer packaged goods and pharmaceutical industries indicate that, for firms with a large proportion of ownership by short-horizon institutional investors, breakthrough (incremental) innovations reduce (increase) firm value. Subsequently, I claim that managers need to recognize the fit between their innovation practices and institutional investors' investment horizons, in order to better align their innovation policies.

Finally, I attempt to enrich the understanding of myopic management and its potential drivers and consequences in the marketing domain, by incorporating concepts from the short-termism literature in management (Hayes and Abernathy 1980; Van der Stede 2000; Laverty 1996; Marginson and Mcaulay 2007). I emphasize the four drivers of detrimental intertemporal tradeoffs, namely the stock market, performance measurement systems inside the firm, the individual dimension, and the organizational dimension; I focus on a measure of managerial short-termism which captures a wider range of drivers of intertemporal managerial decision making. I attempt to capture managerial short-termism heterogeneity across firms by coding and textual analysis of language patterns of senior management in conference calls with investors

and analysts. Subsequently, I test the consequences for marketing and innovation stemming from this orientation and the ultimate impact on firm performance. Results suggest that the language used in conference calls with analysts and investors is indicative of the mindset of top management and further of the propensity of public firms with short-term oriented management to use more promotional tactics such as discounts and promotional advertising, as well as to have lower innovation intensity and to focus on incremental innovation, at the expense of breakthrough innovation. Furthermore, such firms also attract more short-term institutional investor ownership. The marketing and innovation variables partially mediate the impact of managerial short-termism on financial performance (Tobin's q).

References

Aaker, David A. (1991), *Managing Brand Equity: Capitalizing on the Value of a Brand Name*. New York: The Free Press.

Chakravarty, Anindita and Rajdeep Grewal (2011), "The Stock Market in the Driver's Seat! Implications for R&D and Marketing," *Management Science*, 57 (9), 1594-1609.

Chapman, C.J. and T.J. Steenburgh (2011), "An Investigation of Earnings Management Through Marketing Actions," *Management Science*, 57 (1), 72–92.

Graham, John, Campbell Harvey and Shiva Rajgopal (2005) "The economic implications of corporate financial reporting," *Journal of Accounting and Economics*, 40(1-3), 3-73.

Gunny, Katherine A (2010), "The Relation Between Earnings Management Using Real Activities Manipulation and Future Performance: Evidence from Meeting Earnings Benchmarks*," *Contemporary Accounting Research*, 27(3), 855-888.

Hayes, R.H, and W.J. Abernathy (1980), "Managing Our Way to Decline," *Harvard Business Review*, pp. 63–74.

Ingrassia, Paul (2011), "*Crash Course: The American Automobile Industry's Road to Bankruptcy and Bailout-and Beyond*," Random House: Trade Paperbacks.

Lamey, Lien, Barbara Deleersnyder, Marnik G. Dekimpe, and Jan-Benedict E.M. Steenkamp (2007), "How Business Cycles Contribute to Private-Label Success: Evidence from the United States and Europe," *Journal of Marketing*, 71 (1), 1-15.

Laverty, Kevin J (1996), "Economic "short-termism": The debate, the unresolved issues, and the implications for management practice and research," *Academy of Management Review*, 21(3), 825-860.

Loewenstein, George, and Richard H. Thaler (1989), "Anomalies: intertemporal choice," *The journal of economic perspectives*, 181-193.

Marginson, David, and Laurie McAulay (2008), "Exploring the Debate on Short-Termism: a Theoretical and Empirical Analysis," *Strategic Management Journal*, 29(3), 273-292.

Mizik, Natalie (2010), "The Theory and Practice of Myopic Management," *Journal of Marketing Research*, 47 (4), 594–611.

Moorman, Christine (2013), Do marketers know what they want from social media?," Retrieved from http://cmosurvey.org/blog/do-marketers-know-what-they-want-from-social-media/.

Pfeffer, Jeffrey, and Robert I. Sutton. "The knowing-doing gap." (2000).

Van der Stede, Wim A (2000), "The relationship between two consequences of budgetary controls: budgetary slack creation and managerial short-term orientation," *Accounting, Organizations and Society*, 25(6), 609-622.

CHAPTER 2

MYOPIC MANAGEMENT BY FIRMS: IS IT THE AGENT OR THE PRINCIPAL? [1]

[1] Nikolov, A.N. and S.G. Bharadwaj. To be submitted to *Journal of Marketing Research.*

ABSTRACT

While previous research highlights the detrimental effects of myopic management through the manipulation of marketing and innovation budgets on firm performance, understanding of its antecedents is limited. Drawing on agency theory of the firm, the authors propose that top management's compensation horizon and institutional investors' investor horizon influence the practice of myopic management. Econometric analysis of a panel of public firms shows that greater ownership by short-term institutional investors and greater emphasis on short term CEO compensation increase the odds that a firm will engage in myopic management of marketing and innovation investments. Furthermore, the effects of short-term investor ownership are exacerbate under conditions of increasing firm leverage, while those of short-term CEO compensation are mitigated when there's an increasing analyst following and competitive intensity. The results are robust to endogeneity concerns and alternative measures and are consistent over a range of sensitivity analysis.

INTRODUCTION

Myopic management, or the practice of focusing on short-term strategies with immediate payoffs, has been investigated by both academic and practitioner research (Aspen Institute 2009; Mizik 2010; Mizik and Jacobson 2007; Smith and Parenteau 2010). Extant research has established the pervasiveness of the phenomena (Graham, Harvey, and Rajgopal 2005) as managers are increasingly pressured to meet or beat short-term earnings targets. Such pressures may cause them to overemphasize strategic choices which generate more immediate and predictable results, at the expense of long-term and more uncertain profits. Thus, myopic management is likely to occur through deemphasizing investments in less visible, "discretionary" spending such as certain marketing initiatives as well as R&D budgets (Cohen, Mashruwala and Zach 2010; Mizik and Jacobson 2007). Myopic management is increasingly of interest to marketing scholars and practitioners as such practices tend to impact marketing and innovation investments disproportionately through depressing the value of brand assets, product portfolios, and, ultimately, firm performance (Aaker 1991; Chapman and Steenburgh 2011; Lamey et. al 2007; Mizik 2010; Mizik and Jacobson 2007; Pauwels et al. 2004). This is because investments in certain marketing and innovation activities in the short-term do not have immediate payoffs (Shugan 2005; Mitra and Golder 2006), thus myopic management would tend to resolve through cutting marketing support for activities with long-term impact, such as branding (Aaker 1991), or through over-reliance on investments targeted toward more short-term payoffs, such as sales promotions (Pauwels et al. 2004).

The marketing literature, however, is mostly silent on the financial and other related conditions under which firms are more likely to engage in myopic practices. Extant empirical

research has considered several conditions which are likely to influence management to myopically adjust R&D and or advertising budgets, such as past stock returns and volatility (Chakravarty and Grewal 2011), executive compensation practices (Currim, Lim, and Kim 2012), seasoned equity offerings (Mizik and Jacobson 2007), and liquidity considerations (Joseph and Richardson 2002). However, as a whole, prior research has not placed any weight on issues of corporate ownership and has not investigated the various influences on the likelihood of firms to engage in myopic management in a more systematic manner. Such insight would be necessary to identify potential solutions for mitigating myopic tendencies, thus benefiting both the firm and its shareholders, and to begin understanding the conditional nature (if any) of the financial returns to myopic management. Research on this issue is also important in order to extend the marketing field's collective understanding of the drivers of myopic management in order to better understand the mechanisms through which such myopic actions occur.

I draw on agency theory and institutional investor horizon and corporate ownership research and extend the literature on myopic management by proposing that the practice of myopic management may depend on (1) the investment horizon of short-term institutional investors that own large proportions of public firm stock in the aggregate, and (2) the temporal horizon of the compensation structure of the chief executive officer (CEO). I focus on firms' institutional investor owners' investment horizons and the temporal horizon of the CEO pay package for three reasons. First, although research has begun demonstrating that marketing actions influence the stock market (e.g., Srinivasan and Hanssens 2009; Xiong and Bharadwaj 2013) and that the stock market, in turn, influences marketing actions through managerial decisions (e.g., Chakravarty and Grewal 2011; Markovitch and Golder 2008), it

fails to recognize the variance in the investment horizons of institutional owners of corporate equity, which may have a differential impact on managerial decision making. Figure 1 depicts that ownership of public firms' equity by short investment horizon investors has grown exponentially over time, while that of long investment horizon owners has remained relatively stable. While investors with long-term investment horizons follow a buy-and-hold strategy, thus allowing firms to make decisions with long-term payoffs, short-horizon investors seek immediate returns, putting pressure on firm managers concerned about their careers to eschew long-term payoff decisions (Stein 2003). Second, influential organizations, such as the Conference Board (2006) and Aspen Institute (2009), charge that *all* investors value short-term results and undervalue long-term results. Again, this viewpoint ignores the heterogeneity in investor type and, thus, the possibility of differential impacts on myopic practices depending on the nature of the predominant owners of a firm's equity.

Third, C-level executives are ultimately responsible for firm strategy and the subsequent performance in product and financial markets. Even when not directly involved in the day-to-day operations of the firm, top management's motivations strongly influence lower-level management behavior. Lower-level management, over time, learns the expectations of top-level executives through the process of budget approvals leading to a convergence of interests (Joseph and Richardson 2002). Thus, the literature seems to confirm the central role of top-level executives in influencing the pursuit of management practices, be it myopic or otherwise.

Theoretical research suggests that incentives drive myopic practices (Narayanan 1985), and therefore classifying top management compensation structure as an important factor further enriches the understanding of myopic practices. Practitioner and academic

evidence suggest that top executives, faced with the prospect of missing earnings targets, are willing to engage in myopic practices to avoid this all-important shortfall. A survey of 401 chief financial officers of publicly traded U.S. firms reveals that 78% of these executives admit to sacrificing long-term value to maintain short-term predictability in earnings by reducing research and development (R&D), advertising, and maintenance expenditures (Graham, Harvey, and Rajgopal 2005). Related research suggests that myopic behavior in consumer promotional practices (i.e., cutting prices of storable consumer goods at the end of the quarter to boost earnings) most likely originates with the top-level management (Chapman and Steenburgh 2011), and therefore the incentives to engage in such activities are directly related to the manifestation of myopic management. Third, the career concerns literature suggests that executives have an inherent economic incentive to attempt to improve short-term firm performance, to enhance their reputation early, boost wages and bonuses, and increase the value of stock options at the time of retirement (Aghion, Van Reenen, and Zingales 2013; Holmström 1999; Narayanan 1985), therefore clearly linking the issue of myopic management to top management compensation horizon practices.

In summary, while marketing research has recognized the impact of the investor community and top management compensation on managerial decision making overall, it has ignored the impact of institutional investor ownership and investment horizon heterogeneity on the motivation and implications for myopic management. Thus, I address two research questions: (1) Do the investment horizon of short-term institutional investors (i.e., principals) and the temporal horizon of the CEOs' (i.e., agents) pay packages in public firms influence the likelihood of firms engaging in myopic marketing and innovation (R&D) management, and (2) what contingent factors mitigate or exacerbate these relationships?

I complement and extend the literature on myopic management in marketing which finds that public firms cut discretionary spending (e.g., marketing and R&D expenditures) to meet investors' earning expectations (De Jong et al. 2014; Dechow, Ge, and Schrand 2010; Chakravarty and Grewal 2011). Our study complements these findings by providing two additional explanations for why public firms may act myopic—namely, the combined pressure imposed by the investment horizon of institutional investors and the temporal horizon of top management compensation. Using a panel data sample of more than 3,000 firms, I find that short-term institutional investor investment horizon and short-term CEO pay package horizon increase the odds that a public firm will engage in myopic management involving marketing and R&D investmetns.

The findings are salient to boards of directors of public firms, who need to understand the heterogeneous impact of the investor community and top management compensation on the proclivity and returns of myopic actions in the financial markets. I present evidence that institutional shareholders exhibit measurable reactions to a firm's myopic practices. I further contribute to the nascent literature on myopic management in marketing by accounting for internal (top management team incentive horizon, firm leverage) and external (institutional investor ownership horizon, analyst following, industry competitiveness) factors that influence the incidence, as well as the returns to myopic management practices in the public firm. These factors are readily observable and at least partially under the influence of the board of directors and top management and thus can be managed (or influenced) for the benefit of the firm and its *other* shareholders.

CONCEPTUAL DEVELOPMENT

Myopic Management

Myopic management refers to the practice in which management overemphasizes short-term goal achievement (i.e., meeting or beating quarterly earnings estimates) at the expense of strategies that offer a potentially superior return, albeit in the longer run (Mizik 2010; Mizik and Jacobson 2007). Accounting and marketing literatures offer complementary, yet distinct approaches to the issue of myopic management. Accounting research uses the term "real activities manipulation" and defines such practices as occurring when managers undertake actions that change the timing and/or structure of an operation, investment, and/or financing transaction in an effort to influence the output of the accounting system (Schipper 1989). This practice is distinct from discretionary accruals manipulation, as the latter involves the management of revenues and receivables, and not discretionary spending (Koh 2007). Yet, the literature in accounting is mostly focused on studying discretionary accounts management. The limited studies investigating real activities manipulation suggest that managers' motivations to adjust current earnings stem from their efforts to enable (or maintain) their firms' ability to access the capital markets for funding needs, to meet financial market participants' expectations, and to fulfill their own personal goals (Bartov, Givoly, and Hayn 2002; Cohen, Mashruwala and Zach 2010; Dechow, Sloan, and Sweeney 1996). However, survey evidence suggests that the primary reason underlying managers' interest in meeting or beating earnings benchmarks is to influence stock prices, above and beyond all other considerations studied in the literature (Graham, Harvey, and Rajgopal 2006).

The literature on myopic management in marketing is still in its infancy. Despite the potentially damaging firm value consequences of myopic practices, research in the field has made little progress in identifying the important drivers of firms' engagement in such practices. Other than two notable exceptions (i.e., Chakravarty and Grewal 2011; Currim,

Lim, and Kim 2012), marketing researchers have focused on specific contexts in which managerial myopia is observed (e.g., promotional spending, stockpiling behavior, overproduction and discounting, brand equity "milking" practices) (Aaker 1991; Chapman and Steenburgh 2011). All myopic management strategies usually involve manipulating a combination of market-based assets, innovation, promotional, channel, and marketing strategies.[2] In essence, such strategies result in underinvestment in long-term assets, overreliance on short-term assets, or choosing of myopic projects because of the stock market's demands, as managers are willing to sacrifice economic value to manage financial reporting perceptions (Graham, Harvey, and Rajgopal 2006) with the goal of boosting current period earnings at the potential expense of future value realization (Chakravarty and Grewal 2011; Chapman and Steenburgh 2011; Mizik 2010). Potentially myopic activities may manifest in an increased prevalence of sales promotions to accelerate earnings in the short run, various forms of channel stuffing, or extended lenient credit terms to downstream channel partners (Chapman and Steenburgh 2011; Roychowdhury 2006). Furthermore, market-based assets such as strong brands or customer loyalty are not on the balance sheet and not directly related to production (Srivastava, Shervany, and Fahey 1998), and therefore are more amenable to manipulation (Stein 1989) as they are less visible to the investment community's scrutiny (Dechow, Ge, and Schrand 2010) due to their intangibility.

Chakravarty and Grewal (2011) examine two antecedents and find that the history of stock volatility and returns influences the likelihood of myopic management. Mizik (2010) focuses on outcomes of myopic management and provides evidence for unwarranted cuts in marketing and R&D spending, leading to a near 33% decline in abnormal stock returns over

[2] The broader domain of real activities manipulation and earnings management includes other activities such as acceleration of sales, alterations in shipment schedules, and delaying of maintenance expenditures (Roychowdhury 2006)

four years after budget cuts. A shared trait of all studies in marketing on the financial drivers or implications of myopic management is the treatment of investors as a homogenous entity. Consequently, it is unclear if the results hold when the investment horizons of institutional owners are considered. Therefore, new research that investigates the underlying mechanisms that motivate firms' practice of myopic management would reveal insights into the ways to reduce managerial incentives to engage in such practices and further aid the marketing function in relaying its vital importance for firm performance to senior management.

Institutional Investors

Examining institutional investors at the aggregate level may mask reality because the influence of such institutions on management may vary systematically in line with their investment horizon. Financial markets consist of different investor groups, each pursuing the maximum benefit for its fiduciary clients. Institutional investors, a growing portion of the stock market (see Figure 1, Panel A), can be classified by their trading behavior to reflect differences in their investment horizon (Bushee 1998, 2001). In line with this categorization, short-term (i.e., "transient") investors' characteristics include high portfolio turnover and small holdings of a highly diversified portfolio holdings because they are subject to large short-term redemptions (by their investors) and thus necessitate an interest in short-term trading profits (Porter 1992). The other institutional type is the long-term or "dedicated" investor (Bushee 1998, 2001). This group's investment horizons lie at the other extreme from those of short-term investors because they take larger stakes in the firms they invest in, as well as exhibit low turnover, consistent with the notion of "patient capital" dedicated to long-term value investing (Dobrzynski 1993). Classifying institutional investors as either short-term or long-term oriented provides a nuanced view of their influence on myopic

management. In this article, I focus on short-term oriented institutional investors, as the business press and academic research on investor horizons often deride the short-term focus of such institutions, for influencing management to make operational decisions that sacrifice long-term value for the sake of short-term earnings (George 2015; Aspen Institute 2009; Porter 1992) and pursue policies which destroy firm value (Stein 1996), most likely through underinvesting in discretionary expenses, such as R&D and marketing. Hence, it is plausible that primarily short-term horizon oriented institutional owners of firm equity would be more likely associated with pressures for myopic management in public companies. Empirical evidence suggests that firms with higher proportion of such ownership in their shareholder base tend to reduce R&D expenditures in order to increase short-term earnings (Bushee 1998) and to underperform when they are part of takeovers, *regardless* whether they are targets or acquirers (Gaspar, Massa, and Matos 2005; Chen, Harford, and Li 2007). Public firms with large short-term investor ownership invest less than private firms (Asker, Farre-Mensa, and Ljungqvist 2010), which is consistent with pressure from short-term investors for meeting short-term earnings targets. Furthermore, finance executives admit that they would be willing to sacrifice investment projects that are profitable in the long-run, such as some marketing and most R&D investments in order to meet short-term earnings numbers and influence stock prices directly (Graham, Harvey, and Rajgopal 2005). Also, trading of short-term institutional investors is more responsive to corporate news (Hotchkiss and Strickland 2003; Yan and Zhang 2009), which underlies such investors' attention to short-term corporate developments and important changes in operations, and supports the notion that such investors are efficient at collecting and processing short-term information (Yan and Zhang 2009). Further evidence also suggests that short-term investors can predict a break in a string of consecutive quarterly

earnings increases (Ke and Petroni 2004), again supporting the notion of superior short-term information gathering ability of such investors, which they are likely to use in pursuing profitable trading strategies.

In summary, past literature suggests that short-term institutional investors tend to influence managerial strategic investments, through the emphasis on short-term value generation at the expense of long-term firm value creation, due to their superior information gathering skills and frequent trading behavior, which may act as influencing mechanisms for managers in firms featuring large ownership by such investor groups.

Top Management Compensation

Managerial compensation is one of the most important motivational levers (Fong, Misangyi, and Tosi 2010; Murphy 1999) available to the board of directors to tie the interests of top executives to those of the firm's shareholders to maximize firm performance. CEO compensation falls into two broad categories: shorter-term, mostly fixed pay (annual salary and bonuses) and longer-term, largely equity-based pay (stock options and restricted stock grants) (Kale, Reis, and Venkateswaran 2009). The need to carefully design compensation incentives for top executives arise from the potential mismatch between managerial and shareholder interests. In an asymmetric information world, managers do not necessarily have the best interests of shareholders at heart (Jensen 1986). Thus, aligning the two groups' interests is a central issue in corporate governance.

Short-term performance pressures, due to analysts' expectations, compensation incentives, or career considerations, may lead management to overemphasize short-term performance goals and thus potentially engage in myopic marketing management (Mizik 2010). Under conditions of imperfect information, Stein (1989) contends that the incentives

exist for management to borrow from future earnings by cutting off-balance-sheet items (i.e., advertising and R&D) to inflate current earnings. Accounting and finance research clearly stress the personal motivations of managers to adjust firm earnings to meet short-term goals, especially if they are entitled to the maximum bonuses under their compensation plans (Guidry, Leone, and Rock 1999; Healy 1985; Holthausen, Larcker, and Sloan 1995). Bonuses overall seem to increase management incentives to focus almost exclusively on short-term performance goals (Fisher and Govindarajan 1992). In a well-publicized study, Bergstresser and Philippon (2006) use Xerox as an example and show that executives manipulated reported earnings and revenues by exercising a large number of stock options to boost short-term performance and benefit personally.

The central solution of agency theory to minimize the agency problem is to align the interests of shareholders and management in the most optimal manner in public firms (Fama 1980). Because monitoring by shareholders has become increasingly difficult, outcome-based incentives have become a more important mechanism of aligning the interests of the two parties (Eisenhardt 1989; Tosi et al. 2000). Therefore, equity-based compensation has become a potential solution, by encouraging more long-term orientation behavior as more of executives' compensation and wealth is placed at risk by being tied to firm performance (Fama and Jensen 1983). Such contracts increase the sensitivity of executives' wealth to stock price, and the greater the sensitivity, the greater are executives' efforts to increase the long-term value of their firms, because they increasingly share the benefits and costs with shareholders (Rajgopal and Shevlin 2002). Consistently, recent studies in marketing have consistently shown that firms with CEOs with a greater equity-to-bonus compensation ratio tend to invest at higher levels in long-term asset-building activities, such as advertising and

R&D (Currim, Lim, and Kim 2012) and customer relations (Luo, Wieseke, and Homburg 2012). However, these studies were not conducted in the context of myopic management. In summary, extensive research suggests that top management compensation significantly affects executives' temporal incentives, which in turn influence overall firm strategy, and further highlights the need to investigate compensation issues in the context of myopic management.

Short Term Institutional Investors and Managerial Myopia

Early theoretical frameworks in corporate finance established by Stein (1996) and Polk and Sapienza (2009) stipulate that there are two types of shareholders: long-term and short-term. The main difference is that long-term shareholders do not actively trade, due to the long-term structure of their liabilities (pension funds), while short-term shareholders tend to trade frequently, due to redemptions or liquidity shocks reasons. Therefore, theory suggests that long-term shareholders care about *all* future cash flows (in essence, the fundamental value of the stock), while short-term shareholders emphasize the value of short-term cash flows and the resale value of the stock in the short term. In the absence of any agency problems (Jensen and Meckling 1976), management chooses investment policies that would maximize firm value, regardless of the corporate ownership structure. In non-perfectly efficient stock markets, however, the stock price tends to periodically deviate from its fundamental value, therefore ownership structure becomes important, and if the firm is owned by mostly short-term institutional investors, it could influence management to minimize investments that would result in increased long-term cash flows, as those are worth less to the predominant (i.e. short-term) shareholders (Derrien, Kecskes, and Thesmar 2009).

This is because management maximizes the mean of shareholders' valuations of the firm, by choosing an investment policy which is optimal from the viewpoint of the average shareholder (Miller and Rock 1985). This view has become established in the finance literature, and rests on the assumption that each type of shareholder has some weight in managerial decision making, and that weight increases with increasing proportional ownership. Furthermore, the existence of agency problems between management and shareholders is not a necessary assumption for this mechanism of *institutional* shareholder influence over management to exist (Gapspar, Massa, and Matos 2005; Chen, Harford, and Li 2007), due to the superior monitoring and information gathering ability of such investor groups.

Consistent with agency theory (Eisenhardt 1989; Jensen and Meckling 1976), ownership by short investment -horizon investors combined with managerial risk aversion, is associated with managerial actions through pathways that may encourage management to engage in long-term firm value-destroying practices. Compared to long-term institutional investors, short-horizon institutional investors tend to own relatively small stakes in firms and turnover their portfolio quickly, relying on the current earnings potential of the firms they invest in. Given their fiduciary duties to deliver positive current period financial return to their own investor base, (Bushee 2001; Bushee and Noe 2000), these investors' focus on short-term income sources (i.e. current period earnings) further increases the pressures for alignment between their investment horizon with that of management in terms of the latter's operational investment decisions. Finally, these investors' sensitivity to short-term earnings measures, coupled with the short-term orientation of capital markets overall (Graves and

Waddock 1990) are likely to exacerbate the potential impact that such pressures could have on managerial decision making.

Even though short horizon institutional investors place less importance on each individual company they invest in, when such investors collectively own a sufficiently high proportion of equity of a firm in the aggregate, their "voting with their feet" may influence managerial decisions to a large degree. Large cumulative stockholdings by short horizon institutional investors put pressure on managers of these firms to choose investment levels that maximize short-term cash flows and put more importance on short-term observable performance metrics (Dobrzynski 1993; Monks and Minow 1995), i.e., engage in myopic management practices, from the viewpoint of *other* shareholder groups. Therefore it is likely that managers will under-invest in discretionary investments (i.e. marketing and R&D) when the proportional ownership by short-term institutional investors is increasing, due to catering to their predominant shareholder base, as survey research suggests that managers' first priority is meeting or beating earnings estimates and are willing to manipulate discretionary spending to directly manipulate stock prices (Graham, Harvey, and Rajgopal 2005). The cuts in marketing and R&D investment, matching the investor horizons of the short-term investors, are likely to be perceived as cost saving measures resulting in short-term profitability, rather than a reduction in investment in long-run value generating projects:

H1: Public firms with an increasing ownership by short–term institutional investors are more likely to engage in the practice of myopic management.

Stock Market Moderators

In order to provide a more comprehensive view of the conditions likely to give rise to myopic management, I consider several moderator variables that have the potential to impact

the main effects of short-term institutional investor ownership on myopia likelihood in publicly traded firms. Namely, I consider past stock performance and volatility, and firm leverage, as these factors are associated with exacerbating myopic tendencies (Chakravarty and Grewal 2011; Grullion, Kanastas, and Kumar 2006), however, our understanding has been limited due to prior literature's piecemeal approach to studying their impact on myopic actions.

Past Stock Returns and Volatility.

Increasing short-term institutional ownership and the subsequent pressure on management to cater to the investment horizons of that investor group give rise to a number of considerations which may exacerbate myopic tendencies in publicly traded firms. As management increasingly focuses on short-term cash flow maximization activities in order to meet earnings benchmarks and to increase the resale price of the company's stock (Graham, Harvey, and Rajgopal 2005), additional consideration may further exacerbate the pressures imposed on the firms by short-term oriented institutional owners.

First, past firm performance becomes an even more important consideration on managers' minds (Chakravarty and Grewal 2011), as an upward trend in past stock returns is associated with increased investor expectations of *future* returns (La Porta et al. 1997), therefore any deviation from a (positive) trend may result in significant (short-term) stock price declines, as institutional investors are sophisticated market participants who are able to predict and exploit such short-term deviations (Ke and Petroni 2004), hence amplifying the pressure on managers for short-term performance. Furthermore, changes in the trend of past stock returns are associated with changes in the underlying earnings and cash flows (Bartov et al. 2002), therefore, managerial attention is highly attuned to any deviation from the trend and

they may be willing to myopically manage “discretionary” expenses in order to avoid shortfalls in earnings. Past earnings and stock performance are of further importance to managers, as executive compensation packages are at least partially designed around meeting investor performance expectations in the short-term, through cash bonuses or equity awards tied to current period financial performance (Kasznik and McNichols 2002), therefore providing additional personal wealth maximization incentives by risk averse managers to closely monitor firm performance metrics. In summary, an increasing trend in past stock returns is likely to exacerbate managerial myopia in firms with increasing ownership made up of short-term institutional investors as any deviation from (positive) past stock returns may signal an inability of the firm to continue to deliver positive short-term performance, which would likely result in firm share price losses as well as personal losses to short-term incentivized managers. Therefore, managers are likely to engage in increasingly myopic actions involving cuts to marketing and R&D, as the combined influence of increasing ownership by short-term investors and past performance would likely increase the pressure for short-term performance:

H2: Past stock returns positively moderate the influence of increasing short-term institutional investor ownership on the likelihood of managerial myopia.

Second, pressure by short-term institutional owners to provide short term performance may also be amplified through pressure for decreased stock returns volatility (i.e. idiosyncratic firm risk), as this component of firm risk has important implications for profit margins and may result in increased cash-flow volatility (Durnev et al. 2003), potentially decreasing the level of short-term earnings and increasing their uncertainty. Stock returns volatility refers to the degree of variation in a firm’s stock price and impacts firm-specific

(idiosyncratic) risk or the risk to *future* earnings and cash flows stemming from firm-specific factors and represents 80% of total firm risk (Gaspar and Masa 2007). Thus, the idiosyncratic risk measure approximates the firm-specific uncertainty of future stock returns (Froot et al. 1993), and any increases in its level may signal a trend toward lower and more volatile cash flows and profit margins (Durnev et al. 2003), which in turn are likely to reduce the opportunity for short-term cash flow generation strategies followed by managers in firms featuring high ownership levels by short-term investors. Furthermore, managers may be incentivized to reduce idiosyncratic risk, as the cost of new equity and debt increases proportionally with stock returns volatility (Minton and Schrand 1999; Triantis 2000), thus limiting the financing options available to the firm at least in the short term. Finally, personal wealth maximization incentives combined with an overall managerial risk aversion in public firms, may also call for efforts to reduce this part of firm risk, as managerial compensation tools such as stock options may be adversely impacted (Aggarwal and Samwick 2003) thus directly affecting managerial compensation. In summary, increasing past stock returns volatility (idiosyncratic risk) may further amplify the impact of pressures on management imposed by increasing ownership by short-term institutional investors to deliver short-term earnings results, as increases in idiosyncratic risk signal uncertainty about future performance and implies doubt on the ability of management to deliver positive firm performance in the near terms to its increasingly short-term oriented ownership base. In a bid to decrease such volatility under those circumstances, managers are likely incentivized to increasingly engage in marketing and R&D related managerial myopia:

H3: Past stock return volatility positively moderates the influence of increasing short-term institutional investor ownership on the likelihood of managerial myopia.

Leverage

As the pressure on managers for increased short-term cash-flow generation induced by an increasing short-term investor ownership mounts, an important consideration that is likely to put even more emphasis on current financial performance is firm leverage. First, increasing leverage is associated with increasing financial distress (Parsons and Titman 2008) and decreasing financial flexibility (Zingales 1998), as the firm may not be able to respond in a timely manner to important changes in cash flows or investment needs (Denis 2011). Second, the increased pressure to meet interest payments can induce managerial myopia in risk-averse managers on its own, by shifting management's temporal orientation of investments more towards producing higher current cash flows (Peyer and Shivdasani 2001), in order to satisfy debt holders. Third, on a personal level, as firm leverage increases, the threat of liquidation, which would cause personal losses to managers due to the potential loss of salaries, reputations, and perquisites (Williams 1987), would further incentivize risk-averse managers to generate cash-flows to pay interest payments (Jensen 1986) by creating an additional inducement to reduce wasteful or "discretionary" spending (Aivazian, GE, and Qui 2005).

In summary, leverage creates additional conditions under which management invests in assets that are liquid and result in short-term cash flows (Campello 2003), by reducing advertising budgets (Grullion, Kanastas, and Kumar 2006), emphasizing more price discounts instead of investing in brand-building advertising (Phillips and Sertsios 2013), or sacrificing product quality (Maksimovic and Titman 1991). Therefore both increasing short-term institutional investor ownership and rising leverage ratios create pressures on firms to generate adequate *current* cash flows, required to meet short-term earnings targets and debt service payments (Peyer and Shivadasani 2011), and thus would likely increase the likelihood

of managerial myopia, and “discretionary” spending in marketing and R&D are likely to be the first line items cut under such circumstances:

H4: Increasing firm leverage positively moderates the effects of increasing short-term ownership on the likelihood of managerial myopia.

Top Management Team Incentives

Top management compensation serves as a major tool with which boards of directors attempt to align the interests of management with those of shareholders (Carpenter and Sanders 2002). It serves as the means to address managerial risk aversion and horizon mis-match (Smith and Watts 1982). The risk-aversion problem exists because a manager seeks to maximize her own utility. With only a fixed salary contract, managers are not incentivized to take risk (Amihud and Kamin 1979; Hölmstrom1979). The horizon mismatch problem arises because the firm has an indefinite life, while the manager's claim on the corporation is a function of her tenure with the firm.

Bonus compensation (typically cash) as an incremental component to the base salary is used to encourage risk taking by managers (i.e., undertake projects and investments which they otherwise would not have taken) as they have a greater stake in the outcome (Hölmstrom 1979). Bonus based compensation plans typically have the following features: (1) the period used for assessing corporate performance is one year; (2) accounting earnings measures are typically used to assess corporate performance and (3) minimum desired level of earnings must be achieved before bonuses are paid out. As all three features reflect an immediate or short-term orientation, the ratio of the bonus to firm sales serves as a measure of short-term compensation.

Encouraging risk taking through short-term compensation schemes, however, may also encourage myopic management for two main reasons. First, in order to maximize their personal utility, risk averse managers may be willing to manipulate "discretionary" marketing and R&D investments by postponing or cutting either expenditure in order to increase current period earnings, as manipulation of such activities is less likely to raise questions by auditors than that of discretionary accruals (Holthausen, Larcker and Sloan1995). Consequently, the accounting literature finds that managing short-horizon actions, reducing R&D or SG&A to increase income has a positive effect on subsequent ROA and stock prices (Barth et. al 1999; Bartov et. al 2002; Bhojraj et al. 2009; Gunny 2010) at least in the short-term. Second, bonus compensation exacerbates the horizon problem, as it encourages management to reallocate resources towards near term pay-off actions and thus reduce investments in longer-term payoff investment strategies such as brand-building marketing initiatives or R&D efforts. Consistent with these expectations, Guidry, Leone, and Rock (1999) find that attempts to maximize short-term bonuses lead managers to invest in short-term value creation at the expense of long-term value. In marketing, Currim, Lim, and Kim (2012) find that long-term CEO compensation is associated with higher R&D and marketing spending.[3] Similarly, Luo, Wieseke, and Homburg (2012) find that long-term incentives encourage long-term investments in building of customer relationships. Thus, I expect that if the compensation horizon of top executives is short-term oriented, the incentives of management would be more focused on short-term value maximization and thus increase their likelihood of engaging in myopic actions. Formally,

H5. Public firms with short-term oriented executive (CEO) pay packages are more likely to engage in the practice of managerial myopia.

[3] However, their study was not conducted in the context of myopic actions.

Information Asymmetry Moderators

In order to provide a more comprehensive view of the conditions which could enhance or ameliorate the incentives that give raise to myopic management, I consider several moderator variables that have the potential to impact the main effects of CEO compensation on firm myopic actions involving their R&D and marketing investments. Namely, I draw on agency theory and information asymmetry research to consider how financial analyst following and industry competitiveness potentially lessen the likelihood of managerial myopia. These variables are important, as past research shows that financial analyst following is associated with a reduction in information asymmetry between shareholders on the aggregate and management (Brown and Rozeff 1978; Givoly 1982), and industry competitiveness serves a similar function, albeit through a different mechanism, namely increasing the efficiency of investments in marketing and R&D and therefore potentially reducing the information asymmetry.

Financial Analyst Following

The short-term incentivized CEO's motivation to engage in myopic management of their firms' R&D and marketing investments is partially facilitated through the information asymmetry which exists between such executives and shareholders of publicly traded firms. Furthermore, accounting rules allow firms to expense marketing and R&D spending on financial statements, which results in their classification as discretionary expenses in the current period (Tasker 1998; Griliches 1995), consolidating such investments' status as the first items impacted by myopic management. However, marketing and R&D investments tend to be further impacted by another form of inherent information asymmetry, which arises due to the nature of their payoff patterns which are highly firm-idiosyncratic (Aboody and Lev

2000) and not comparable across firms because of the lack of organized markets in which market participants could gain price information on firm-specific changes in the value producing potential *and* productivity of those investments (Barth, Kasznik, and McNichols 1998). Therefore, market participants are prevented from proper valuation of marketing and R&D investments and at the same time short-term incentivized managers are able to hide behind the veil of information asymmetry when they decide to engage in potentially myopic practices in order to match the time horizons necessitated by their own personal incentive structure to produce short-term earnings at the expense of long-term value generation.

At the same time, there are various mechanisms utilized by stock market participants to reduce the information asymmetry between management and owners of publicly traded firms, one of which is through the functions performed by investment analysts. Accounting research suggests that executives attach a high importance to meeting earnings targets based on analyst forecasts (Graham, Harvey, and Rajgopal 2005), and that they are willing to manipulate real activities (i.e. R&D, price discounts, overproduction, maintenance cuts) to do so (Roychowdhury 2006). Furthermore, the earnings guidance by analysts' provide a simple, one number metric, to financial market participants, easily comparable across companies, and relatively easy to understand, and widely available through the media (Roychowdhury 2006). Along with the importance of analyst forecasts, an additional role of analysts consists in their efforts to collect information from public and private sources about the firms they cover, evaluate current and future performance, and make investor recommendations on a timely basis, which results in reduction of information asymmetry between financial market participants and firm management (Brown and Rozeff 1978; Givoly 1982). Furthermore, analysts play a vital role in improving market efficiency, i.e., stock prices of firms with higher

analyst following incorporate information more rapidly than prices of less followed stocks (Barth and Hutton 2000).

In essence, financial analysts act as one of the mechanisms which reduce agency problems by way of private information production in order to uncover potential managerial misuse of firm resources (Healy and Palepu 2001). Thus, the literature suggests that the higher the number of financial analysts following a firm, the lower the information asymmetry between agents and principals in financial markets, and by implication the lower the inherent information asymmetry about the value producing capabilities of R&D and marketing investments. Consequently, the importance placed on analyst-provided information, as well as their estimates of quarterly earnings numbers act as a disciplining device, which may help the alignment of managerial incentives with those of stock market participants, regardless of the temporal structure of the formers' pay. Therefore I suggest that the increase in the number of analysts following a publicly traded firm *decreases* both types of information asymmetry that exist in an imperfect agent-principal relationship, and is likely to mitigate the myopic tendencies of short-term incentivized executives:

H6: Increasing analyst following negatively moderates the effects of increasing short-term CEO compensation on the likelihood of managerial myopia.

Industry Competitive Intensity

Short-term incentivized executives are willing to sacrifice future performance for the benefit of current value realization through the manipulation of "discretionary" investments in R&D and marketing budgets (Guidry, Leone, and Rock 1999), as such investments are subject to additional layer of information asymmetry by the nature of their idiosyncratic payoff structures (Aboody and Lev 2000). At the same time, starting with Williamson (1963),

researchers have emphasized that managerial behavior towards discretionary investments is contingent upon conditions of intra-industry competition. Competition reduces agency costs indirectly, as the temptation to engage in less productive activities decreases under competitive pressure in the product markets; in essence competition decreases wasteful expenditures in public firms (Nichols 1996). Fama (1980) argues that the firm as a whole is forced by competition to adapt devices for efficient monitoring of its strategic activities (including marketing and R&D investments).

At the same time, the individual members of the firm (i.e. management) are also disciplined in the market for their (labor) services by competition from both within as well as from outside the firm, regardless of their compensation structure. Jensen (1986) suggests that when managers are left with "free" cash-flows, they have a tendency to invest the cash in projects that yield below market return, which leads to organization-wide inefficiencies, at the expense of personal gratification and acquisition of perquisites. Under conditions of vigorous competition however, competitive forces may act as a disciplining device, due to the reduction in managerial slack, by decreasing the opportunity for management to use cash flows to engage in less productive activities (Jagannathan and Srinivasan 2000). Furthermore, the reduction in information asymmetry between firms regarding their marketing and innovation investment strategies that occur in highly-competitive markets would place an increasing burden on managers who focus on short-term value creation: increasing competition in product markets would likely increase the pressure on managers to focus on maximizing the value of their investments, including R&D and marketing.

In summary, increasing intra-industry competition is likely to mitigate the ability of short-term incentivized managers to engage in myopic practices with the resources already

engaged in pursuing the set of available opportunities, because of the reduction of cash flows available to manipulation through managerial discretion due to the increased pressures from competitors to manage company resources (i.e. marketing and R&D investments) more efficiently:

H7: Increasing industry competitive intensity negatively moderates the effects of increasing short-term CEO compensation on the likelihood of marketing myopia.

METHODS AND ANALYSES PROCEDURES

Empirical Context

I build my data set as follows: I begin with data for all publicly traded firms in the COMPUSTAT database for the 1990–2012 period. I chose this period because it most closely matches the available data across the databases that I align for the purposes of building the main data set. Then, I merge these data with institutional investor ownership from Brian Bushee's website, top management team compensation data from Execucomp, financial analyst measures from IBES, and stock returns and risk data from CRSP. The final data set consists of over 17,000 firm-year observations for 1,681 unique firms, comprising an unbalanced pooled cross-sectional time-series panel. I kept all represented industries and did not delete any firms in order to increase the generalizability of the results. Table 1 lists all variables, measures, and data sources.

Measures

I use R&D and advertising spending divided by total assets as our measures of R&D and marketing spending, respectively. In addition, I use the return on operating assets (ROA) as the measure of accounting profitability (Barber and Lyon 1997; Mizik 2010).

Managerial myopia

Firms have choices when they aim to achieve higher financial performance. They can either invest further in long-term value-producing assets, such as marketing and R&D activities, or attempt to cut costs in an effort to maintain profitability at least in the short run. Alternatively, the increased financial performance may have been due to previous cost cutting in vital but discretionary activities, such as marketing and/or basic research in the first place, critically underfunding investment in long-term assets. Consequently, I follow Mizik (2010) and define "managerial myopia" overall as the instance when a firm reports greater-than-normal performance (ROA) and, at the same time, lower-than-normal marketing and R&D investments. I label this operationalization of management myopia as *high myopia* to distinguish it from the two constituent components and more prevalent forms of myopia: marketing, and R&D myopia. I define *marketing myopia* similar to high myopia, except that firms report only lower-than-normal marketing expenditures at the time of increased performance and not lower-than-normal R&D spending. Similarly, *R&D myopia* refers to firms' practices in which they report only lower-than-normal R&D spending (but not marketing spending) at the time of increased firm performance. The disaggregation of managerial myopia in three distinct metrics is consistent with prior research (Chakravarty and Grewal 2011; Mizik 2010) and provides a more nuanced view of the issue of myopic management in public firms.

Following Mizik (2010), I operationalize (1) high myopia as firms with $(ROA_{it} - ROA_{it|it-1}) > 0$, $(Mktg_{it} - Mktg_{it|it-1}) < 0$, and $(R\&D_{it} - R\&D_{it|it-1}) < 0$; (2) marketing myopia as $(ROA_{it} - ROA_{it|it-1}) > 0$ and $(Mktg_{it} - Mktg_{it|it-1}) < 0$; and (3) R&D myopia as $(ROA_{it} - ROA_{it|it-1}) > 0$ and $(R\&D_{it} - R\&D_{it|it-1}) < 0$, where $ROA_{it|it-1}$, $Mktg_{it|it-1}$, and $R\&D_{it|it-1}$, reflect

the *normal* or expected profitability, marketing, and R&D spending, based on past trends, for firm i in period t.

Before identifying the potentially myopic firms that fit into each of the three myopia categories, I first estimate the normal levels of ROA, marketing, and R&D for each firm in each period, using fixed-effects autoregressive panel data forecast models, consistent with Anderson and Hsiao (1981) and Mizik (2010), as follows:

(1) $ROA_{it} = \alpha_{roa,i} + \varphi_{roa} \times ROA_{it-1} + \sum\delta_{roa,\,t} \times Time_t + \sum\beta_{roa,\,ind} \times IND_{ind} + \varepsilon_{roa,\,it}$,

(2) $Mktg_{it} = \alpha_{mktg,i} + \varphi_{mktg} \times Mktg_{it-1} + \sum\delta_{mktg,\,t} \times Time_t + \sum\beta_{mktg,\,ind} \times IND_{ind} + \varepsilon_{mktg,\,it}$,

(3) $R\&D_{it} = \alpha_{r\&d,i} + \varphi_{r\&d} \times R\&D_{it-1} + \sum\delta_{r\&d,\,t} \times Time_t + \sum\beta_{r\&d,\,ind} \times IND_{ind} + \varepsilon_{r\&d,\,it}$,

where ROA_{it}, $Mktg_{it}$, and $R\&D_{it}$ are ROA, marketing, and R&D for firm i in time t; ROA_{it-1}, $Mktg_{it-1}$, and $R\&D_{it-1}$ are their lagged values; $Time_t$ is a set of annual dummies; and IND_{ind} is a set of industry dummy variables (based on four-digit Standard Industrial Classification codes). I use the errors from these models as the portion of marketing (R&D) spending unexplained by prior year marketing (R&D) spending. Therefore, the residuals from the three models represent the deviations from the normal pattern in the time series of the three variables, and I use these values to identify the myopic firms, importantly controlling for industry and time effects. A feature of this classification system is the option that firms' classification as myopic may change across the years: for example, a firm which has been classified as myopic in one period may not be myopic in the very next time window.

Institutional Investor Ownership

Following Bushee (1998, 2001), I categorize institutional investors as short-term (transient) according to their portfolio diversification, portfolio turnover, and trading sensitivity. Portfolio diversification is a measure of (1) the average stake of the institution's holdings

across all its investments, (2) the mean size of the ownership position in its overall portfolio of firms, (3) the percentage of equity holdings that constitute more than 5% of outstanding stock in each firm, and (4) a Hirschman–Herfindahl index of the owner's holdings. Portfolio turnover measures the annual change in ownership positions and the percentage of firms that the investor has held continuously for at least the past two years. Trading sensitivity reflects the sensitivity of ownership in a particular firm to that firm's earnings announcements using the average earnings change in firms bought less firms sold. Short-term investors have high portfolio turnover, diversify their portfolios across many securities, and are the most sensitive to earnings reports.

Following this classification of investors, I compute the percentage of short-term investor ownership in each firm-year for each of the companies in our sample (Ke and Ramalingegowda 2005). I operationalize ownership by the institutional investor group by dividing the number of shares they own by the total number of outstanding shares (for greater details about the classification system of institutional investor horizons, see Web Appendix A). *CEO pay*. Following Currim, Lim, and Kim (2012), I define CEO short-term pay as the natural log of the bonus compensation of the given executive in firm i at time t, scaled by firm size.

Past Stock Returns

I follow established research to estimate the annual stock returns for the firms in our sample: I begin with the Fama and French's (1993) three-factor model to which I add the Carhart (1997) momentum factor, to compute the abnormal returns (ARs). Therefore, I use the compounded monthly returns over the 12-month fiscal-year period for each firm in the sample to get our measure of past stock returns:

(4) $R_{it} - R_{rf,,t} = a_i + b_i(R_{mt} - R_{rf,t}) + s_i SMB_t + h_i HML_t + u_i UMD_t + e_{i,t}$,

where R_{it} is the daily return on stock of firm i on day t; $R_{rf,t}$ is the daily risk-free return on day t; R_{mt} is the market factor; SMB_t, HML_t, and UMD_t are the returns from the Fama–French size portfolio on day t, from the Fama–French market-to-book portfolio on day t, and from the momentum factor on day t, respectively; and $e_{i,t}$ is the measure of ARs associated with year t.

Past Stock Returns Volatility

I use idiosyncratic firm risk to measure past stock returns volatility, consistent with prior literature (Tuli and Bharadwaj 2009) and operationalize it as the standard deviation of the residuals of the four factor Fama-French (1993) model, for firm i in year t-1.

Analyst Following

I use the natural log of the number of financial analysts following a frim i at the end of year t-1 (Bhushan 1989) to capture the information richness of the environment surrounding a firm.

Leverage

I measure the degree of indebtedness as the ratio of total long-term debt to the sum of long-term debt and the market value for firm i in year t-1 (Hong and Sarkar 2007).

Industry Concentration

I use the degree of industry concentration, or the Hirschman–Herfindahl index of industry concentration as a proxy for the competitive intensity in each 2 and 4 digit SIC code industry grouping. The HHI index is a widely accepted measure of industry competition (Rhoades 1993). It is measured as the sum of an industry's squared market shares (in percentage terms). Low values of HHI imply low levels of industry concentration, therefore high levels of competition.

Controls

Prior literature fails to find conclusive evidence whether firm size is associated with myopic tendencies in public firms as some studies find null effects (Mizik and Jacobson 2007) while others find that smaller firms are more likely to manage marketing and R&D budgets (Chakravarty and Grewal 2011). I control for firm size (measured as the log of firm total revenues) to capture the effects of economies of scale (Pauwels et al. 2004;Sorescu and Spanjol 2008; Srinivasan, Vanhuele, and Pauwels 2010).*Total* institutional ownership in the aggregate may restrain top management from manipulating R&D expenses in the near term (Bushee 1998). Therefore I control for total institutional investor ownership measured as the percentage ownership by institutional investors who hold at least 5% of total firm equity, *other* than short term institutional investors. Finally, analyst quality is measured as the difference between IBES consensus forecast of annual earnings nine months prior to the earnings announcement date and the actual earnings reported by IBES on the earnings date, and represents an additional measure of the quality of information available for a particular firm, as security analysts often differ in their recommendations for a stock (Diether et al. 2002). Therefore, the closer the analysts' predictions to the actual earnings reported, the higher the information quality that exists for a particular company. Past research has also controlled for the reputation of venture capitalists and investment bankers (Lee and Masulis 2011), auditor reputation and operating cash flows (Ahmad 2013; Dechow, Sloan, and Sweeney 1995), as well as firm age and profitability (Lee and Masulis 2011). While important, most of those controls are not appropriate for this study, as venture capitalist and investment bankers' reputation applies mostly to firms in their initial stages of the IPO process. I control for firm profitability and partially operating cash flows, through the

inclusion of return on assets (ROA) as part of the myopic management filter used. Finally auditor reputation is relevant to studies investigating the myopic management of discretionary accruals, which is distinct from real activities manipulation, or myopic management as the phenomenon is understood in the marketing literature.

Models and Estimation Procedure

Antecedents to Myopic Management.

I begin by modeling the likelihood of the three types of myopia occurring, conditional on institutional investor horizon and top management compensation, by using a panel logit model with instrumental variables. I employ an instrumental variables (IVs) approach because ownership by institutional investors and top management compensation structures are potentially endogenous for two reasons. First, top management compensation may be modeled as a *consequence* of firm myopic actions. Thus, engaging in any of the three types of myopia can affect top management compensation both directly and indirectly, causing a feedback loop between the two variables. Second, institutional investor ownership is potentially endogenous because such entities may make their investment decisions based on whether firms engage in myopic management, instead of, as I hypothesize, being one of the antecedents of firms' pursuing such policies. To address such concerns, I follow established guidelines for IV selection and search for variables (1) correlated with the potentially endogenous variables but also (2) uncorrelated with the error term (Wooldridge 2002).

I use average industry executive pay to instrument executive pay, because the industry average of a variable is likely to be strongly correlated with the endogenous variable (executive pay) but uncorrelated with the firm-specific choice to engage (or not) in myopic management. The choice of instruments is consistent with current research practices in

marketing (Germann, Ebbes, and Grewal 2015) for a number of reasons; first, I claim instrument relevance (i.e. the instruments predict short-term investor ownership and CEO pay) exists, as firm compensation structure is likely to mimic industry standards (Bizjak, Lemmon, and Naveen 2008), but such industry standards are unlikely to drive firm-specific actions (e.g., myopia), as our evidence and that from prior research suggests that only around 20% of public firms behave myopically with their marketing budgets (Mizik 2010). I use similar logic to demonstrate the relevance of the second instrumental variable, and identify average industry short-term institutional investor ownership as our instrument for short-term institutional investor ownership. Second, to demonstrate that the instruments meet the exclusion restriction (i.e. why they are uncorrelated with any omitted variables that affect myopic management tendencies) I argue that peer firms cannot observe or measure omitted variables such as corporate culture and practices which may have become embedded in the fabric of the organization (Granoveter 1985) and thus become difficult to imitate. Furthermore, as our sample includes many firms from multiple two-digit SIC codes to calculate the focal firm's instrumented variables, it is highly unlikely that firms would mimic other firm's myopic tendencies. Therefore, the instruments should be uncorrelated with the omitted variable and the error term containing such variable, thus meeting the exclusion restriction theoretically.

After identifying the instrumental variables and theoretically arguing for their relevance and exclusion, I further conduct empirical tests to examine the econometric validity of the instruments. First, Anderson's (1984) canonical correlations test is a likelihood-ratio test of whether the equation is identified (i.e., the excluded instruments are correlated with the endogenous regressors). The null hypothesis is rejected for the instruments for the short-term

institutional investors (LM stat = 3299.36, $p < .000$), and CEO short-term pay (LM stat = 3496.17, $p < .000$), thus suggesting that the models are identified. Second, the Cragg–Donald Wald F statistic uses Stock and Yogo's (2005) critical values for the IV estimator to test for weak identification. Weak identification occurs when the instruments are minimally correlated with the endogenous regressors, leading to poor performance in instrumented regressions (Stock and Yogo 2005). The test results suggest that all critical values for all IVs used are below 5% in relative bias and relative size, which suggests that the instruments are not weakly identified. The Cragg–Donald Wald F statistics are 4164.64 and 4483.41 for the short-term institutional investor and CEO short-term pay instruments, respectively, which are well above the critical values. Overall, the instruments chosen have theoretical and econometric support and the models are correctly identified, in support of validity of the IVs. Please see web appendix B for details of the first stage instrumental variables estimation.

Next, I analyze the data as follows. First, I obtain the predicted values of the potentially endogenous variables from fixed-effects regressions of the endogenous executive pay variables and the institutional ownership variables on the respective IVs. Second, I use the resulting predicted values of the endogenous independent variables to estimate the main panel logit fixed-effects models. The panel logit model with fixed effects allows us to overcome some of the weaknesses associated with the regular pooled logit model—namely, the assumed independence over firm *i* and time *t* and the lack of control of time and firm effects (Cameron and Trivedi 2009), both of which lead to efficiency loss and inconsistent parameter estimates. Furthermore, I need to control for firm heterogeneity because of our sample characteristics and the likelihood that firm-specific effects are correlated with other regressors in the model (Wooldridge 2002). Last, investor ownership and executive pay enter the model as lags, in

order to account for effects of intertemporal changes on the likelihood of myopia. Thus, I specify the second-stage logit model for investor ownership and CEO pay as

(5) $\text{logit}(\text{Myopia}_{i,t}) = \alpha_i + \beta_1 \times \text{InvestorOwn}_{i,t-1} + \beta_2 \times \text{CEOPay}_{i,t-1} + \beta_3 \times \text{InvestorOwn*StockRet}_{i,t-1} + \beta_4 \times \text{InvstorOwn*Risk}_{i,t-1} + \beta_5 \times \text{InvestorOwn*Leverage}_{i,t-1} + \beta_6 \times \text{CEOPay*AFollow}_{i,t-1} + \beta_7 \times \text{CEOPay*HHI}_{i,t-1} + \beta_8 \times \text{Size}_{i,t} + \beta_9 \times \text{Leverage}_{i,t} + \beta_{10} \times \text{AFollow}_{i,t} + \beta_{11} \times \text{AQual}_{i,t} + \beta_{12} \times \text{HHI}_{i,t} + \beta_{13} \times \text{StockRet}_{i,t-1} + \beta_{14} \times \text{Risk}_{i,t-1} + \beta_{15} \times \text{TotalIOwn}_{i,t}$,

where $\text{Myopia}_{i,t}$ is a dichotomous variable that equals 1 if firm i in period t is classified as myopic (i.e., high myopia, marketing myopia, or R&D myopia); $\text{InvestorOwn}_{i,t-1}$ is the institutional investor ownership (either long-term or short term) in firm i in period t-1; $\text{CEOPay}_{i,t-1}$ is the pay package horizon for a given executive in firm i for period t-1; $\text{Size}_{i,t}$, $\text{Leverage}_{i,t}$, $\text{AFollow}_{i,t}$, $\text{AQual}_{i,t}$, $\text{HHI}_{i,t}$, $\text{TotalIOwn}_{i,t}$, $\text{StockRet}_{i,t-1,}$ and $\text{Risk}_{i,t-1}$ are independent variables whose operationalization I report in Table 1. For summary statistics as well as a correlation table including all variables, please see Table 2.

RESULTS

To identify the potentially myopic firms across the three managerial myopia categories (i.e., high, marketing, and R&D), I estimate Equations 1–3 using fixed-effects autoregressive panel data forecast regressions and use the residuals from the three models (Anderson and Hsiao 1981; Mizik 2010). The firms classified as engaging in highly myopic practices comprise 21.8% of the total sample (similar to the 20.7% Mizik (2010) reports), with 22.93% and 40.15% of the firms engaging in marketing and R&D myopia, respectively.

I test the likelihood of the three types of myopia occurring as a function of short-term institutional ownership and short-term CEO pay from Equation 5 and present the results of

this analysis in Tables 3 and 4. The coefficients in those tables show the results of logistic regressions (i.e., log-odds), which are difficult to interpret as reported; however, the signs of the coefficients are indicative of the direction of the effects. Therefore, in the text I report the results in terms of *odds ratios* for ease of interpretation. First, I present the results for the main effects from Table 3, then those of the interactions from Table 4.

The results indicate that the odds of a firm being classified as highly myopic increase by a factor of 1.05 per a 1% change in the ownership of short-term institutional investors ($\beta_1 = 0.0509$, $p < .001$) and by 1.0007 per a 1% change in short-term CEO compensation ($\beta_2 = 0.0007$, $p < .05$). For marketing and R&D myopia, the results are consistent: The odds of a firm being classified as potentially myopically managing its marketing or R&D investments per a 1% change in the ownership by short-term institutions, increase by a factor of 1.0582 ($\beta_1 = .0566$, $p < .001$) and 1.0712 ($\beta_1 = .0688$, $p < .001$), respectively. In terms of CEO pay, a one unit change in short-term CEO compensation results in the increased odds of a firm being classified as potentially marketing or R&D myopic by a factor of 1.0005 ($\beta_2 = .0005$, $p < .05$) and 1.0012 ($\beta_2 = .0012$, $p < .01$), respectively. Overall, I report robust support for H1 and H5 in all myopia conditions.

I find evidence in support of three of the five interaction hypotheses. First, increasing firm leverage and short-term institutional ownership are associated with a 1.0701 ($\beta_5 = .0677$, $p < .01$) increase in the odds of a firm to act myopically (high-myopia), thus supporting H4. Second, increasing financial analyst attention (following) combined with an increasingly short-term oriented CEO pay package seems to attenuate the main effects of the latter on the likelihood of myopic management: I report a decreased odds of firms with higher analyst following *and* higher short-term CEO pay structure to engage in myopic management by

.9999 (β_6 = .0073, p < .05), providing support for H6. Third, I also find that increasing industry competitive intensity combined with an increasingly short-term term CEO pay outlook is associated with decreased odds of myopic management by 1.0073 (β_7 = .0072, p < .05), providing support for H7. The results for marketing and R&D myopia follow the same pattern, with the exception of analyst following in the R&D myopia condition, which fails to reach significance. H2 (past stock returns) fail to reach significance and therefore I cannot claim a dual impact of increasing past stock returns and short-term institutional investor ownership on the likelihood of managerial myopia. On the other hand, testing for H3 (past stock return volatility) produces results which are the *opposite* from our expectations: increasing past stock returns volatility seems to *negatively* moderate the impact of increasing short-term investor ownership on myopic management by a factor of .6212 (β_4 = -.4761, p < .001) in all three myopic management conditions.

Sensitivity Analyses

I conduct several sensitivity checks to assess the robustness of the results (see Web Appendix C). First, I specify the antecedent models (Equations 5) using contemporaneous values of the independent variables, instead of their lagged measures, as in the main analysis. As Table B1 in Web Appendix C shows, the results remain robust to these measures. Second, I use CEO wealth performance sensitivity, a measure of the chief executive's sensitivity to changes in the firm's stock price, as an alternative measure of short-term compensation in the antecedents to myopia models. This measure reflects the dollar change in CEO wealth for a 100 percentage point change in firm value, divided by annual CEO flow compensation (Edmans, Gabaix and Landier 2009). As presented in Web Appendix C, Table C2, I find that the results are largely consistent: a lagged measure of CEO wealth performance sensitivity

increases the odds of firms engaging in high myopia, as well as in marketing-only myopia. The R&D myopia results are not significant. Third, I use a different dependent variable, trading volume, in order to test whether myopic management and short-term institutional ownership are jointly associated with changes in that construct. Prior accounting literature suggests that ownership by short-term investors is associated with an increase in trading volume of the portfolio firm (Bushee and Noe 2000), thus I expect that myopically managed firms would attract short-term investors, and in the process I would observe an increased association with the trading volume of the investee firms' stocks. In essence, as further support for our arguments, I see that the results are consistent with this line of reasoning (reported in Table C3), which provides further evidence that short-term institutional investors are associated with informed trading resulting in increased trading in and out of portfolio firms which engage in either type of myopic management.

Finally, to rule out outliers driving the results, I conduct the analysis after removing +/– 2.5% of residuals (Mizik 2010). The results remain robust to this restriction.

DISCUSSION

I draw on research in agency theory as well as on the institutional investor ownership literature from finance and accounting, and use data from a large panel sample of U.S. public firms to address two research questions: (1) is myopic management due to the principal, the agent, or both? and (2) what are some of the important moderating conditions consistent with the theoretical framework of this study? I show that both the principals (institutional investors) and the agents (top management) of the public firm can directly affect myopic managerial decisions and further discover some of the most important mechanism underlying the underperformance of myopically managed firms in financial markets (Mizik 2010). The

results are robust to endogeneity and alternative measures and are consistent over a range of sensitivity analyses. In doing so, I supplement the traditional explanation that firms cut discretionary spending (i.e., R&D and marketing), which are less visible to investors, with the explanation that firms act myopically because doing so is associated with catering to the increasing number of short-term institutional investors that make up an informed and active ownership base. This insight would not be possible but for the consideration of institutional investor ownership horizon heterogeneity. Importantly, I introduce to the myopic management literature in marketing (Chakravarty and Grewal 2011; Chapman and Steenburgh 2011; Mizik 2010) institutional investors' ownership heterogeneity and CEO temporal compensation structure as antecedents of managerial myopia in public firms in the same, comprehensive model. Next, I discuss the implications for theory and practice.

I find that both institutional owners' investment horizons and executive pay temporal structure influence the likelihood of a firm to engage in myopic management of its marketing and innovation investments. The presence of short-term investors increases the motivation of public firms to engage in myopic practices, by providing less "breathing room" for management to eschew short-term earnings numbers and lends support to the catering argument which suggests that management attempts to engage in investment decisions which match the investment horizon preferences of the most important ownership constituent groups. Moreover, the absence of patient capital from long-term institutional investors limits firms focus on long-term firm value maximization. While executive pay packages could serve as another vehicle for boards of directors and shareholders to further align the interests of executives with long-term value generation, short horizon pay encourages managers to sacrifice marketing and innovation (i.e., managerial myopia). The findings also advance the

literature on top management compensation in two ways. First, prior research links CEO compensation directly with performance (Tosi et al. 2000). However, the relationship is weak, probably a function of neglected mediational routes. I remedy the situation by introducing a potentially mediational explanation through myopic management. Second, these findings are consistent with the argument that incentives for management to focus on the short-term, combined with the presence of short-term institutional owners in the shareholder base, have a complementary rather than competitive effect on reducing myopic management of marketing and innovation investments. This study broadens the role of agency theory by extending its application in a novel marketing context.

In terms of practical implications, boards of directors and shareholders should pay close attention to the design of top management compensation packages, as I find that its temporal horizon influences myopic management practices. Our findings suggest that boards of directors and top management should be concerned with the types of institutional investors present in the ownership structure of their firms, especially if they tend to lean toward myopic management practices for short-term benefits and personal goal achievement. While the compensation structure is well within the control of the board and shareholders, institutional ownership is not. If boards believe that long-term institutional ownership needs to be encouraged, they should explore its drivers. Recent research suggests two avenues. First, though still a proposal under consideration, long-term-oriented investors could be provided preferential-type shares that encourage loyalty (Bolton and Samama 2012). These shares enable purported long-term investors to have the rights to purchase shares in the future at a discounted price. Second, research suggests that firms that communicate a short-term orientation in their external communications attract such investors (Brochet, Loumioti, and

Serafeim 2013). Firms might consider reporting long-term-oriented investments in marketing assets such as brands and customer retention to attract long-term-oriented investors.

As with any empirical study, this study is not without limitations. Our study is limited to U.S. firms, so it is unclear if these results will hold in other institutional environments. Although I address endogeneity through robust econometric methods, to strengthen causality claims, studies could identify opportunities for natural experiments, such as during regulatory changes as in regulation fair disclosure, which was designed to mitigate information asymmetry and selective disclosure, or the adoption of Sarbanes-Oxley, which is expected to increase myopic management of discretionary spending (Mizik 2010). Research could also examine whether announcements of investments in marketing assets attract long-term investors.

TABLES

Table 1

Variables and Data Sources

Variable	***Measure***	***Source***
High Myopia	If firm *i* in year *t* cuts both its marketing and R&D spend compared with normal levels, while reporting greater-than-normal performance.	IBES, Compustat
Marketing Myopia	If firm *i* in year *t* cuts its marketing spend only, compared with normal levels, while reporting greater-than-normal performance.	IBES, Compustat
R&D Myopia	If firm *i* in year *t* cuts its R&D spend only, compared with normal levels, while reporting greater-than-normal performance.	IBES, Compustat
Abnormal Returns	Annual abnormal returns using Carhart's four-factor model.	CRSP, Compustat
Analyst Following	Natural log of number of financial analysts following.	IBES
Analyst Quality	Difference between IBES consensus forecast of annual earnings and the actual earnings reported by IBES	IBES
Short-Term CEO Pay	The natural log of the cash bonus compensation of the CEO, scaled by firm size.	Execucomp
Total Institutional Investor Ownership	The aggregate institutional ownership (percentage).	Compustat
Advertising Intensity	Annual firm-level advertising spending scaled by total sales.	Compustat
Short-term Institutional Investor	Percentage of short-term institutional investors' ownership.	Bushee's website, Compustat
Firm Size	Natural log of total firm sales.	Compustat
R&D Intensity	The ratio of R&D to total sales.	Compustat
Return on Assets	The ratio of income before extraordinary items to total assets.	Compustat
Dividends Payout	Dividends payout ratio.	Compustat
Industry Concentration	HHI Index for each industry.	Compustat

Table 2

Correlation Table

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
High Myopia	1.0000												
Marketing Myopia	.9659	1.0000											
R&D Myopia	.6119	.5723	1.0000										
S.T. Investor	.0502	.0624	.0755	1.0000									
S.T. CEO Pay	.0396	.0310	-.0200	.1429	1.0000								
Analyst Following	.1406	.1537	.1479	.0277	.0352	1.0000							
Analyst Quality	.0099	.0102	.0077	-.0207	.0098	.0125	1.0000						
Firm Size	.0455	.0344	-.0899	.1795	.2070	.5124	-.0014	1.0000					
Firm Leverage	.0166	.0124	.0330	.0008	-.0293	-.0010	-.0206	-.0760	1.0000				
HHI Index	-.0588	-.0593	-.0660	.0127	-.0086	-.3408	.0008	-.1245	.0350	1.0000			
Past Firm Risk	-.0668	-.0588	-.0569	.1217	.0130	-.1470	-.0418	-.1045	-.0116	.0978	1.0000		
Past Stock Returns	-.0150	-.0107	-.0201	.0011	-.0161	-.0123	.0002	-.0730	.0168	.0095	-.0525	1.0000	
Total Inst. Ownership	.0247	.0366	.0053	.2400	.0666	.2433	.0055	.2897	.0031	.0405	.0077	-.0154	1

Note: *** $p < .01$, ** $p < .05$, * $p < .10$.

Table 3
Myopia Antecedents: Panel Logit Model, Instrumented Variables

Independent Variable	High Myopia	Marketing	R&D Myopia
Short-Term Investor ownership	.021718**	.037655***	.048431***
Short-Term CEO Pay	.000686***	.000552**	.001134***
Analyst Following	.676148***	.699384***	.965448***
Industry Concentration	-2.71360***	-2.574293***	-4.314287***
Past Idiosyncratic Risk	-1.152590	-.954848	-2.398966***
Past Stock Returns	-.067610	.000480	-.045537
Firm Leverage	.339244	.195380	.661564**
ST CEO Pay × Analyst Following	-.000050*	-.000084**	-.000034
ST CEO Pay × Industry Concentration	.007291***	.006232**	.010116***
ST Investor × Past Stock Returns	-.011250	-.009100	-.004466
ST Investor × Past Firm Risk	-.476050***	-.528932***	-.357363***
ST Investor × Firm Leverage	.067761***	.045086**	.052034**
Firm Size	-.151820***	-.165670***	-.677478***
Analyst Quality	.006082	.005970	.000731
Total Institutional Ownership	-.000021***	-.000001**	-.000001
Number of Observations	17, 523	17,523	17,523

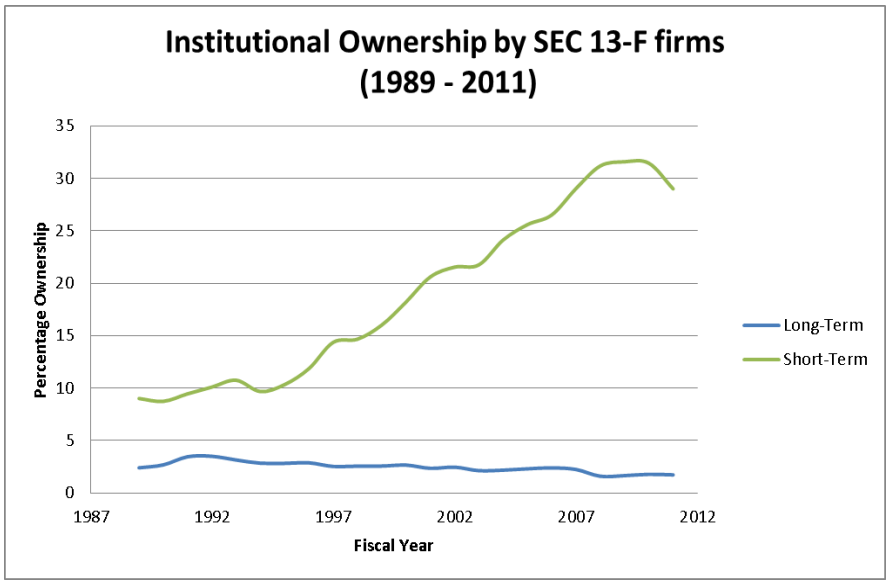
Note: *** $p < .01$, ** $p < .05$, * $p < .10$. Significance levels of the main effects are based on two-tailed tests, and those of the interaction effects are based on directional one-tailed tests.

Table 4
Myopia Antecedents: Panel Logit Model, Instrumented Variables, Main Effects

Independent Variable	High Myopia	Marketing	R&D Myopia
Short-Term Investor ownership	.050902***	.056604***	.068805***
Short-Term CEO Pay	.000662**	.000546**	.001151***
Analyst Following	.654064***	.669675***	.955531***
Industry Concentration	-2.133987***	-2.07233***	-3.83791***
Past Idiosyncratic Risk	-1.770167**	-1.628076**	-2.783190***
Past Stock Returns	-.088645	-.021293	-.069682
Firm Leverage	.494063**	.274837	.760846***
Firm Size	-.143224***	-.155258***	-.665048***
Analyst Quality	.006241	.005928	.001116
Total Institutional Ownership	-.000002**	-.000002**	-.000001
Number of Observations	17, 523	17,523	17,523

Note: *** $p < .01$, ** $p < .05$, * $p < .10$.

Figure 1
AVERAGE INSTITUTIONAL INVESTOR OWNERSHIP AND CEO COMPENSATION BY TYPE



B: CEO Compensation by Temporal Orientation

References

Aaker, David A. (1991), *Managing Brand Equity: Capitalizing on the Value of a Brand Name*. New York: The Free Press.

Aghion, Philippe, John Van Reenen, and Luigi Zingales (2013), "Innovation and Institutional Ownership," *American Economic Review*, 103 (1), 277-304.

Amihud, Yakov, and Jacob Kamin (1979), "Revenue vs. profit maximization: Differences in behavior by the type of control and by market power," *Southern Economic Journal*, 838-846.

Anderson, Theodore (1984), *An introduction to Multivariate Statistical Analysis, 2d ed.* New York: John Wiley & Sons.

——— and Cheng Hsiao (1981), "Estimation of Dynamic Models with Error Components," *Journal of the American Statistical Association*, 76 (375), 598-606.

Arellano, Manuel and Stephen Bond (1991), "Some Tests of Specification For Panel Data," *Review of Economic Studies*, 58 (2), 277-97.

Aspen Institute (2009), "Overcoming Short-Termism: A Call for More Responsible Approach to Investment and Business Management," (accessed August 27, 2013), [available at http://www.aspeninstitute.org/].

Barber, Brad and John Lyon (1997), "Detecting Long-Run Abnormal Stock Returns," *Journal of Financial Economics*, 43 (3), 341-72.

Barth, Mary, William Beaver, John Hand, and Wayne Landsman (1999), "Accruals, cash flows, and equity values," *Review of Accounting Studies*, 4(3-4), 205-229.

Bartov, Eli, Dan Givoly, and Carla Hayn (2002), "The Rewards to Meeting or Beating Earnings Expectations," *Journal of Accounting and Economics*, 33 (2), 173-204.

Bebchuk, L. A. and L. A. Stole (1993), "Do Short-Term Objectives Lead to Under- or Overinvestment Long-Term Projects?" *The Journal of Finance*, 48 (2), 719–29.

Bergstresser, Daniel and Thomas Philippon (2006), "CEO Incentives and Earnings Management," *Journal of Financial Economics*, 80 (3), 511-29.

Bhojraj, Sanjeev, Paul Hribar, Marc Picconi, and John McInnis (2009),"Making sense of cents: An examination of firms that marginally miss or beat analyst forecasts," *The Journal of Finance*, 64(5), 2361-2388.

Bizjak, John, James Brickley, and Jeffrey Coles (1993), “Stock-Based Incentive Compensation and Investment Behavior,” *Journal of Accounting and Economics*, 16 (1), 349-72.

———, Michael L. Lemmon, and Lalitha Naveen (2008), “Does the Use of Peer Groups Contribute to Higher Pay and Less Efficient Compensation?” *Journal of Financial Economics*, 90, 152-68.

Bolton, Patrick and Frederic Samama (2012), "Capital Access Bonds: Contingent Capital with an Option to Convert," *Economic Policy*, 27 (70), 275-317.

Brandenburger, A. and B. Polak (1996), “When Managers Cover Their Posteriors: Making the Decisions the Market Wants to See,” *RAND Journal of Economics*, 27 (3), 523–41.

Brochet, Francois, Maria Loumioti, and George Serafeim (2012), “Short-Termism, Investor Clientele, and Firm Risk,” Harvard Business School Working Paper #12-072.

Bushee, B. J. (1998), “The Influence of Institutional Investors on Myopic R&D Investment Behavior,” *The Accounting Review*, 73 (3), 305–333.

——— (2001), “Do Institutional Investors Prefer Near-Term Earnings over Long-Run Value?” *Contemporary Accounting Research*, 18 (2), 207-246.

——— and Christopher F. Noe (2000), “Corporate Disclosure Practices, Institutional Investors, and Stock Return Volatility,” *Journal of Accounting Research*, 33, 171-202.

Cameron, Adrian, and Pravin Trivedi (2009), *Microeconometrics Using Stata*. College Station, TX: Stata Press.

Carhart, Mark (1997), "On Persistence in Mutual Fund Performance," *Journal of Finance*, 52 (1), 57-82.

Carleton, W.T., J.M. Nelson, and M.S. Weisbach (1998), “The Influence of Institutions on Corporate Governance Through Private Negotiations: Evidence from TIAA-CREF,” *Journal of Finance*, 53 (4), 1335-62.

Carpenter, Mason and W. Sanders (2002), "Top Management Team Compensation: The Missing Link Between CEO Pay and Firm Performance?" *Strategic Management Journal*, 23 (4), 367-75.

Chakravarty, Anindita and Rajdeep Grewal (2011), “The Stock Market in the Driver's Seat! Implications for R&D and Marketing,” *Management Science*, 57 (9), 1594-1609.

Chapman, C.J. and T.J. Steenburgh (2011), “An Investigation of Earnings Management Through Marketing Actions,” *Management Science*, 57 (1), 72–92.

The Conference Board (2006), “Revisiting Stock Market Short-Termism,” (accessed July 23, 2013), [available athttp://www.conferenceboard.org/publications/publicationdetail.cfm?publicationid=1116).

Cohen, Daniel, Raj Mashruwala, and Tzachi Zach (2010) "The use of advertising activities to meet earnings benchmarks: Evidence from monthly data," Review of Accounting Studies 15(4), 808-32.

Currim, Imran, Jooseop Lim, and Joung W. Kim (2012), “You Get What You Pay For: The Effect of Top Executives' Compensation on Advertising and R&D Spending Decisions and Stock Market Return,” *Journal of Marketing*, 76 (5), 33-48.

Daniel, Kent and Sheridan Titman (1997), "Evidence on the Characteristics of Cross Sectional Variation in Stock Returns," *Journal of Finance*, 52 (1), 1-33.

De Jong, Abe, Gerard Mertens, Marieke Van der Poel, and Ronald Van Dijk (2014), "How Does Earnings Management Influence Investor’s Perceptions of Firm Value? Survey Evidence from Financial Analysts," *Review of Accounting Studies*, 19 (2), 606-627.

Dechow, Patricia, Weili Ge, and Catherine Schrand (2010), "Understanding Earnings Quality: A Review of the Proxies, Their Determinants and Their Consequences," *Journal of Accounting and Economics*, 50 (2), 344-401.

———, Richard Sloan, and Amy Sweeney (1996), "Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC." *Contemporary Accounting Research* 13 (1), 1-36..

Derrien, Francois, Ambrus Kecskés, and David Thesmar (2013), “Investor Horizons and Corporate Policies,” *Journal of Financial and Quantitative Analysis*, 48 (6), 1755-80.

Dobrzynski, J. (1993), “Relationship Investing: A New Shareholder Is Emerging — Patient and Involved,” *Business Week*, 3 (15), 68–75.

Edmans, Alex, Xavier Gabaix and Augustin Landier (2009),”A Multiplicative Model of Optimal CEO Incentives in Market Equilibrium," Review *of Financial Studies*, 22, 4881-4917.

Eisenhardt, K. M. (1989), “Agency Theory: An Assessment and Review,” *Academy of Management Review*, 14 (1), 57-74.

Eley, Jonathan (2014), “How to Invest Like Warren Buffet,” (February 28), (accessed June 17, 2014), [available at http://www.ft.com/cms/s/2/25870c9c-9d69-11e3-a599-00144feab7de.html].

Eng, Li Li and Margaret Shackell (2001), "The Implications of Long-Term Performance Plans and Institutional Ownership for Firms' Research and Development (R&D) Investments," *Journal of Accounting, Auditing & Finance*, 16 (2), 117-39.

Fama, Eugene F. (1980), "Agency Problems and the Theory of the Firm," *Journal of Political Economy*, 88 (2), 288-307.

——— and Kenneth R. French (1993), "Common Risk Factors in the Returns on Stocks and Bonds," *Journal of Financial Economics*, 33 (1), 3-56.

——— and Michael C. Jensen (1983), "Separation of Ownership and Control," *Journal of Law and Economics*, 26 (2), 301-325.

Fisher, Joseph and Vijay Govindarajan (1992), "Profit Center Manager Compensation: An Examination of Market, Political and Human Capital Factors," *Strategic Management Journal*, 13 (3), 205-217.

Fong, Eric A., Vilmos F. Misangyi, and Henry L. Tosi (2010), "The Effect of CEO Pay Deviations on CEO Withdrawal, Firm Size, and Firm Profits," *Strategic Management Journal*, 31 (6), 629-51.

Francis, Jennifer and Abbie Smith (1995), "Agency Costs and Innovation Some Empirical Evidence," *Journal of Accounting and Economics*, 19 (2), 383-409.

Gaspar, Jose-Miguel, Massimo Massa, and Pedro Matos (2005), “Shareholder Investment Horizons and the Market for Corporate Control,” *Journal of Financial Economics*, 76 (1), 135-65.

Graham, J. R., C. R. Harvey, and S. Rajgopal (2005), “The Economic Implications of Corporate Financial Reporting,” *Journal of Accounting and Economics*, 40 (1-3), 3–73.

Grant, S., S. King, and B. Poak (1996), “Information Externalities, Share-Price Based Incentives, and Managerial Behavior,” *Journal of Economic Surveys*, 10 (I), 1–21.

Graves, Samuel, and Sandra Waddock (1990), "Institutional ownership and control: Implications for long-term corporate strategy," *The Executive*, 4(1), 75-83.

Guidry, Flora, Andrew J. Leone, and Steve Rock (1999), "Earnings-Based Bonus Plans and Earnings Management by Business-Unit Managers," *Journal of Accounting and Economics*, 26 (1), 113-42.

Gunny, Katherine (2010), The Relation Between Earnings Management Using Real Activities Manipulation and Future Performance: Evidence from Meeting Earnings Benchmarks*. *Contemporary Accounting Research*, *27*(3), 855–888.

Hansen, Bruce and Kenneth West (2002), "Generalized Method of Moments and Macroeconomics," *Journal of Business & Economic Statistics*, 20 (4), 460-49.

Healy, Paul M. (1985), "The Effect of Bonus Schemes on Accounting Decisions," *Journal of Accounting and Economics*, 7 (1), 85-107.

Heineman, Ben, Jr., and Stephen Davis (2011), "Are Institutional Investors Part of the Problem or Part of the Solution?" paper presented at The Shareholder Forum 2003, Yale School of Management.

Hölmstrom, Bengt (1979), "Moral hazard and observability," *The Bell Journal of Economics*, 74-91.

——— (1999), "Managerial Incentive Problems: A Dynamic Perspective," *Review of Economic Studies*, 66 (1), 169-82.

Holthausen, Robert W., David F. Larcker, and Richard G. Sloan (1995), "Annual Bonus Schemes and the Manipulation of Earnings," *Journal of Accounting and Economics*, 19 (1), 29-74.

Hong, Gwangheon, and Sudipto Sarkar (2007), "Equity Systematic Risk (Beta) and Its Determinants*," *Contemporary Accounting Research*, 24(2), 423-466.

Jensen, Michael C. (1986), "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers," *American Economic Review*, 76 (2), 323-329.

——— and W. H. Meckling (1976), "Agency Costs and the Theory of the Firm," *Journal of Financial Economics*, 3 (4), 305-360.

Joseph, K. and V. J. Richardson (2002), "Free Cash Flow, Agency Costs, and the Affordability Method of Advertising Budgeting," *Journal of Marketing*, 66 (1), 94-107.

Joshi, Amit and Dominique Hanssens (2010), "The Direct and Indirect Effects of Advertising Spending on Firm Value," *Journal of Marketing*, 74 (1), 20-33.

Kale, Jayant, Ebru Reis, and Anand Venkateswaran (2009),"Managerial Incentives and Voluntary Turnover," *working paper*, finance department, Northeastern University .

Ke, Bin and Kathy Petroni (2004), "How Informed Are Actively Trading Institutional Investors? Evidence from Their Trading Behavior Before a Break in a String of Consecutive Earnings Increases," *Journal of Accounting Research*, 42 (5), 895-927.

——— and Santhosh Ramalingegowda (2005), "Do Institutional Investors Exploit the Post-Earnings Announcement Drift?" *Journal of Accounting and Economics*, 39 (1), 25-53.

Kotter, Jason and Ugur Lel (2011), "Friends or Foes? Target Selection Decisions of Sovereign Wealth Funds and their Consequences," *Journal of Financial Economics*, 101, 360-81.

Lamey, Lien, Barbara Deleersnyder, Marnik G. Dekimpe, and Jan-Benedict E.M. Steenkamp (2007), "How Business Cycles Contribute to Private-Label Success: Evidence from the United States and Europe," *Journal of Marketing*, 71 (1), 1-15.

Lang, Mark and Maureen McNichols (1997), "Institutional Trading and Corporate Performance," working paper, Graduate School of Business, Stanford University.

Luo, Xueming, Jan Wieseke, and Christian Homburg (2012), "Incentivizing CEOs to Build Customer- and Employee-Firm Relations for Higher Customer Satisfaction and Firm Value," *Journal of the Academy of Marketing Science*, 40, 745-58.

Markovitch, Dmitri G. and Peter N. Golder (2008), "Findings-Using Stock Prices to Predict Market Events: Evidence on Sales Takeoff and Long-Term Firm Survival," *Marketing Science*, 27 (4), 717-29.

Milgrom, Paul Robert and John Roberts (1992), *Economics, Organization and Management*, Vol. 7. Englewood Cliffs, NJ: Prentice Hall.

Mizik, Natalie (2010), "The Theory and Practice of Myopic Management," *Journal of Marketing Research*, 47 (4), 594–611.

——— and Robert Jacobson (2003), "Trading Off Between Value Creation and Value Appropriation: The Financial Implications of Shifts in Strategic Emphasis," *Journal of Marketing*, 67 (1), 63-76.

——— and ——— (2007), "Myopic Marketing Management: Evidence of the Phenomenon and Its Long-Term Performance Consequences in the SEO Context," *Marketing Science*, 26 (3), 361–79.

Monks, R. and N. Minow (1995), "Corporate Governance," *Blackwell Business*: Oxford, UK.

Murphy, Kevin J. (1999), "Executive Compensation" *Handbook of Labor Economics*, 3, 2485-2563.

Myers, Stewart and Nicholas Majluf (1984), "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have," *Journal of Financial Economics*, 13 (2), 187-221.

Narasimhan, Om, Surendra Rajiv, and Shantanu Dutta (2006), "Absorptive Capacity in High-Technology Markets: The Competitive Advantage of the Haves," *Marketing Science*, 25 (5), 510-24.

Narayanan, M. P. (1985), "Managerial Incentives for Short-Term Results," *Journal of Finance*, 40 (5), 1469–84.

Nath, Pravin and Vijay Mahajan (2011), "Marketing in the C-Suite: A Study of Chief Marketing Officer Power in Firms' Top Management Teams," *Journal of Marketing*, 75 (1), 60-77.

O'Brien, Patricia and Ravi Bhushan (1990), "Analyst Following and Institutional Ownership," *Journal of Accounting Research*, 28, 55-76.

Pauwels, Koen, Jorge Silva-Risso, Shuba Srinivasan, and Dominique Hanssens (2004), "New Products, Sales Promotions, and Firm Value: The Case of the Automobile Industry," *Journal of Marketing*, 68 (4), 142-56.

Porter, Michael E (1992), "Capital Choices: Changing the Way America Invests in Industry," *Journal of Applied Corporate Finance*, 5 (2), 4-16.

Rajgopal, Shivaram and Terry Shevlin (2002),"Empirical Evidence on the Relation Between Stock Option Compensation and Risk Taking," *Journal of Accounting and Economics*, 33 (2), 145-71.

Ramalingegowda, Santhosh (2014), "Evidence from Impending Bankrupt Firms That Long Horizon Institutional Investors Are Informed About Future Firm Value," *Review of Accounting Studies*, 19 (2), 1009-1045.

Roychowdhury, S. (2006), "Earnings Management Through Real Activities Manipulation," *Journal of Accounting and Economics*, 42 (3), 335–70.

Schipper, Katherine (1989), "Earnings Management," *Accounting Horizons*, 3 (1), 91–102.

Smith, Yves and Rob Parenteau (2010), "Are Profits Hurting Capitalism?" *The New York Times*, [available at http://www.nytimes.com/2010/07/06/opinion/06smith.html?_r=0].

Smith, Clifford, and Ross Watts (1983), "Incentive and tax effects of executive compensation plans," *Australian Journal of Management*, 7(2), 139-157.

Sorescu, Alina and Jelena Spanjol (2008), "Innovation's Effect on Firm Value and Risk: Insights from Consumer Packaged Goods," *Journal of Marketing*, 72 (2), 114-32.

Srinivasan, Shuba and Dominique Hanssens (2009), "Marketing and Firm Value: Metrics, Methods, Findings, and Future Directions," *Journal of Marketing Research*, 46 (3), 293–312.

———, M. Vanhuele, and Koen Pauwels (2010), "Mind-Set Metrics in Market Response Models: An Integrative Approach," *Journal of Marketing Research*, 47 (4), 672-84.

Stein, Jeremy C. (1989), "Efficient Capital Markets, Inefficient Firms: A Model of Myopic Corporate Behavior," *Quarterly Journal of Economics*, 104 (4), 655–69.

——— (2003), "Agency, Information and Corporate Investment," in *Handbook of the Economics of Finance*, Vol. 1. G.M. Constantinides, M. Harris, and R. Stulz eds. Boston, Elsevier, 111-65.

Stock, James H. and Motohiro Yogo (2005), "Testing for Weak Instruments in Linear IV Regression," *Identification and Inference for Econometric Models: Essays in Honor of Thomas Rothenberg*, Cambridge, UK: Cambridge University Press.

Tosi, Henry L., Steve Werner, Jeffrey P. Katz, and Luis R. Gomez-Mejia (2000), "How Much Does Performance Matter? A Meta-Analysis of CEO Pay Studies," *Journal of Management*, 26 (2), 301-339.

Tuli, Kapil, Sundar Bharadwaj, and Ajay Kohli (2010), "Ties That Bind: The Impact of Multiple Types of Ties with a Customer on Sales Growth and Sales Volatility," *Journal of Marketing Research*, 47 (1), 36-50.

Walther, Beverly R (1997), "Investor Sophistication and Market Earnings Expectations," *Journal of Accounting Research*, 35 (2), 157-79.

Wooldridge, Jeffrey (2002), *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: MIT Press.

Xiong, Guiyang and Bharadwaj, Sundar (2013), "Asymmetric Roles of Advertising and Marketing Capability in Financial Returns to News: Turning Bad to Good and Good to Great," *Journal of Marketing Research*, 50 (6), 706-724.

CHAPTER 3

FINANCIAL MARKET REACTION TO NEW PRODUCT INNOVATION: THE MODERATING ROLE OF INSTITUTIONAL INVESTORS' INVESTMENT HORIZON[4]

[4] Nikolov, A.N., S.G. Bharadwaj, and G. Xiong. To be submitted to *Journal of Marketing.*

ABSTRACT

Marketing managers are responsible for delivering organic growth by creating consumer value by introducing new products. Prior studies on the financial market reaction to product innovation provide mixed results. Notably, these studies treat investors as a homogenous entity, failing to recognize their heterogeneous investment horizons. Institutional investors, who are leading drivers of stock prices, are heterogeneous in their investment horizon and thus value marketing investments differentially. I draw on research in marketing, accounting, and finance to test hypotheses regarding how institutional investors' investment horizon moderates the effects of product innovation on firm financial performance. Econometric analyses of panel data sets from the consumer packaged goods and the pharmaceutical industries indicate that, for firms with a large proportion of ownership by short-horizon institutional investors, breakthrough (incremental) innovations reduce (increase) firm value. Managers need to recognize the fit between their innovation and institutional investors' investment horizons.

INTRODUCTION

The financial market pays a significant premium for growth, and the traditional role of marketing managers has been to generate organic growth by introducing new products for their companies. This expectation is illustrated by reports in the business press about *Research in Motion Inc.*'s 73% loss in market capitalization in 2011 being attributed to its failure to successfully launch new products in the fast growing smartphone and tablet markets. Apple Inc., recent quarter in 2015 which saw a 30% revenue growth and 38% profit growth was largely attributed to new products that brought a large number of customers who switched from competitive products. It is not surprising then, that firms devote significant resources to the development and marketing of new products.

New product innovation requires significant investment of resources, taking on risk and foregoing current returns in the hope of future cash flows, thereby influencing stock market performance. However, the empirical literature appears to be mixed regarding the impact of innovation on firm value (e.g., Eddy and Saunders 1980; Baum, Calabrese and Silverman 2000; Menguc and Auh 2006; Pauwels et al. 2004; Sorescu, Chandy, and Prabhu 2003; Sorescu, Shankar and Kushwaha 2007). The mixed findings suggest an incomplete understanding of the relationship and the likely presence of moderators. However, a recent meta-analysis on new product innovation reports that contingency effects have been ignored (Rubera and Kirca 2012).

Against this backdrop, I examine the financial impact of firms' product innovation efforts from a contingency perspective. I focus on the moderating role of the firms' investor base for a number of reasons. First, marketing managers have traditionally focused on consumers as the key stakeholder and largely ignored the investor community. The literature suggests that these two communities have different time horizons and reward marketing actions such as innovation

differently (Mizik and Jacobson 2003; Pauwels et al. 2004; Martin 2010). One recent research study has taken steps in that direction, by demonstrating that firms attempt to time the nature and launch of new products in order to influence the financial market response (Moorman et al. 2012). Second, although marketing scholars have begun to recognize the importance of the investor community in the design and execution of marketing plans, they still continue to treat investors as a monolithic entity. For example, although both Srinivasan and Hanssens (2009) and Srivastava, Shervani, and Fahey (1998) argue that all investors react to changes in marketing actions/assets through their influence on the outlook of firms' cash flows, they ignore the diversity in investment horizons of the investor base. Third, while research finds that the stock market influences marketing actions (e.g., Markovitch and Golder 2008; Mizik 2010; Chakravarty and Grewal 2011), they still fail to recognize that the variance in investor types. Fourth, influential organizations such as the Conference Board and the Aspen Institute have long bemoaned the fact that investors value short-term performance and undervalue long-term results. In fact, in a survey of 401 CFOs of publicly traded US firms, 78% admitted to sacrificing long-term value to maintain short-term predictability in earnings (Graham, Harvey, and Rajgopal 2005). Again, this viewpoint ignores the heterogeneity in investor type and thus the possibility of differential returns to innovation depending on both the type of innovation and the nature of the investors' investment horizon. In summary, while marketing research has long recognized that *consumers* are heterogeneous and that ignoring the heterogeneity leads to biased estimates of response to marketing strategies (e.g., Chintagunta, Jain, and Vilcassim 1991) and even reversals in established relationships (Hutchinson, Kamakura and Lynch 2000), such similar insight regarding the investor response to marketing actions as a result of their *heterogeneity in investment horizons* is absent.

I introduce to the marketing literature, a focus on the investor base, and contend that *not all* investors react in a similar manner to new product innovation. I focus on the institutional investors, as their share of total US equity has grown from 34% in 1980 to 67% ($11.5 trillion) in 2010 (Blume and Keim 2012). Furthermore, CFOs identify institutional investors as the leading driver of stock prices (Graham, Harvey, and Rajgopal 2005). Recent research in economics further underscores the importance of such investors, as they are associated with enhanced R&D productivity (Aghion, Van Reenen and Zingales 2013).

Two factors argue for the need to consider the investor investment horizon in the marketing-finance literature. First, the importance of the investor investment horizon in influencing firm value is widely acknowledged in the accounting and finance literatures (e.g., Gaspar, Massa, and Matos 2005; Derrien, Kecskes and Thesmar 2013). Second, the recently passed Dodd-Frank Bill requires institutional investors to play a more active stewardship role, thus influencing firm strategies and encouraging long-term oriented management (Heineman and Davis 2011). As shown in Figure 1, while there have been two growing streams of research focusing on (1) the financial market impact *of* marketing actions and (2) the impact of the financial market *on* marketing actions, marketing scholars have not examined the impact of institutional investor investment horizons on the relationship between marketing strategy and firm value[1]. Analogously, the third stream in accounting and finance research on institutional ownership has neglected the impact marketing actions and investments. Consequently, I address the following research question at the intersection of the three research streams: *Does the investment horizon of institutional investors moderate the impact of a firm's product innovation on its financial value?*

Using panel data samples from the consumer packaged goods (CPG) and pharmaceuticals industries, I find that the financial returns to product innovation is contingent on the heterogeneity in the investment horizons of institutional investors. After accounting for endogeneity, I find that firms have different financial returns, even if they introduce similar new products, and are from the same industry as a result of the moderation by investor investment horizon. Using data from two industries enhances the external validity of the study.

The findings are salient to firms' top management, for whom it is important to understand the heterogeneous impact of the investor community on returns to firms' product innovation strategy. For marketing managers, it adds another consideration, beyond timing of the product launch (Moorman, Wies, Mizik and Spencer 2012), when planning their innovation strategy. I present evidence that the firms' institutional shareholders exhibit measurable but asymmetric reactions to a firm's innovation strategies. Hence, it is suboptimal for marketing managers to ignore institutional investors' moderating impact because the ultimate goal of a public firm is to generate shareholder value. Managers need to realize that there may be a trade-off between the objective of maximizing performance from short-horizon investors' perspective and that from a long-term management perspective. The study's utility is further underlined by the lack of prior insights into how investors' investment horizon influences the outcomes of marketing efforts.

The study also answers calls to identify factors that moderate the effects of marketing assets on financial metrics (Kimbrough and McAlister 2009). I thus contribute to the research in marketing by bringing in external (investor-type) emphasis as a complement to the traditional focus on factors that are controllable by managers, such as the type of innovation. Furthermore, it contributes to the emerging contingency-based theoretical perspective on the marketing-

finance interface (e.g., Xiong and Bharadwaj 2013), as I identify new a new moderator for the marketing activities -firm performance relationship.

CONCEPTUAL DEVELOPMENT

New Product Innovation

Revenue from new products may take considerable time to materialize (Mahajan and Wind 1992). Consequently, it is appropriate to use future oriented metrics such as stock market performance to evaluate the effects of innovation (e.g., Sood and Tellis 2009). A recent meta-analysis documents the mixed results in the research on innovation's impact on financial performance (Rubera and Kirca 2012). Early research concludes either that the effects of innovation are nonexistent (Eddy and Saunders 1980), or that such effects are small and occur only under limited circumstances (Chaney, Devinney, and Winer 1991; Geroski, Machin, and Van Reenen 1993). Even in recent research studies, while some continue to find null effects (Sorescu, Shankar and Kushwaha 2007), others find a negative impact (Baum, Calabrese and Silverman 2000; Menguc and Auh 2006), and yet others uncover positive effects of new product innovations on firm financial performance (Pauwels et al. 2004; Sorescu, Chandy, and Prabhu 2003; Srinivasan et al. 2009). The mixed findings, summarized in Table 1, suggest an incomplete understanding of the relationship and the likely presence of moderators.

One promising direction has been research on the heterogeneity in innovation type, which highlights the differential payoffs of breakthrough versus incremental new products (Sorescu and Spanjol 2008). Breakthrough new products are defined as innovations which are the first to bring novel and significant consumer benefits to the market, while incremental new products make only marginal improvements to previously existing ones (Chandy and Tellis 1998; Sorescu, Chandy, and Prabhu 2003). Notably, the reported financial returns to these two types of

innovation are varied. Some studies find that both breakthrough and incremental new products are associated with increases in profits and in firm risk (Lee and Chen 2009; Sorescu and Spanjol 2008). The Rubera and Kirca (2012) meta-analysis finds that breakthrough innovations provide better financial returns than incremental innovation.

However, research on new product innovation has largely ignored contingency effects (Rubera and Kirca 2012). The lack of certainty about the direction of the effect and the lack of context-specific knowledge as a result of little research on moderators limit the ability to provide guidance to marketing practice. The mixed findings also imply that the effect of new product introductions (either incremental or breakthrough) may be contingent on other non-modeled factors (Srinivasan et al. 2009).

Institutional Investors

Institutional investors represent large pools of capital dedicated to the goal of providing superior returns for their principals through sophisticated investment actions. They are defined under SEC rule 13-F as entities such as banks, insurance companies, mutual and pension funds that invest on the behalf of others and manage at least $100 million in equity. For example, the Vanguard mutual funds group falls under the above rule and therefore is required to disclose its investments. Other entities such as arbitrageurs, brokerage houses, and companies holding stock for their own portfolios are not considered as institutional investors by the SEC. Thus, I have a concrete definition of the exact parameters of such institutions and a robust data source that tracks their behavior over time. In this study, I classify institutional investors in terms of investment horizon differences using SEC Rule 13-F as well as an innovative and widely used classification system from accounting research (e.g., Bushee 1998; 2001).

Of critical importance to this study is the finding that institutional investors influence the performance of the firms they invest in. A key criticism of institutional investors is that they contribute to short-termism in their investee companies. For example, Gaspar, Massa and Matos (2005) find that firms which have significant proportional ownership by institutional investors with short investment horizon are likely to receive lower premiums for mergers and acquisitions. Research also finds higher stock price volatility, systematic risk and consequently higher cost of capital for firms with large proportional ownership by short-term institutional investors (Brochet, Loumioti, and Serafeim 2012). On the other hand, investee firms benefit in terms of share price increases when institutional investors with a long-term focus invest in them. It thus appears that the heterogeneity in investment horizons of institutional investors has been associated with both positive and negative consequences for the investee firm's financial performance (Aghion, Van Reenen and Zingales 2013; Graves and Waddock 1994; Heineman and Davis 2011). Therefore, the accounting and finance literatures underline the main effect of institutional shareholder ownership on firm financial outcomes.

Short-Term Oriented Institutional Investors

Prior research in finance and accounting classifies the entities that value short-term benefits over long-term gains as short-term oriented (or "transient") institutional investors (Bushee 1998; 2001). Short-term institutional investors hold relatively small amount of stock in each individual firm they invest in, while doing so in a large number of firms. They are subject to large short-term redemptions (by investors in the funds that they manage) thus necessitating a short-term investment horizon. In effect, these institutional investors have high levels of portfolio turnover and diversification (Bushee 2001). Short-term investors tend to overweight the near term earnings component of value and underweight the long-term earnings component (Bushee

2001). Thus they focus on current accounting earnings which are easily quantifiable, and thus behave in a manner similar to arbitragers by constantly turning over their stock holdings in order to capitalize on short-term gains opportunities (Shleifer and Vishny 1990; Cespa 2002). Furthermore, becuase fund managers are evaluated quarterly and are under pressure to report good earnings (Graves and Waddock 1994), offloading poorly performing stocks is a common practice around these time points. Therefore, such investors may not be able or willing to afford long time horizons in their investment decisions (Porter 1992). Coupled with the short-term orientation of most public firms' managers and of U.S. financial markets overall (Donaldson 2003), high proportional ownership by short-term investors could potentially further skew these tendencies to the detriment of the firm and other shareholders.

For this research study, I focus on short-term oriented institutions, as they are more likely to react to relatively frequent events in the corporate business cycle, such as product introductions, thus representing the most managerially-relevant and readily observable subsection of institutional investors. As shown in Figure 2, they own a significantly larger percentage than long-term institutional investors. In fact, Bushee (2004) notes that short-term institutional investors owned over three times the number of shares as compared to long-term oriented institutions[3]. Hence, from a researcher's perspective, this investor group provides an appropriate study context, as it exhibits the highest variation in portfolio holding patterns over time. On the other hand, long-term oriented institutions tend to keep their portfolios relatively unchanged over time, thus making them less interesting and less managerially relevant to study. While, I focus on short-term institutional ownership in the main analysis, I conduct additional analysis with long-term institutional ownership and report it in the robustness checks section.

The Moderating Role of Short-Term Institutional Investors

I now present hypotheses about the moderating role of heterogeneity in institutional investor investment horizon on the impact of innovation on firm performance.

Breakthrough innovation and Firm Performance

Breakthrough innovations are defined as new products that are the first to bring novel and significant consumer benefits to the market (Chandy and Tellis 1998; Sorescu and Spanjol 2008). Breakthrough offerings have the potential to create whole new markets and thus capture a significant share of consumer spending. The initial market lead over competitive products may sustain for a significant period of time providing the innovating company a de facto monopoly position, and enabling it to capture higher margins than incremental products (Sorescu and Spanjol 2008). Empirical research suggests that the more innovative the product is, the more the financial market value it generates (Chaney, Devinney and Winer 1991; Sorescu, Chandy and Prabhu 2003; Sorecu and Spanjol 2008).

On the other hand, breakthrough innovations could lead to lower and more uncertain immediate cash-flows and thus lower firm value for the following reasons. First, breakthrough innovations requires significant investments in R&D and related processes (Moorman and Miner 1997) which could hurt near term cash flows. For example, the median cost for a pharmaceutical drug is $350 million with the average investment being over $800 million (Herper 2013) which could hurt the level of net cash-flows. Second, the failure rate for such new products is alarmingly high (Min, Kalwani and Robinson 2006), ranging from 33% to 60% (McMath and Forbes 1998), which would negatively impact the level and volatility of the cash-flows, thus mitigating firm value. Third, breakthrough products may require significant adaptations to consumer behavior. At the same time, communicating the relevant benefits of breakthrough innovations to the consumers may be challenging and expensive. Consumers may perceive such

innovative products as being riskier (at least initially), and thus delay their adoption (e.g., Sorescu and Spanjol 2008), which not only postpones cash inflows, but also increases the cash flow uncertainty for the firm. Fourth, even successful new products may not benefit the firm in terms of financial returns due to high costs of development and launch, and the threat of imitation by the competition, thus increasing the uncertainty of cash flows (Chaney, Devinney, and Winer 1991; Bayus, Jain, and Rao 1997).

The costs and challenges in development and launch, together with the likely longer-term and uncertain returns associated with breakthrough innovation do not align with the timely investment returns that short-term oriented investors seek for the following reasons. First, arbitrage (i.e., trading based on the knowledge that a firm's stock price is different from its fundamental value) is cheaper for investments that cannot be mispriced for too long (i.e. investments with short-term payoffs) than for investments that can. Investments with short (long) term pay-offs have more proximate (distant) cash flows. An arbitraging investor cares about when the mispricing of the claim to the investment disappears, so they can reap the rewards from the trade. Consequently, short-term oriented investors would value breakthrough products lower, as their long-term and uncertain pay-offs, are akin to investments, whose short-term mispricing is less likely to disappear in the near future than investments whose mispricing is likely to be resolved quickly (Shleifer and Vishny 1990).

Second, transient investors prefer quicker operational cash-flows and profits, rather than long-term dividend income or capital appreciation as such investors are subject to large near-term redemptions (Carleton, Nelson, and Weisbach 1998; Ramalingegowda 2014). This should be particularly the case with breakthrough product innovations, as such innovations provide slower and riskier cash-flows, at least in the initial periods after launch (Sorescu and Spanjol

2008). When a firm launches a breakthrough innovation, given its slower adoption cycle, short-term investors who undervalue long-term cash flows will trade out of the stock, weighting the stock price down from the overall positive reaction of the average investor (the stock market to breakthrough innovations, on average, is expected to be positive (Sorescu and Spanjol 2008)). Long-term investors are unlikely to step in and bid up the shares as they trade infrequently and adopt a buy and hold strategy. In other words, at least in the short-run, long-term investors are not inclined to step in at every price dip to increase their holdings. The stock at a lower new equilibrium is likely to be purchased by other optimistic short-term investors (Bolton, Scheinkman and Xiong 2006) or individual investors for whom this lower price is attractive. This occurs because of a fundamental principle of financial markets that investors have heterogeneous expectations of stock prices (Srinivasan and Hanssens 2009). Consequently, the potentially negative impact of the development, launch costs and challenges of breakthrough innovations on the level, speed, and volatility of cash flows is expected to be inimical to short-term institutional investors' arbitrage and quick redemption interests. Formally,

> *H1: An increasing proportion of short-term institutional ownership of a firm's stock mitigates the positive effect of breakthrough innovation on firm value.*

Incremental innovation and Firm Performance

Incremental innovation refers to new products which do not deliver novel and significant benefits (Sorescu and Spanjol 2008). Incremental innovations, as minor changes to existing products, typically do not enjoy patent protection and are easier to imitate. Moreover, because they offer no novel or significant consumer benefits, such products are likely to be priced competitively and generate no significant margins (e.g., Dixit 1980). Prior research has found that in most contexts, incremental innovation has little to no impact on firm value (Christensen 1997; Sorescu and Spanjol 2008).

On the other hand, firms must renew their product offerings on a consistent basis, as this process of incremental product innovations is necessary for their long-term survival (Chaney, Devinney, and Winer 1991). Recent empirical research shows that firm cash flows and future profitability are enhanced through such product introductions on a regular basis in the consumer packaged goods industry (Sorescu, Shankar, and Kushwaha 2007). Incremental products are likely to be adopted more quickly as they require little change in consumer behavior and firms can more easily communicate their attributes and benefits to consumers. Developing new products faster and getting them adopted quickly accelerates firm cash flows (Srivastava, Shervani, and Fahey 1998). Depending on the level of improvement over the previous version of a product, such incremental new product innovations also have the ability to increase the residual value of the firm (Srinivasan et al. 2009).

When I examine incremental innovation through the lens of short-term oriented institutional investors, I expect that value incremental innovations positively for the following reasons. First, because incremental innovations are less complex and less risky, they are likely to be adopted more quickly and produce speedier cash flows for the firm (Srivastava, Shervani and Fahey 1998). The cash flows are immediately reflected in stock prices reducing potential mispricing of the investment (Shleifer and Vishny 1990). This allows the short-horizon investors to reap their rewards more quickly and thus allowing them to handle redemptions from the buyers of their funds more efficiently (Yan and Zhang 2009).

Second, a key challenge with innovations is that the returns are in the future and thus more uncertain, while the costs are in the present and more certain. This trait enhances the difficulty of conveying the value of the innovation to investors, thus making it prone to adverse selection and financing by investors difficult (Hall and Lerner 2009). Incremental innovations

have more near-term returns and thus their value can be communicated to the stock market more easily (Ferreira, Manso and Silva 2013). Moreover, as these products require lower investments, they are less financially risky for the firm. These attributes would make them attractive to short-term investors, increasing their demand for the firm's stock and increasing their holding periods thus increasing the firm value. Taken together, given that short-term investors favor quicker and more certain cash flows, I expect that:

> *H2: An increasing proportion of short-term institutional ownership of a firm's stock positively moderates the effect of incremental innovation on firm value.*

METHODS AND ANALYSES PROCEDURES

Empirical Context

I test the hypotheses in two different industry contexts to enhance generalizability. I choose the consumer packaged goods (CPG) and pharmaceutical industries for the four reasons. First, these industries represent significant portions of the U.S. and global economy (the CPG sector is over $1 trillion and the pharmaceutical sector is $962.1 billion McKinsey Report 2012; IMS Health 2013). Second, both industries have a number of new product innovations (Sorescu, Chandy, and Prabhu 2003; Aboulnasr et al. 2008). Third, the categorization of breakthrough versus incremental innovations are provided by independent third parties in each of the two industries (the Federal Drug Administration for pharmaceutical products and Datamonitor for CPG products), thus eliminating any subjective biases if I classify the product launches ourselves. I am unaware of any other industry for which such a clear classification of innovation types is available. Furthermore, most prior studies on innovation have focused on single industries (Sood and Tellis 2009; Sorescu and Spanjol 2008; Pauwels, et al. 2004). Finally, a substantial portion of firm stocks (32.7% in CPG firms and 36.8% in pharmaceutical firms) is owned by institutional investors (Damodaran 2014).

Measures

I compile the data from multiple sources. Table 2 lists all variables, measures and data sources (descriptive statistics provided in Web Appendix A). The final sample includes an unbalanced panel of 92 firms spanning the period from 2000 through 2010 for the CPG industry, and 106 firms from 1993 through 2012 for the pharmaceutical industry.

New Product Introductions

I collect new product introduction data for the CPG industries from Product Launch Analytics database[4]. I follow Sorescu and Spanjol (2008) and use the product ratings provided by Product Launch Analytics in terms of innovativeness of each product to classify new product introductions as breakthrough or incremental (see Web Appendix B for a detailed explanation of the classification method). Breakthrough innovations in the CPG context are defined as new products that are the first to bring novel and significant consumer benefits to the market (Chandy and Tellis 1998). Such benefits could create entirely new markets or consist of new formulations or new technology. On the other hand, incremental innovations are new products which do not deliver novel and significant benefits.

For the pharmaceutical industry, I obtain data from the Food and Drug Administration (FDA) website which contains innovativeness rankings for each new drug compound. I collect the data for each new drug and code them as either *radical (breakthrough henceforth)* or *incremental* according to the FDA's drug classification guidelines and consistent with prior research (Sorescu, Chandy, and Prabhu 2003). Specifically, following Chandy and Tellis's (1998) taxonomy, breakthrough (incremental) innovations are (1) high (low) on incorporating new technology and (2) high (low) on fulfilling key customer needs than existing products. I follow Sorescu, Chandy and Prabhu (2003) and operationalize innovations that use a new

(updated) molecular entity and have high (low) therapeutic potential and thus receive a priority (standard) review from the FDA as breakthrough (incremental) innovation. I use FDA drug approvals synonymously with new product introductions, as the impact on pharmaceutical firms' performance is higher in magnitude for development activities (i.e. FDA approvals) than commercialization activities (i.e. the actual product launch) (Sood and Tellis 2009). Therefore, using approvals is more appropriate in my case as it reflects a larger variation in the response variables of choice.

The data from both the industries appear consistent with the prior findings of the innovation literature that firms launch both breakthrough and incremental innovations and do not specialize in either one (Bayus and Putsis 1999; Kanter 2006; Varadarajan 2009). In line with prior research (Sorescu, Chandy and Prabhu 2003) and with my CPG sample (see also Sorescu and Spanjol 2008), I find that the more innovative firms in the pharmaceutical sample (the top quartile of firms) also tend to make more incremental improvements to their product lines (over three times more likely), than their less innovative industry peers. I use the absolute count of new product introductions by type (breakthrough and incremental), consistent with prior research in similar contexts (Soresu and Spanjol 2008).

Firm Value

I use Tobin's q as the primary measure of firm value. I employ two alternative measures of firm value, Fama-French abnormal returns (AR), and buy-and-hold abnormal returns (BHAR) upon product introductions (for details see the robustness checks section). Tobin's q is a widely-used measure of firm value in marketing research (e.g., Sorescu and Spanjol 2008; Dotzel, Shankar, and Berry 2013; Rego, Morgan, and Fornell 2013). Because it is based on stock prices, Tobin's q is inherently forward looking and risk adjusted, as the market value of the firm (i.e. the

numerator) is the discounted value of the future cash flows, and the discount rate used to arrive at the present value of such cash flows reflects the risk adjustment (Chung & Pruitt 1994; Perfect and Wiles 1994). Firms' product innovations provide both intangible and tangible signals to investors, and affect firm financial performance in diverse ways for multiple periods into the future. Because Tobin's q reflects the market's expectations of the firm's future performance, it is more responsive to such strategic signals and better captures their impact over multiple years than any single measure of a firm's annual performance (e.g. sales, profits, cash flows) (Lee and Grewal 2004). Following Chung and Pruitt (1994), I calculate Tobin's q as:

$$TQ_{i,t} = (MVE_{i,t} + PS_{i,t} + DEBT_{i,t}) / TA_{i,t} \quad (1)$$

where MVE is the closing prices of shares at the end of the financial year multiplied by the number of common shares outstanding, PS is the liquidation value of outstanding preferred stock, DEBT = (current liabilities – current assets) + (book value of inventories) + (long-term debt), and TA is the book value of total assets.

Short-Term Institutional Investor Ownership

I use Bushee's (2001) measures of SEC rule 13f investors' investment horizon to categorize institutional investors. He classifies institutional investors into groups by drawing on the specific characteristics of investment horizons that are expected to increase the pressure on managers toward either a short or long-term orientation in investment decisions. My use of the investor type classification system is consistent with its prior implementation in empirical accounting research (Dikolli, Kulp, and Sedatole 2009; Akins, Ng, and Verdi 2012; Brochet, Loumioti, and Serafeim 2012). The classification system uses institutions' expected investment horizons for each quarter, by first conducting a principal factor analysis, followed by a k-means cluster analysis to place institutions into groups based on a number of variables previously

determined to describe institutional investor trading behavior. In the case of the short-term investors, the main differentiating factors from other institutions are the significantly higher portfolio turnover and the highly diversified nature of the portfolio holdings. By contrast long-term investors are of two types, dedicated and quasi-indexers, and both follow a buy-and hold strategy, trade infrequently and differ on the number of companies in their portfolio. Consistent with prior accounting research, I measure the proportional ownership by short-term institutional investors using the percentage of outstanding stock they own in each investee firm at the end of each fiscal year. For details on the measurement of the short term investor ownership, please refer to Web Appendix C.

Controls

I control for firm marketing intensity (measured by the ratio of SG&A less R&D to total sales), because marketing helps communicate and appropriate the value created through innovation (Mizik and Jacobson 2003).I further control for firm size because it reflects the economies of scale (Pauwels et al. 2004; Srinivasan et al. 2009; Sorescu and Spanjol 2008). Consistent with prior literature (e.g., McAlister, Srinivasan, and Kim 2007), I also control for return on assets (ROA) as a measure of past accounting performance, and R&D intensity as a control for firm level propensity to fund innovation.

Models and Estimation Procedure

Using annual data, I specify the firm value (Tobin's q) model as follows (I also replicate the analysis using quarterly data as a robustness check):

$$TQ_{i,t} = \beta_0 + \beta_1 TQ_{i,t-1} + \beta_2 BI_{i,t} + \beta_3 II_{i,t} + \beta_4 STINV_{i,t} + \beta_5 AD_{i,t} + \beta_6 BI_{i,t} \times STINV_{i,t} + \beta_7 II_{i,t} \times STINV_{i,t} + \beta_8 SIZE_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} RND_{i,t+} \beta_{11} MKG_{i,t} + u_i + e_{i,t} \quad (2)$$

where $TQ_{i,t}$ = Tobin's q for firm *i* in year *t*,
$BI_{i,t}$ = number of breakthrough innovations for firm *i* introduced in year*t*,

$II_{i,t}$ = number of incremental innovations for firm *i* introduced in year *t*,
$STINV_{i,t}$ = percentage of transient institutional investors present in the investor base of firm *i* at the end of year *t*,
$SIZE_{i,t}$ = size of firm *i* in year *t*, measured as the log of firm sales,
$ROA_{i,t}$ = return on assets of firm *i* at the end of year *t*,
$RND_{i,t}$ =R&D intensity for firm *i* in year *t*, and
$MKG_{i,t}$ = marketing intensity for firm *i* in year *t*.

The inclusion of the lagged dependent variable also controls for inertia, persistence, and different initial conditions (see Mizik and Jacobson 2004). The endogeneity between institutional investor ownership and Tobin's Q presents a challenge in estimating Equation (2). One possible solution is to employ instrumental variables, which have to be correlated with endogenous variable but not the dependent variable. However, in the literature, variables that have been shown to predict institutional investor ownerships are also predictors of firm stock value (see Bushee and Noe 2000). As a result, it is very difficult to find external instruments to estimate Equation (2). Hence, I adopt the system generalized method of moments (GMM) approach (Blundell and Bond 1998) which has been widely employed by prior marketing studies when external instruments were not a feasible option (e.g., Yoganarasimhan 2012; Mukherji et al. 2011; Rego, Morgan, and Fornell 2013). I employ the vector autoregression (VAR) approach as an alternative estimation method and present the results in the Additional Analysis section.

Below I specify the moment conditions for the first-differenced equation (Equation 3) and the level equation (Equation 4). Taking the first difference of Equation (2),

$$\Delta TQ_{it} = \beta_1 \Delta TQ_{i,t-1} + \gamma' \Delta X_{it} + \Delta e_{it} \quad (3),$$

where Δ represents first difference, X is the vector of independent variables and γ is the vector of their coefficients. After first differencing of Equation (2), Equation (3) no longer contains the unobserved firm-specific effects (u_i). Note that, $\Delta TQ_{i,t-1}$ is now correlated with the error term Δe_{it}, even if e_{it} is serially uncorrelated[6]. However, as long as E ($e_{i,t-1}$, $e_{i,t-2}$)=0, Δe_{it} is

uncorrelated with $TQ_{i,t-k}$ or $X_{i,t-k}$ for any $k \geq 2$ (since $\Delta e_{it} = e_{it} - e_{i,t-1}$ and does not contain the element of e_{it-2}; for detailed justifications see Anderson and Hsiao 1981; Yoganarasimhan 2012). This makes $TQ_{i,t-k}$ and $X_{i,t-k}$ ($k \geq 2$) good instruments for Equation (3) because they are correlated with the lagged dependent variable and the endogenous independent variables but uncorrelated with the error term. The two moment conditions for Equation (3) can thus be specified as $E(TQ_{i,t-k} \cdot \Delta e_{it}) = 0$ and $E(X_{i,t-k} \cdot \Delta e_{it}) = 0$ for $k \geq 2$. Importantly, as mentioned above, these moment conditions only require $E(e_{i,t-1}, e_{i,t-2}) = 0$, which can be tested by the AR2 test suggested by Arellano and Bond (1991). The AR2 test results (which I will present later) confirm the validity of the instruments for the first-difference equation.

I treat Equation (2) in its original format as a level equation and rewrite it for the ease of exposition:

$$TQ_{it} = \beta_0 + \beta_1 TQ_{i,t-1} + \gamma' X_{it} + u_i + e_{it} \quad (4),$$

where X is the vector of independent variables and γ is the vector of their coefficients. For any $k \geq 1$, since both $TQ_{i,t-k}$ and its lag $TQ_{i,t-k-1}$ contain the time-invariant u_i term, $\Delta TQ_{i,t-k}$ is independent of $(u_i + e_{it})$. At the same time, $\Delta TQ_{i,t-k}$ is correlated with $TQ_{i,t-1}$ and X_{it}. Similarly, I can show that $\Delta X_{i,t-k}$ is correlated with $TQ_{i,t-1}$ and X_{it} but unrelated to $(u_i + e_{it})$ for all $k \geq 1$. Therefore, $\Delta TQ_{i,t-k}$ and $\Delta X_{i,t-k}$ ($k \geq 1$) are good instruments for Equation (4). This leads to the two sets of moment conditions for Equation (4): $E[\Delta TQ_{i,t-k} \cdot (u_i + e_{it})] = 0$ and $E[X_{i,t-k} \cdot (u_i + e_{it})] = 0$ for $k \geq 1$. The system GMM estimators can be derived by stacking the moment conditions of Equation (3) and (4). I test the overidentifying restrictions with Sargan tests. To correct for the bias in standard errors estimated from two-step GMM, I estimate robust standard errors following Windmeijer (2005).

RESULTS

At the outset, multicollinearity does not appear to be an issue in the models, as all variance inflation factors (VIFs) are less than 10. The Sargon test examines the validity of the instruments. Across models, I fail to reject the null hypotheses (overidentification restrictions are valid) for the Sargon test. Thus, the instruments used in the estimation appear valid. The Arellano-Bond AR2 tests examine the assumptions in the momentum conditions and the results confirm that my models are not misspecified, i.e., the tests present no evidence of serial correlation in the error terms (in all the models, the p-values indicate that I cannot reject the null of no serial correlation).

Effects on Tobin's q in the CPG and Pharmaceutical Industries

The left panel of Table 3 presents the results from estimating Equation (2) for the CPG sample. The main effects of breakthrough innovation on Tobin's q, in line with prior research, is positively and significantly related to firm value (β_2 =.0375, p <.01). Consistent with my expectation in H1, the interaction effect between breakthrough innovation and the ownership by short-term investors is negative and significant (β_6 = -.0018, p <.05), while that between incremental innovation and short-term investors is positive and significant (β_7 = .0011, p <. 10), supporting H2. The results support my theoretical expectation that short-term investors value incremental innovation positively and breakthrough innovation negatively.

The right panel of Table 3 presents the results from estimating Equation (2) for the pharmaceuticals industry sample. The main effects of both innovation variables are positively associated with Tobin's q: breakthrough (β_2 =1.024, p <.05), and incremental (β_3 =. 2991, p <.01). Consistent with my expectation in H1, the interaction effect between breakthrough innovation and ownership by short-term investors is negative and significant (β_6 = -.0298, p < .10), while that between incremental innovation and short-term investors is positive and

significant (β_7 = .0121, p <.10), supporting H2. Thus, results from the pharmaceutical industry are consistent with those from the CPG industry and provide further support for my hypotheses.

I plotted the two interaction effects in Figure 3, in order to visually identify the relationship of each type of innovation on firm performance (Tobin's q), at a given level of short term institutional investor ownership. Figure 3-A shows that firms that produce a high number of breakthrough innovations and also have a high degree of short-term institutional investor ownership, experience diminished firm performance. In contrast, Figure 3-B indicates, that a high level of incremental innovations and a high degree of short-term institutional investor ownership enhances firm performance.

Sensitivity Analyses

It is likely that the relationships between innovation type, institutional investors, and firm value could be more complicated than what I proposed in the hypotheses (i.e., a simple moderating effect). An argument could be made that institutional investors may self-select to invest into firms with innovation strategies that match their investment horizon, thus eliminating the possibility that investor composition moderates the impact of innovation type on firm value. In other words, a firm that specializes in breakthrough innovations would largely attract long-term horizon institutional investors (leading to a high portion of long-term institutional ownership) and detract the short-term investors. Thus, the investor ownership composition of the innovating firm should not have any impact on its performance in the stock market.

In order to address this competing explanation of self-selection, I undertake the following tests. First, I find that the percentage of ownership by long-term investors does not change much over the course of the study, while the ownership by short-term investors has increased markedly over the same time period (Figure 2). Second, I conduct fixed effects panel regressions by

industry, using the ownership by short (long)-term institutions as a dependent variable, in order to test whether institutional ownership is driven by the type of innovation (modeled as one period lag of innovation count). Table 4 (Panel A) shows that neither breakthrough nor incremental innovations launched in period t-1 are associated with ownership by short-term investors in period t in both samples. As shown in Panel B, incremental innovation by firms at time t-1 does not lead to a decline of long-term investors in time t.

Third, I examine whether firms that introduce a greater number of breakthrough innovations than their industry peers have a different investor ownership composition compared to those firms that introduce an above industry average number of incremental innovations. As reported in Web Appendix E Table E1, firms that introduce breakthrough innovations above the industry median do not have a different institutional ownership composition from firms that introduce an above industry median level of incremental innovations. Thus, I do not find any significant differences in institutional ownership composition across types of innovation. In other words, I do not observe any evidence that short-term or long-term investors self-select to invest in firms based on innovation type.

Another alternative explanation is reverse causality, when changes in a firm's institutional investor composition might influence the firm's product launch decisions. In order to empirically explore this alternative mechanism, I conduct a vector autoregression (VAR) analysis (as specified in Equation 5) for each firm with sufficient data in my sample. The VAR model treats all variables in the system as endogenous, and can thus estimate the feedback effect between any pair of variables (e.g., the effect of short-term institutional investor ownership on innovation type):

$$v_t = \sum_1^L \Gamma_l v_{t-l} + u_t \quad (5)$$

where,

v_t = vector of all endogenous variables including Tobin's q, new product introductions, advertising and interactions;
v_{t-l} = the vector of the endogenous variables lagged *l* periods;
Γ_l = matrix of coefficients;
u_t = the error term.

I can then estimate the impulse response function, which tracks the effects of one unit of shock (standard deviation) on any variable in the VAR system (e.g. % of short-term institutional ownership) on all the other variables. I am interested in the change in short-term investor ownership on the types of new product innovation, as well as in changes in innovation type on the change in investor type relationships, which, if applicable, would provide evidence for an alternative underlying mechanism at work. As reported in Table 5, I model the effect of innovation type on the short-term investor ownership and do not find a significant association between the two. This result is consistent with recent research in economics which also finds that investors do not self-select into firms based on innovation (see Aghion, Van Reenen and Zingales 2013). Moreover, I do not find significant evidence for the alternative mechanism behind the stock market effect, namely the mediated effect of institutional investor ownership (i.e., innovation → institutional investor ownership change → stock price). Overall, across alternative models and tests, I am unable to find any evidence that short-term or long-term institutional owners select firms to invest in based on the firms' innovation type. Hence, the moderating effect model, as proposed, appears to be the most plausible explanation.

Robustness Checks

To further validate the results, I conduct robustness checks using alternative modeling approaches and measures. First, instead of modeling Tobin's Q, I examine the abnormal stock returns (AR) on the day of product introduction, and employ a long-horizon event study approach which captures firm value change using buy-and-hold abnormal returns (BHAR) for

product introductions in the pharmaceuticals industry only. I limit this analysis to the pharmaceutical industry because I have reliable approval dates as they are posted on the FDA website. For CPG industry, I do not have accurate data on the exact dates of launch.

I calculate abnormal returns (AR) upon product introductions as the first robustness check (details of calculating the abnormal returns using the Fama-French/Carhart four factor model are provided in Web appendix D). In terms of estimation, I compute the abnormal returns of firm *i* for the day each product *j* is introduced, and estimate the model below:

$$AR_{i,j} = \alpha_0 + \alpha_1\ IDUM_{i,j} + \alpha_2\ STINV_{i,j} + \alpha_3\ IDUM_{i,j} \times STINV_{i,j} + \alpha_4\ \log(MVE_{i,j}) + \alpha_5 \log(BMV_{i,j}) + \alpha_6\ \log(ROA_{i,j}) + \alpha_7\ \log(SALES_{i,j}) + \alpha_8\ RND_{i,j} + \sum \gamma_s Year_s + e_{i,j} \quad (6)$$

where,

$IDUM_{i,j}$ = dichotomous variable taking on the values of 1 if the product *j* introduced by firm *i* is breakthrough, and 0 if incremental,
$STINV_{i,j}$ = short-term institutional investors ownership,
$MVE_{i,j}$ = market value of equity of firm *i* during the year product *j* is introduced,
$BMV_{i,j}$ = book-to-market ratio of firm *i* during the year product *j* is introduced,
$ROA_{i,j}$ = return on assets of firm *i* during the year product *j* is introduced,
$SALES_{i,j}$ = firm sales of firm *i* during the year product *j* is introduced,
$RND_{i,j}$ = R&D intensity of firm *i* during the year product *j* is introduced, and
$Year_s$ = year dummy to account for time fixed effects.

In addition to AR, I also calculate long-term buy-and-hold abnormal returns (BHAR) upon product introductions for a period of one year following each product introduction. I follow Barber and Lyon (1997) to compute BHAR after firm *i*'s introduction of project *j* as:

$$BHAR_{i,j} = \Pi_{m=1}^{12} (1 + R_{i,j,m}) - \Pi_{m=1}^{12} (1 + R_{p(i,j,m)}) \quad (7)$$

where m = 1, 2, 3, … 12 is each calendar month within the year after the launch of product *j*; $R_{i,j,m}$ is the stock return of sample firm *i* in month *m*; and $R_{p(i,j,m)}$ is the return of a control portfolio *j* that includes all stocks of the same size, book-to-market, and momentum quintiles as firm *i* at the beginning of month *m*. I then explain the variation in BHAR using the model:

$$BHAR_{i,j} = \alpha_0 + \alpha_1\ IDUM_{i,j} + \alpha_2\ STINV_{i,j} + \alpha_3\ IDUM_{i,j} \times STINV_{i,j} + \alpha_4\ \log(MVE_{i,j}) + \alpha_5 \log(BMV_{i,j}) + \alpha_6\ \log(ROA_{i,j}) + \alpha_7\ \log(SALES_{i,j}) + \alpha_8\ RND_{i,j} + \sum \gamma_9 Year_s + e_{i,j}\ , \quad (8)$$

where all the independent variables and controls are the same as in equation (6). Note, that the control variables in equations (6) and (8) differ from those in equation (2) due to the different dependent variables used. Namely, I use the market value of equity and firm sales as alternative proxies for firm size, as the larger the firm, the more innovations it is expected to introduce (Pauwels et al. 2004), and the book to market ratio, which has been associated with long-run stock returns (Rau and Vermaelen 1998). I estimate models 6 and 8 similar to Sood and Tellis (2009), and compute cluster robust standard errors because each firm may introduce a number of new products in a given time period. As reported in Table 6 panels A& B , I observe negative and significant effects of the interaction between short-term investor ownership and breakthrough new products for both AR (α_3 = -.0006, p < .10) and BHAR (α_3 = -.0186, p < .10). In sum, consistent with the main analysis on Tobin's q, results from the AR and BHAR models provide further support that short-term institutional investor ownership negatively moderates the impact of innovation type on firm value, in the pharmaceuticals industry.

Next, I use an alternate measure of institutional investor ownership (instead of short-term investor ownership), namely the proportional ownership by long-term oriented (i.e. "dedicated") investors. These institutional investors follow a buy and hold strategy and thus exhibit very low portfolio turnover and diversification. In essence they are on the opposite end of the investor horizon continuum from the short-term investor group (for details, see Web Appendix C). Therefore, I expect that my earlier findings would *reverse* when I use this long-term investor group instead. As reported in the top panel of Table 7, I find that, with this alternative measure, my results are largely robust for both industries. I find that long-term investors devalue incremental innovation, but value breakthrough innovation.

Finally, I employ quarterly data to re-estimate the Tobin's q model specified in Equation (2) for the CPG industry. I could not replicate this analysis for the pharmaceutical industry sample as the data on product innovation on a quarterly basis was too sparse for reliable analysis. The results reported in the bottom panel of Table 7, are consistent with those from the annual data analysis, (i.e.,) the moderating effect of an increasing ownership by short term investors is associated with a decrease in Tobin's q (β_6 = -.5807, $p < .10$) for breakthrough innovations, and the effect is reversed for incremental innovations (β_7 = .0962, $p < .05$).

DISCUSSION

While demonstrating the financial market impact of marketing assets and actions has been of interest to marketing academics over the past decade, the literature has treated investors as a monolithic entity. In contrast, the practitioner oriented publications (Porter 1992; Martin 2010), studies by the Conference Board (2006), and a well-cited survey of CFOs (Graham, Harvey, and Rajgopal 2005) have recognized the importance of institutional investors and bemoaned them as short-term oriented. In fact, the Aspen Institute in 2009 issued a call signed by industry leaders and leading academics to overcome short-termism with more patient capital to encourage more long-term oriented investments. In reality, investors are neither homogenous, nor only short-term oriented in their investment preferences. This study contributes to the theory and practice of marketing by examining how institutional investors' investment horizon differences moderate the impact of investee firms' innovation strategies on firm value. To the best of my knowledge, this is among the first wave of research in marketing to incorporate the heterogeneity in institutional investor type into an examination of the financial market response to strategic marketing actions. The empirical method accounts for unobserved firm fixed-effects,

addresses endogeneity of innovation and investor type, and the results are robust to alternative explanations, measures, and samples.

Theoretical Contribution

This study contributes to the literature on the marketing-finance interface by identifying and empirically testing an important and novel contingency variable that significantly affects the returns to firms' product innovation efforts. Indeed, I believe that the study is positioned at an interesting and important intersection of research subfields in marketing strategy, accounting, and finance (see Figure 1). Namely, I enrich prior research in the marketing-finance interface by contributing to related but previously disparate subfields within marketing and finance: (1) the external impact of the financial market on marketing strategy, and (2) the role of institutional investors in influencing firm value. In the process, the study pioneers the importance of incorporating a firm's institutional investor base in marketing strategy research and identifying the important differences between investor horizons that impact firms' marketing and innovation strategies. This is critical, as prior research in marketing has treated the investor base of a firm as a homogenous group and has largely ignored the different types of investor groups that make up the owners of most public companies. As I demonstrate in the current study, the heterogeneity across investor groups is an important consideration, as it affects firms' product innovation strategies in a significant manner.

The study thus advances the *marketing-finance literature*, which has to this point focused mainly on the main effect of marketing actions, by introducing a new contingency factor. Theoretical developments in any emerging field happen by going beyond simple main effects to a mid-range theory development stage by the introduction of contingency variables (Zeithaml, Varadarajan and Zeithaml 1988). Thus the study also contributes to marketing strategy by

recognizing the importance of modeling investor horizon heterogeneity for models estimating firm value. This is important, as consumer heterogeneity has long been recognized in the literature on consumer response to marketing mix actions (e.g., Chintagunta, Jain, and Vilcassim 1991) and consumer behavior research (Hutchinson, Kamakura and Lynch 2000). In a similar fashion, I show that if investor horizon differences are ignored, the estimates of the effects of marketing actions may be biased.

The literature on new product innovation in marketing, management and economics has had a long history. The findings have been mixed and existing studies failed to account for the heterogeneity in investor type. This study contributes to this stream of research as it points to the asymmetric valuation of new product innovation type by institutional investors of different investment horizons. Because innovation requires risk taking and breakthrough innovation is more risky, firms may be prone to introducing incremental products as managers feel the pressure of quarterly returns. This study suggests that such views need to be re-examined in the context of short (long)-term investors valuing incremental (breakthrough) products and punishing (rewarding) firms with stock price declines (increases) when they launch breakthrough (incremental) products. Moreover, the novel findings that breakthrough innovations in firms could hurt firm value in some contexts, is in contrast to prior research that finds that breakthrough innovations increase firm value (Sorescu, Chandy and Prabhu 2003; Sorescu and Spanjol 2008). Unlike these prior studies which only focused on the main effect, my study examined the moderating role of investor type and find that when the horizons of the investment (incremental products) and the investor type (short-term) are aligned, the results in terms return are favorable; and if they are misaligned (breakthrough products and short-term investors), the

results are unfavorable. Thus the fit between firm marketing strategy and investor horizon seems to be an important theoretical contribution.

Managerial Implications

The significant influence of institutional investors on the financial outcomes of firms' innovation and marketing strategies supports the call for a detailed managerial analysis of investor relations practices. In addition, this study mitigates concerns in practitioner literature that investors are universally short-term oriented and thus influence managers to behave in a myopic manner. I identify five implications for practice. First, marketing managers and C-level executives must become keenly aware of the make-up of the institutional investor ownership in their companies, in order to better manage their marketing innovation strategies for optimal financial performance. Indeed, the results demonstrate and imply that CMOs and other senior management of the firm may ignore this important shareholder base variable to their own detriment. In particular, management must be aware that the impact of a firm's new product strategy on the financial market performance is influenced (moderated) by the investment horizon of the firm's institutional investor base. Second, because the institutional investor base and their investment horizons are public knowledge, it is incumbent on senior management to (1) make strategic decisions by taking into account this information and attempt to clearly communicate their intended product innovation strategy to institutional investors and the financial markets overall, (2) attempt to persuade or educate the institutional investors about these strategic decision horizons, even more so, in the presence of a time horizon *mismatch* between the firm's intended strategic direction and the institutional investors' investment horizon, and (3) attempt to time, or "ratchet" new product introductions (Moorman et al. 2012), as yet another tool to limit the negative effects.

Third, managers must also carefully explore options to framing their disclosure of product innovation strategy in firm information releases and in particular during earnings calls with analysts. Voluntary disclosure and management forecasts are another tool that should be leveraged to market to the shareholder base. In contrast to oft-held views that disclosure might put a firm at a competitive disadvantage, I would suggest that it can better align investor expectation about the firm's marketing investment strategy. This reduction in information asymmetry should lead to higher share prices.

Fourth, some European countries are evaluating a proposal for providing loyalty shares to institutional investors to encourage a long-term oriented strategy. These loyalty shares enable such long-term investors to have the rights to purchase shares in the future at a discounted price (Bolton and Samama 2012). Such a proposal, if implemented, should increase long-term investor ownership and should encourage firms to follow up with value creating long-term strategies such as breakthrough innovation.

Finally, an investor loyalty strategy has implications for preventing managerial short-termism (i.e. myopic behavior), especially when long-term oriented institutional investors make up a large portion of a firm's shareholder base. An avenue for the board of directors and senior managers to reduce the temptations and tendencies for managerial marketing myopia (Mizik 2010) may be to incorporate a shareholder base type metrics which analyze the different types of institutional investors present at any given time. Such analysis could potentially better inform product innovation strategies, and contribute to more proactive investor relations.

As with any study, several limitations of this research paper must be acknowledged. My study bases its conclusions from a sample of firms from two industries (i.e. CPG and pharmaceutical), and thus some of the results may not be generalizable to other settings.

However, this practice is consistent with other studies of the marketing-finance field (e.g. Srinivasan et al. 2009; Sorescu and Spanjol 2008), where the authors concentrated their work in the automobile and CPG, respectively. Moreover, previous research finds few industry specific effects of innovation (Rubera and Kirca 2012; Sethuraman, Tellis and Briesch 2011).

Another potential limitation, as well as a direction for future research is the use of a single-source of product innovativeness rankings (i.e., Product Launch Analytics for the CPG industry). I partially mitigate this limitation by also using the pharmaceutical industry database, which provides an alternative source of innovativeness rankings. Moreover, including a quality variable to my dataset could add additional model power to explain firm value. Finally, consistent with the finance literature, I assume that such investors are more sophisticated than the average investors (Cohen, Gompers, and Vuolteenaho 2002; Nagel 2005), and therefore understand the implications of firm innovation strategies. This assumption needs further testing.

My results appear to suggest that when there is a misfit between the investment horizon of the institutional investor composition and the firm's current innovation strategy, trading by incumbent misaligned institutional investors is purchased by the other investors (perhaps including non-incumbent investors with similar investment horizon) when the stock reaches a new lower equilibrium. While this is consistent with the fundamental premise that investors have heterogeneous expectations about a company's future earnings which motivate them to trade (Srinivasan and Hanssens 2009), the data available on institutional investor ownership is aggregate (at a quarterly level) to test this expectation directly. When data of institutional investor composition are made available at a higher frequency, (e.g., on a daily basis), this expectation can be tested.

TABLES

Table 1

PRIOR RESEARCH, EFFECTS OF INNOVATION ON FIRM FINANCIAL PERFORMANCE

Study	***Performance Metric***	***Effect of Innovation***
Kendall et al. (2010)	Return on Assets	Negative relationship between patents and return on assets.
Menguc and Auh (2006)	Performance scale	Negative main effects of innovation.
Sorescu, Shankar, and Kushwaha (2007)	CAR	Innovativeness of new products has no effect on short-term abnormal returns around preannouncement dates.
Geroski, Machin, and Van Reenen (1993)	Profit Margin	New product introductions have small direct effects on firm profitability.
Eddy and Saunders (1980)	CAR	Main effects of innovation metrics on abnormal returns are non-significant.
Lee and Chen (2009)	CAR	Main effect of innovation shows a U shaped pattern.
Chaney et al. (1991)	CAR	New product introduction announcements generate small excess stock returns for a few days.
Sorescu, Chandy, and Prabhu (2003)	NPV	Financial rewards of innovation vary across firms and are tied to firms' resource bases.
Pauwels et al. (2004)	Revenue, Net Income	New products have a positive impact on firm performance measures.
Sorescu and Spanjol (2008)	Tobin's q, BHAR	Breakthrough innovations have a positive effect on firm profitability and on total risk, incremental innovations have marginal impact on profit and no effect on risk.
Rao, Chandy, and Prabhu (2008)	CAR	New product introductions have positive effect on firm performance.

Table 2
VARIABLES AND DATA SOURCES

Variable	***Notation***	***Measure***	***Data Source***
Tobin's q	$TQ_{i,t}$	Market value of equity + liquidating value of preferred stock + current liabilities – current assets + book value of inventories + long-term debt)/ book value of total assets for firm *i* in year *t*	CRSP, COMPUSTAT
Abnormal Returns	AR_i	Fama-French + momentum abnormal returns on the day of product introduction/announcement	CRSP, COMPUSTAT
Buy-and-Hold Abnormal Returns	$BHAR_i$	Buy-and-hold abnormal returns for a1 year period starting on day of product introduction/announcement	CRSP, COMPUSTAT
Incrementally Innovative New Products	$II_{i,t}$	Firm level count of incremental innovations	Product Launch Analytics, FDA NDA database
Breakthrough New Products	$BI_{i,t}$	Firm level count of breakthrough innovations	Product Launch Analytics, FDA NDA database
Innovation Dummy	$IDUM_{i,t}$	Indicator variable, equals 1 if innovation is classified as breakthrough, 0 otherwise	
Short-term Institutional Investors	$STINV_{i,t}$	Percentage of short-term institutional investors in firm *i*	Brian Bushee's website and COMPUSTAT
Firm Size	$SIZE_{i,t}$	Natural log of total firm sales for firm *i* in year *t*	COMPUSTAT
R&D Intensity	$RND_{i,t}$	The ratio of R&D to total sales for firm *i* in year *t*	COMPUSTAT
Marketing Intensity	$MKG_{i,t}$	The ratio of SG&A less R&D to total sales for firm *i* in year *t*	COMPUSTAT
Return on Assets	$ROA_{i,t}$	The ratio of income before extraordinary items to total assets for firm *i* in year *t*	COMPUSTAT
Book-to-market Ratio	$BMV_{i,t}$	Ratio of the book value to market value of equity for firm *i* in year *t*	COMPUSTAT
Market Value of Equity	$MVE_{i,t}$	The price per share of common equity x number of shares outstanding for firm *i* in year *t*	COMPUSTAT, CRSP

Table 3

INNOVATION TYPE AND SHORT-TERM INSTITUTIONAL OWNERSHIP: EFFECTS ON TOBIN'S Q, BLUNDELL-BOND SYSTEMS GMM MODEL, ANNUAL DATA

	CPG Industry			***Pharma Industry***		
Variable	***Main Effects Model***	***Main Effects Model***	***Interaction Effects Model***	***Main Effects Model***	***Main Effects Model***	***Interaction Effects Model***
Dependent Variable $_{(t-1)}$	.4306***	.4556***	.4545**	.5303**	.5326**	.5274***
Short-Term Institutional Investor Ownership		-.0063	-.0004		-.0229**	-.0222*
Breakthrough Innovations	.0445***	.0402***	.0375***	.8505*	.8821**	1.0240**
Incremental Innovations	.0005	-.0008	-.0074	.3081***	.2564**	.2991***
Short-Term Investor Ownership X Breakthrough Innovations			**-.0018****			**-.0298***
Short-Term Investor Ownership X Incremental Innovations			**.0011***			**.0121***
Firm size	-.1263***	-.0940***	-.1014***	.1082	.0306	-.0395
ROA	.0843***	.0791**	.0742**	1.2007	1.6417*	1.5963
R&D Intensity	3.2694***	2.4869***	2.5936**	1.0021*	.9538*	.8625
Marketing Intensity	1.0389***	1.0079***	1.0137***	-.0001	-.0001	-.0135
Number of Observations	622	622	622	897	896	896

Note: *** $p < .01$, ** $p < .05$, * $p < .10$. Significance levels of the main effects are based on two-tailed tests, and those of the interaction effects are based on directional one-tailed tests.

Table 4

TESTING FOR SELF-SELECTION IN INVESTOR TYPES, BY INNOVATION, PANEL FIXED EFFECTS REGGRESSIONS

A: Dependent Variable: Short-Term Institutional Investor Ownership %

	CPG Industry			*Pharmaceuticals Industry*		
Variable	***Coefficient***	***Robust SE***	***p-Value***	***Coefficient***	***Robust SE***	***p-Value***
Long-Term Investor Ownership$_{t-1}$	.2724	.1954	.164	.1434	.0827	.083
Breakthrough Innovations$_{t-1}$	-.0974	.1442	.500	1.8212	1.1292	.108
Incremental Innovations$_{t-1}$	.0035	.0041	.394	.2301	.4545	.613
Size	.4992	.9201	.588	1.7147	.5919	.004
ROA	-7.6192	4.0101	.064	-8.0977	8.2594	.327
R-Squared	0.03			0.05		
Time Fixed Effects	YES			YES		
Number of Observations	3,470			484		

B: Dependent Variable: Long-Term Institutional Investor Ownership %

	CPG Industry			*Pharmaceuticals Industry*		
Variable	***Coefficient***	***Robust SE***	***p-Value***	***Coefficient***	***Robust SE***	***p-Value***
Short-Term Investor Ownership$_{t-1}$	-.0136	.007	.052	.0327	.0091	.000
Breakthrough Innovations$_{t-1}$	-.0018	.0241	.940	.1732	.2271	.446
Incremental Innovations$_{t-1}$	-.0006	.0007	.398	**.1964**	**.0912**	**.032**
Size	-.3609	.1525	.018	-.5168	.1195	.000
ROA	1.1232	.6816	.100	-3.9036	1.6764	.020
R-Squared	.02			.37		
Time Fixed Effects	YES			YES		
Number of Observations	3,470			484		

Table 5
ADDITIONAL ANALYSIS:
ESTIMATING THE FEEDBACK EFFECTS BETWEEN INNOVATION TYPE AND INSTITUTIONAL INVESTOR COMPOSITION USING THE VAR MODEL

Impulse	***Impact on Response Variable***	***Effect***	***Impact Size*** [a]	***90% Confidence Interval***	
Change in the % of Short-Term Institutional Investor Ownership	Breakthrough Innovations	Immediate	.0408	(-.2361,	.4345)
		Cumulative	-.0258	(-5.4554,	5.4146)
Change in the % of Short-Term Institutional Investor Ownership	Incremental Innovations	Immediate	-.0661	(-1.6098,	.3872)
		Cumulative	.0461	(-2.7086,	8.7954)
Breakthrough Innovations	Change in S.T. Institutional Investor Ownership	Immediate	.0119	(-.6294,	.4398)
		Cumulative	.0533	(-.0061,	.0455)
Incremental Innovations	Change in S.T. Institutional Investor Ownership	Immediate	-.0023	(-.0872,	.1171)
		Cumulative	-.0068	(-.0128,	.0462)

[a] Impact Size represent the immediate or cumulative effect of one unit of shock (or one standard deviation) of each indicated variable on each response variable.
Note: The entries are estimated via simulations of generalized impulse-response functions in the VAR model. Immediate impacts derive from the first time period, while cumulative effects are computed using 8 time periods. Values reported are medians across all firms.

Table 6

ROBUSTNESS CHECKS:
USING ABNORMAL RETURNS (A) AND BUY-AND-HOLD ABNORMAL RETURNS (B)
AS ALTERNATIVE MEASURES OF FIRM VALUE, PHARMACEUTICALS INDUSTRY

A: Abnormal Returns (AR) Model

Variable	***Coefficient***	***Robust SE***	***Expected***
Innovation Dummy	.0129	.0098	
Short-Term Investor Ownership	-.0041	.0080	
Short-Term Investor × Innovation Dummy[a]	**-.0006***	**.0003**	**Negative**
Firm Size	-.0061	.0037	
Book to Market Ratio	.0025	.0031	
ROA	-.0018	.0033	
Market Value of Equity	.0040	.0029	
R&D Intensity	.0004	.0029	
R-Squared	.0971		
Time Fixed Effects	YES		

B: Buy-and-Hold Abnormal Returns (BHAR) Model

Variable	***Coefficient***	***Robust SE***	***Expected***
Innovation Dummy	.4551*	.2594	
Short-Term Investor Ownership	.0870	.1103	
Short-Term Investor × Innovation Dummy[a]	**-.0186***	**.0108**	**Negative**
Firm Size	.1550	.1530	
Book to Market Ratio	-.1435	.1142	
ROA [b]	.0837	.0840	
Market Value of Equity	-.0983	.0980	
R&D Intensity	-.0109	.0430	
R-Squared	.1345		
Time Fixed Effects	YES		

[a] Innovation dummy variable operationalized as (1=breakthrough innovation, 0=incremental innovation).
*** $p < .01$, ** $p < .05$, * $p < .10$

[b] Book to Market, Market Value of Equity, Return on Assets, Firm Size, R&D intensity, and Investor Ownership represent unanticipated values.

Notes: the model is based on an event study using daily data for each product introduction.

Table 7
ROBUSTNESS CHECKS
A: Using the Proportion of Long-Term Investor Ownership as Moderator

Interaction	*Expected Interaction Effect*	*CPG Industry*	*Pharmaceutical Industry*
Long-Term Investor Ownership[a] × Breakthrough Innovations	*Positive*	**.0177** (supported)**	**.4210** (supported)**
Long-Term Investor Ownership × Incremental Innovations	*Negative*	**-.0222*** (supported)**	-.0054 (not significant)

B: Innovation Type and Short-Term Institutional Ownership: Effects On Tobin's Q, Blundell-Bond Systems GMM Model, Quarterly Data from CPG Industry

Variable	*Main Effects Models*		*Interaction Effects Model*
Dependent Variable $_{(t-1)}$	.7934***	.7966***	.7957***
Short-Term Institutional Investor Ownership		-.0005	-.0004
Breakthrough Innovations	5.6537	6.0398*	7.1145**
Incremental Innovations	-.5108*	-.5266*	-.2683
Short-Term Investor Ownership × Breakthrough Innovations			**-.5807***
Short-Term Investor Ownership × Incremental Innovations			**.0962****
Firm size	.0014	.0013	.0001*
ROA	1.5062**	1.5533**	1.6854
R&D Intensity	.4307	.3964	.3295
Marketing Intensity	-.0001	-.0001*	-.0001*
Number of observations	3,293	3,293	3,293

Notes: *** $p < .01$, ** $p < .05$, * $p < .10$. Significance levels of the main effects are based on two-tailed tests, and those of the interaction effects are based on directional one-tailed tests. The same controls were used for both models reported in Panel A.
The Sargan tests for overidentifying restrictions suggest that the instruments used are valid and the AR (II) tests fail to reject the null of no serial correlation.
[a] Long-Term Investor ownership is measured as the percentage of "dedicated", or purely long-term institutional investors that hold shares in the sample companies (for details, refer to Web Appendix C).

Figure 1
POSITIONING AND THEORETICAL CONTRIBUTIONS

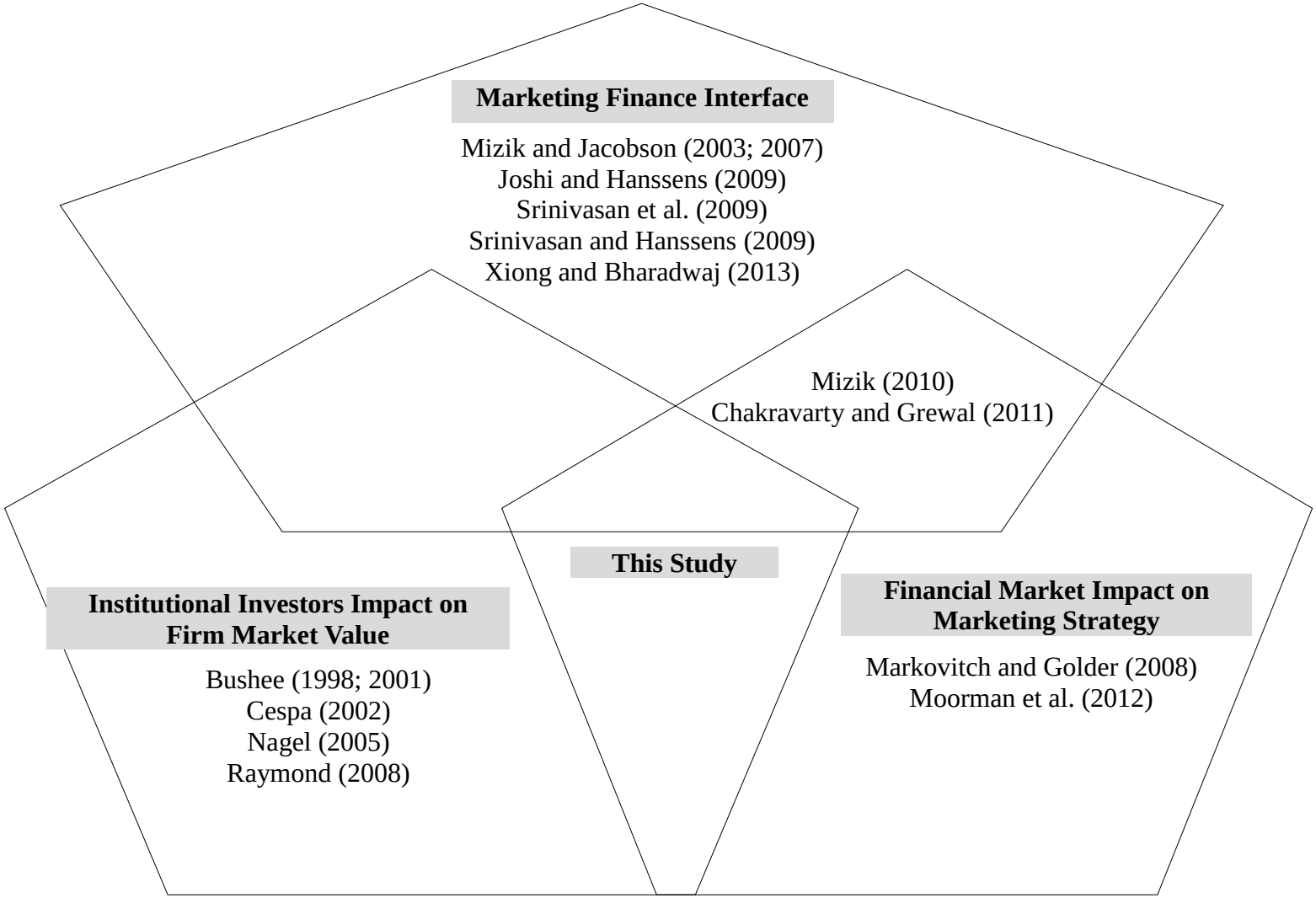


Figure 2

TRENDS IN INSTITUTIONAL OWNERSHIP IN SAMPLE PERIOD, CPG AND PHARMACEUTICALS INDUSTRIES

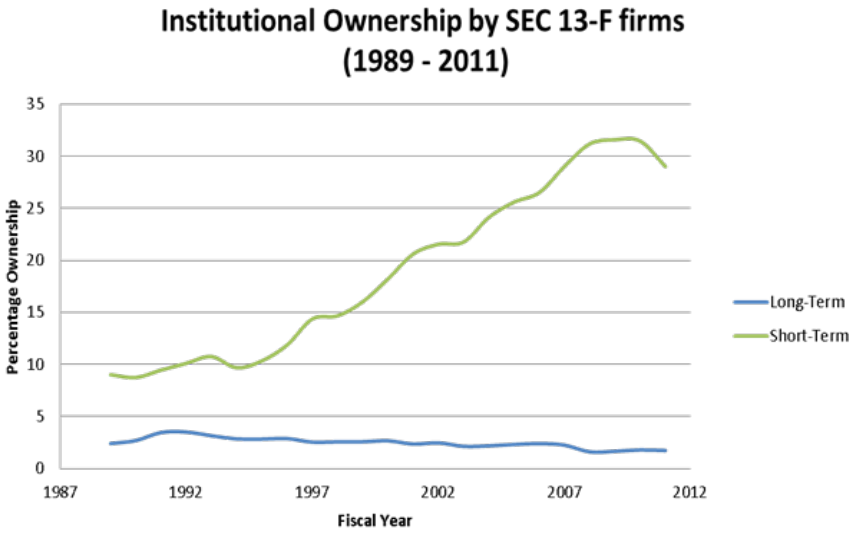
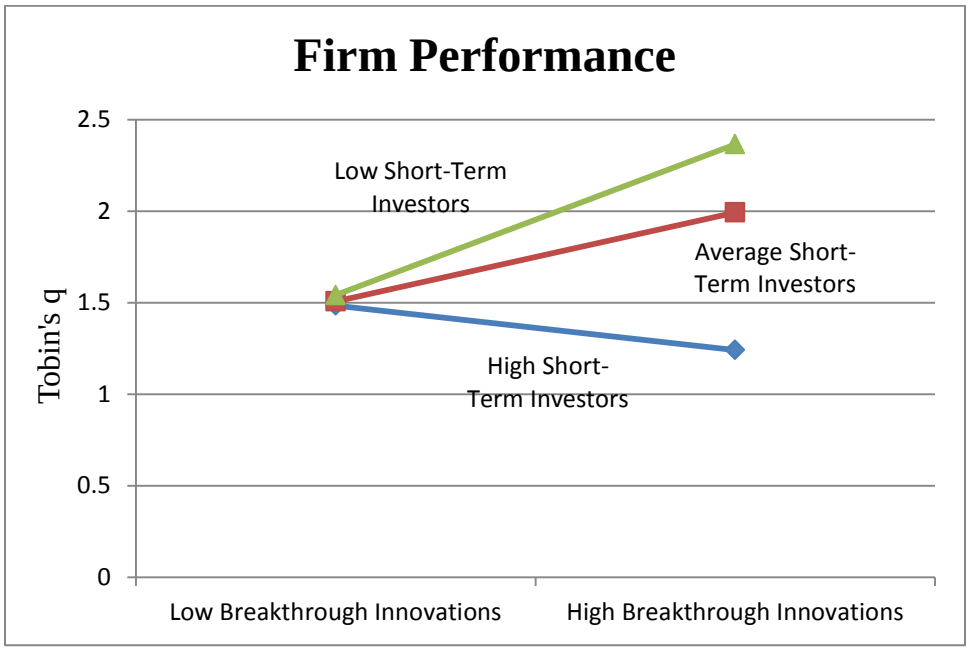
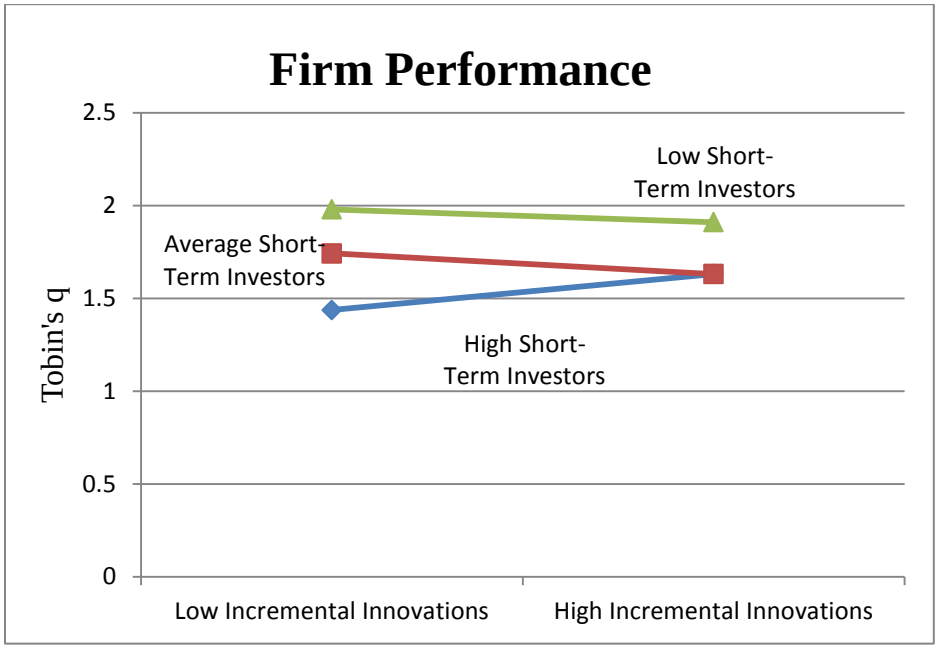


Figure 3
INNOVATION TYPE BY SHORT-TERM INSTITUTIONAL INVESTORS IMPACT ON TOBIN'S Q, INTERACTION PLOTS

A: Breakthrough Innovations



B: Incremental Innovations



APPENDIX A

Table A1

DESCRIPTIVE STATISTICS

	Variable	Mean (SD)	Max (Min)	1	2	3	4	5	6	7	8	9	10	11
1	Tobin's q	1.654 (1.233)	14.904 (.000)											
2	Tobin's q_{t-1}	1.667 (1.245)	14.904 (.000)	**.936**										
3	STINV	27.962 (9.683)	58.82 (.000)	**-.201**	**-.213**									
4	Breakthrough Innovations	1.533 (8.054)	144 (.000)	**.144**	**.155**	**-.072**								
5	Incremental Innovations	9.761 (27.538)	354 (.000)	**.126**	**.131**	**-.146**	**.395**							
6	Marketing Intensity	.255 (.932)	11.613 (.000)	**.108**	**.107**	**-.034**	**.201**	**.595**						
7	ROA	.013 (.020)	.281 (-.267)	**.296**	**.299**	**-.152**	**.068**	**.127**	**.073**					
8	SIZE	7.645 (2.506)	12.269 (.000)	**-.043**	-.032	**-.152**	**.069**	**.168**	**.144**	**.166**				
9	R&D intensity	.028 (.069)	1.804 (.000)	**.177**	**.191**	**-.115**	-.009	.022	.010	**-.037**	**.188**			
10	BMV	.079 (1.413)	65.411 (.000)	**-.059**	**-.059**	.023	-.010	-.019	-.015	**-.222**	-.014	-.019		
11	MVE	26,079 (48,045)	303,059 (.000)	**.286**	**.279**	**-.295**	**.111**	**.339**	**.138**	**.210**	**.429**	**.298**	-.029	

Note: significant correlations ($p < 0.05$ level) are indicated in bold.

Average values of breakthrough and incremental innovations indicate the in-sample average of the count of product introductions in either category across firms, across all quarters. Similarly, advertising intensity refers to the average advertising intensity for the sample firms across the whole time period, measured as actual advertising spending in the given period *t*, divided by total sales for the same period.

APPENDIX B

Product Launch Analytics Innovativeness Ratings Criteria

I source data on innovation rankings from Product Launch Analytics (http://www.productscan.com/), a subscription-based database that tracks CPG product introductions. The service compiles an extensive database as a result of continuous interactions with manufacturers and the trade. It keeps track of trade publications, conferences, and has a field staff that examines new products across the country. Each product listed in the database has a detailed record including the name of the product, date of product introduction, the manufacturer and its affiliates, a description of product claims, product category, ingredients, package and shelving specifications, and a picture of the product in most cases. Most importantly, when a product is added to the database, it is assigned an innovativeness rating based on whether it is innovative in one or more of the CPG industry-focused categories: positioning, packaging, new markets, merchandising, formulation, and technology (see examples in Table B1). If a product falls within one or more of the above-listed categories, it is considered a breakthrough innovation. Otherwise, it is defined as *incrementally* innovative. I use these ratings to classify new product introductions.

Table B1

PRODUCT LAUNCH ANALYTICS BREAKTHROUGH INNOVATIVENESS DIMENSIONS AND EXAMPLES

Innovative Dimension	***Product Example***	***Year of Introduction***	***Product Claim***
Positioning Positioning the product to new users or usage	Nao Premium Gin	2013	Nao Premium Gin is the first gin aged in barrels of Port wine.
Packaging Providing a consumer benefit with new packaging	Gerber Baby Food	2012	In a new squeezable, easy to deliver the contents packaging, with a twist-on spoon attached. It differs significantly and in an important manner from conventional baby food packages, which are simple glass jars.
Merchandising	Bourjois Gloss & Gel Effet Dents Blanches	2011	First "double ended" pack combination of lip gloss with tooth whitening gel
Formulation Offering additional value through a new formulation	Ultra Gain Bleach Alternative Dishwashing Liquid	2011	First consumer goods cleaning product to incorporate honeyberry, a type of honeysuckle native to Siberia
Technology Introducing new technology to the market	Avon Anew Genics	2013	New anti-aging cream technology

APPENDIX C

Details on the Operationalization of Institutional Investor Classification

Bushee (2001) measures percentage of institutional holdings (PIH) as total shares held by institutions divided by total shares outstanding. To obtain the variables on the percentage ownership by different groups of institutions, he uses factor analysis and cluster analysis to assign institutions into groups based on their past investment behavior. For example, short-term oriented (or transient) institutional investors are categorized as such according to their performance on previously validated variables that describe past investment behavior: 1) portfolio concentration which measures the average percentage of an institution's total equity holdings invested in each portfolio firm, 2) average percentage holding variable which measures the average size of the institution's total equity invested in portfolio firms, 3) percentage of the institution's equity that is invested in firms where it has greater than 5 percent ownership in each portfolio firm, 4) portfolio turnover measures the average absolute change in the institution's ownership positions over a quarter, 5) relative stability of the institution's holdings in its portfolio firms, measured by the percentage of the institution's total equity invested in firms that it has continuously held for the prior two years. These variables are analyzed using principal factor analysis to identify the common factors: 1) BLOCK, which captures the average size of an institution's stake in its portfolio firms, and 2) PTURN, which measures the degree of portfolio turnover. The final separation of institutions into clusters is performed by k-means cluster analysis on the factor scores. The final clusters match the definitions of transient, dedicated, and quasi-indexer institutions, where "transient" (or short term oriented) have the highest turnover and relatively high diversification in their portfolios. On the other end of the spectrum, "dedicated" institutions exhibit high concentration and low turnover and follow a "buy-and-

hold" investment strategy, while "quasi-indexer" institutions fall somewhere between the prior two groups, albeit, they are much less concentrated in terms of portfolio holdings. Following these procedures, the final proportion of ownership held by each group of institutions for each portfolio firm is calculated as: PIH $(GROUP_k)_i/PIH_i$) where $GROUP_k$ refers to one of the three categories identified by the cluster analysis(transient, dedicated, or quasi-indexer), and PIH_i refers to the percentage of institutional holdings in firm *i* The classification data was provided by Professor Bushee to us for use in this study.

APPENDIX D

COMPUTATION OF ABNORMAL STOCK RETURNS

I start with the Fama-French three factor model to which I add the Carhart momentum factor, in order to compute the abnormal returns (ARs):

$$(R_{it} - R_{rf,t}) = a_i + b_i(R_{mt} - R_{rf,t}) + s_i SMB_t + h_i HML_t + u_i UMD_t + e_{i,t},$$

(E.1)

where, R_{it} is the daily return on stock of firm i on day t, $R_{rf,t}$ is the daily risk free return on day t, R_{mt}, the market factor, SMB_t, HML_t, and UMD_t are the returns from the Fama and French size portfolio on day t, the Fama and French market-to-book portfolio on day t, and those from the momentum factor on day t, respectively, and finally, $e_{i,t}$ is the measure of abnormal returns associated with period t.

APPENDIX E

Table E1

T-TEST FOR DIFFERENCES IN INSTITUTIONAL INVESTOR HOLDINGS, BY INNOVATION TYPE AND INDUSTRY

A: CPG INDUSTRY

	Above Median Breakthrough Innovations	Above Median Incremental Innovations	t-stat (p-value)	Below Median Breakthrough Innovations	Below Median Incremental Innovations	t-stat (p-value)
Short-Term Investors %	25.85	26.79	**-1.33 (0.18)**	29.52	29.35	**0.23 (0.82)**
Long-Term Investors %	2.20	2.32	**-0.95 (0.17)**	2.51	2.58	**-0.38 (0.71)**

B: PHARMA INDUSTRY

	Above Median Breakthrough Innovations	Above Median Incremental Innovations	t-stat (p-value)	Below Median Breakthrough Innovations	Below Median Incremental Innovations	t-stat (p-value)
Short-Term Investors %	21.08	18.89	**1.70 (0.09)**	25.20	25.93	**-1.05 (0.29)**
Long-Term Investors %	2.58	2.27	**1.38 (0.17)**	3.91	4.06	**-0.45 (0.65)**

References

Aboulnasr, Khaled, Om Narasimhan, Edward Blair, and Rajesh Chandy (2008), "Competitive response to radical product innovations." *Journal of Marketing*, 72(3), 94-110.

Aghion, Philippe, John Van Reenen, and Luigi Zingales (2013), "Innovation and institutional ownership," *American Economic Review*, 103 (1), 277-304.

Akins, Brian, Jeffrey Ng, and Rodrigo Verdi (2012), "Investor competition over information and the pricing of information asymmetry," *The Accounting Review*, 87(1), 35-58.

Anderson, Theodore, and Cheng Hsiao (1981), "Estimation of Dynamic Models with Error Components," *Journal of the American Statistical Association*, 76(375), 598-606.

Arellano, Manuel and Stephen Bond (1991)," Some tests of specification for panel data," *The Review of Economic Studies*, *58*(2), 277-97.

Aspen Institute (2009), "Overcoming short-termism: a call for more responsible approach to investment and business management," (accessed August 27, 2013, http://www.aspeninstitute.org/).

Bolton, Patrick, Jose Scheinkman, and Wei Xiong (2006), "Executive compensation and short-termist behaviour in speculative markets," *The Review of Economic Studies*, 73(3), 577-610.

———, and Frederic Samama (2012), "L-Shares: Rewarding Long-term Investors," ECGI-finance Working Paper#342/2013.

Barber, Brad and John Lyon (1997), "Detecting long-run abnormal stock returns," *Journal of Financial Economics*, 43(3), 341-72.

Baum, Calabrese and Brian Silverman (2000), "Don't go it alone," *Strategic Management Journal*, *21*(3), 267-94.

Bayus, Barry, Sanjay Jain, and Ambar G. Rao (1997), "Too little, too early: introduction timing and new product performance in the personal digital assistant industry," *Journal of Marketing Research*, 34(1), 50-63.

———, and William Putsis Jr. (1999), "Product proliferation: An empirical analysis of product line determinants and market outcomes," *Marketing Science*, 18(2), 137-153.

Bharadwaj, Anandhi, Sundar Bharadwaj, and Benn Konsynski (1999), "Information technology effects on firm performance as measured by Tobin's q," *Management science*, 45(7), 1008-24.

Blume, Marshall and Donald Keim (2012) “Institutional investors and stock market liquidity: trends and relationships,” SSRN Working Paper#2147757.

Blundell, Richard, and Stephen Bond (1998), "Initial conditions and moment restrictions in dynamic panel data models," *Journal of econometrics*, 87(1), 115-143.

Brochet, Fracois, Maria Loumioti, and George Serafeim (2012), “Short-termism, investor clientele, and firm risk,” Harvard Business School Working Paper#12-072.

Bushee, Brian (1998), “The influence of institutional investors on myopic r&d investment behavior”, *Accounting Review*, 73(3), 305-33.

———, and Christopher Noe (2000), "Corporate disclosure practices, institutional investors, and stock return volatility," *Journal of Accounting Research*, 171-202.

——— (2001), “Do institutional investors prefer near-term earnings over long-run value?”, *Contemporary Accounting Research*, *18*(2), 207-46.

——— (2004), “Discussion of disclosure practices of foreign companies interacting with us markets,” *Journal of Accounting Research*, *42*(2), 509-25.

Carleton, Willard, James Nelson, and Michael Weisbach (1998), "The influence of institutions on corporate governance through private negotiations: Evidence from TIAA-CREF," *The Journal of Finance*, 53(4), 1335-1362.

Cespa, Giovanni (2002), “Short-term investment and equilibrium multiplicity,” *European Economic Review*, *46*(9), 1645-70.

Chakravarty, Anindita, and Rajdeep Grewal (2011), "The stock market in the driver's seat! implications for R&D and marketing," *Management Science*, 57(9), 1594-1609.

Chandy, Rajesh and Gerard Tellis (1998), “Organizing for radical product innovation: the overlooked role of willingness to cannibalize,” *Journal of Marketing Research*, 35(4), 474-87.

Chaney, Paul, Timothy Devinney, and Russell Winer (1991), “The impact of new product introductions on the market value of firms,” *Journal of Business*, 64(4), 573-610.

Chintagunta, Pradeep, Dipak Jain, and Naufel Vilcassim (1991), “Investigating heterogeneity in brand preferences in logit models for panel data,” *Journal of Marketing Research*, 28(4), 417-28.

Christensen, Clayton (1997), *The innovator's dilemma: when new technologies cause great firms to fail*. Boston: Harvard Business Press.

Chung, Kee and Stephen Pruitt (1994), “A simple approximation of Tobin’s q,” *Financial Management*, *23*(3), 70-4.

Cohen, Randolph, Paul Gompers, Tuomo Vuolteenaho (2002),"Who underreacts to cash-flow news? Evidence from trading between individuals and institutions," *Journal of Financial Economics*, 66(2), 409-62.
Damodaran, Aswath (2014), NYU Business School faculty homepage, (accessed May 6, 2014, http://pages.stern.nyu.edu/~adamodar).

Derrien, Fracnois, David Thesmar, and Ambrus Kecskes (2013), "Investor horizons and corporate policies," *Journal of Financial and Quantitative Analysis*, Forthcoming.

Dikolli, Shane, Susan Kulp, and Karen Sedatole (2009), "Transient institutional ownership and CEO contracting," *The Accounting Review*, 84(3), 737-770.

Dixit, Avinash (1980), "The role of investment in entry-deterrence," *The Economic Journal*, *90*(357), 95-106.

Donaldson, William (2003) "Testimony concerning implementation of the Sarbanes-Oxley act of 2002," presented at the Senate Committee on Banking, Housing and Urban Affairs, Washington (September 9).

Dotzel, Thomas, Venkatesh Shankar, and Leondar Berry (2013), "Service innovativeness and firm value," *Journal of Marketing Research*, *50*(2), 259-76.

Eddy, Albert and George Saunders (1980), "New product announcements and stock prices," *Decision Sciences*, *11*(1), 90-97.

Ferreira, Daniel, Gustavo Manso, and André Silva (2013), "Incentives to innovate and the decision to go public or private," *Review of Financial Studies*, forthcoming.

Gaspar, Jose-Miguel, Massimo Massa, and Pedro Matos (2005), "Shareholder investment horizons and the market for corporate control," *Journal of Financial Economics*, *76*(1), 135-65.

Geroski, Paul, Steve Machin, and John Van Reenen (1993), "The profitability of innovating firms," *RAND Journal of Economics*, 24, 198-211.

Graham, John, Campbell Harvey and Shiva Rajgopal (2005) "The economic implications of corporate financial reporting," *Journal of Accounting and Economics*, 40(1-3), 3-73.

Graves, Samuel and Sandra Waddock (1994), "Institutional owners and corporate social performance," *Academy of Management Journal*, 37(4), 1034-46.

Hall, Bronwyn and Josh Lerner (2009), "The financing of R&D and innovation," NBER Working Paper #15325.

Heineman Jr, Ben and Stephen Davis (2011), "Are institutional investors part of the problem or part of the solution?," presented at The Shareholder Forum 2003, Yale School of Management.

Herper, Matthew (2013), "The cost of creating a new drug, now $5billion, pushing big pharma to change," (accessed April 24, 2014; http://www.forbes.com/sites/matthewherper/)

Hutchinson, Wesley, Wagner Kamakura, and John Lynch Jr. (2000), "Unobserved heterogeneity as an alternative explanation for 'reversal' effects in behavioral research," *Journal of Consumer Research, 27*(3), 324-44.

IMS Health (2013), "Market Prognosis," (accessed May 5, 2014; http://www.imshealth.com).

Joshi, Amit and Dominique Hanssens (2009), "Movie advertising and the stock market valuation of studios: a case of "great expectations?", *Marketing Science*, 28(2), 239-250.

Kanter, Rosabeth Moss (2006), "Innovation: the classic traps," *Harvard Business Review*, 84 (11), 73–83.Kimbrough, Michael and Leigh McAlister (2009), "Linking marketing actions to value creation and firm value," *Journal of Marketing Research, 46(3),* 313–19.

Lee, Ruby and Qimei Chen (2009), "The immediate impact of new product introductions on stock price: the role of firm resources and size," *Journal of Product Innovation Management*, *26*(1), 97-107.

——— and Rajdeep Grewal (2004), "Strategic responses to new technologies and their impact on firm performance," *Journal of Marketing*, 68(4), 157-71.

Luo, Xueming, Ran Zhang, Weining Zhang, and Jaakko Aspara (2014), "Do institutional investors pay attention to customer satisfaction?." *Journal of the Academy of Marketing Science* 42(2): 119-36.

Mahajan, Vijay and Jerry Wind (1992), "New product models: practice, shortcomings and desired improvements," *Journal of Product Innovation Management*, *9*(2), 128-39.

Markovitch, Dmitri G., and Peter N. Golder (2008),"Findings-using stock prices to predict market events: evidence on sales takeoff and long-term firm survival." *Marketing Science*, 27(4), 717-29.

Martin, Roger (2010), "The age of consumer capitalism", *Harvard Business Review*, 88(12), 58-65.

McAlister, Leigh, Raji Srinivasan, and MinChung Kim (2007), "Advertising, research and development, and systematic risk of the firm," *Journal of Marketing*, 71 (1), 35-48.

McMath, Robert and Tom Forbes (1998), *What were they thinking?* New York: Random House.

Menguc, Bulent and Seigyoung Auh (2006), "Creating a firm-level dynamic capability through capitalizing on market orientation and innovativeness," *Journal of the Academy of Marketing Science*, 34(1), 63-73.

Min, Sungwook, Manohar Kalwani, and William Robinson (2006), "Market pioneer and early follower survival risks: a contingency analysis of really new versus incrementally new product-markets," *Journal of Marketing*, 70(1), 15-33.

Mizik, Natalie (2010), "The theory and practice of myopic management", *Journal of Marketing Research*, 47(4), 594-611.

———, and Robert Jacobson (2003), "Trading off between value creation and value appropriation: the

financial implications of shifts in strategic emphasis," *Journal of Marketing*, 67(1), 63-76.
Moorman, Christine and Anne Miner (1997), "The impact of organizational memory on new product performance and creativity," *Journal of Marketing Research*, 34(1), 91-106.

———, Simone Wies, Natalie Mizik and Frederika Spencer (2012), "Firm innovation and the ratchet effect among consumer packaged goods firms," *Marketing Science, 31*(6), 934-51.

Mukherji, Prokriti, Alina Sorescu, Jaideep Prabhu, Rajesh Chandy (2011), "Behemoths at the gate: How incumbents take on acquisitive entrants (and why some do better than others)", *Journal of Marketing*, 75(September), 53-70.

Nagel, Stefan (2005), "Short sales, institutional investors and the cross-section of stock returns," *Journal of Financial Economics*, 78(2), 277-309.

Pauwels, Koen, Jorge Silva-Risso, Shuba Srinivasan, Dominique Hanssens (2004),"New products, sales promotions, and firm value: the case of the automobile industry," *Journal of Marketing*, 68(4),142-56.

Perfect, Steven, and Kenneth Wiles (1994), "Alternative constructions of Tobin's q: An empirical comparison," *Journal of empirical finance,* 1(3), 313-341.

Porter, Michael E. (1992), "Capital choices: changing the way America invests in industry," *Journal of Applied Corporate Finance*, 5(2), 4-16.

Rao, Raghunath, Rajesh Chandy, and Jaideep Prabhu (2008), "The fruits of legitimacy," *Journal of Marketing, 72*(4), 58-75.

Rau, Raghavendra, and Theo Vermaelen (1998), "Glamour, value and the post-acquisition performance of acquiring firms," *Journal of Financial Economics*, 49(2), 223-253.

Ramalingegowda, Santhosh (2014), "Evidence from impending bankrupt firms that long horizon institutional investors are informed about future firm value," *Review of Accounting Studies*, 19(2), 1009-1045.

Rego, Lopo, Neil Morgan, and Claes Fornell (2013), "Re-examining the market share-customer satisfaction relationship," *Journal of Marketing*, 77(5), 1-20.

Rubera, Gaia and Ahmet H. Kirca (2012), "Firm innovativeness and its performance outcomes: a meta-analytic review and theoretical integration," *Journal of Marketing*, 76(3), 130-47.

Sethuraman, Raj, Gerard Tellis, and Richard Briesch (2011), "How well does advertising work?," *Journal of Marketing Research*, 48(3), 457-471.

Shleifer, Andrei and Robert Vishny (1990), "Equilibrium short horizons of investors and firms," *American Economic Review*, 80(2), 148-53.

Sood, Ashish and Gerard Tellis (2009), "Do innovations really pay off? total stock market returns to innovation," *Marketing Science*, 28(3), 442-56.

Sorescu, Alina and Jelena Spanjol (2008), "Innovation's effect on firm value and risk: insights from consumer packaged goods," *Journal of Marketing*, 72(2), 114-32.

———, Rajesh Chandy, and Jaideep Prabhu (2003), "Sources and financial consequences of radical innovation: insights from pharmaceuticals," *Journal of Marketing*, 67 (4), 82-102.

———, Vekatesh Shankar, and Tarun Kushwaha (2007), "New product preannouncements and shareholder value," *Journal of Marketing Research*, 44 (3), 468-89.

Srinivasan, Shuba and Dominique Hanssens (2009), "Marketing and firm value: metrics, methods, findings, and future directions," *Journal of Marketing Research*, 46 (3), 293–312.

———, Koen Pauwels, Jorge Silva-Risso, and Dominique Hanssens (2009), "Product innovations, advertising, and stock returns," *Journal of Marketing*, 73(1), 24-43.

Srivastava, Rajendra, Tasadduq Shervani, and Liam Fahey (1998), "Market-based assets and shareholder value: a framework for analysis," *Journal of Marketing*, 62(1), 1-18.

The Conference Board (2006), "Revisiting stock market short-termism," (accessed July 23, 2013; http://www.conferenceboard.org/publications/publicationdetail.cfm?publicationid=1116).

Varadarajan, Rajan (2009), "Fortune at the bottom of the innovation pyramid: The strategic logic of incremental innovations," *Business Horizons*, 52(1), 21-29.

Windmeijer, Frank (2005), "A finite sample correction for the variance of linear efficient two-step GMM estimators," *Journal of Econometrics*, 126 (1), 25-51.

Xiong, Guiyang, and Bharadwaj, Sundar (2013), "Asymmetric roles of advertising and marketing capability in financial returns to news: turning bad to good and good to great," *Journal of Marketing Research*, 50(6), 706-24.

Yan, Xuemin Sterling, and Zhe Zhang (2009), "Institutional investors and equity returns: are short-term institutions better informed?," *Review of Financial Studies*, 22(2), 893-924.

Yoganarasimhan, Hema (2012), "Impact of social network structure on content propagation: A study using YouTube data", *Quantitative Marketing & Economics*, 10, 111-50.

Zeithaml, Valarie A., P. Rajan Varadarajan and Carl P. Zeithaml (1988), "The contingency approach: its foundations and relevance to theory building and research in marketing," *European Journal of Marketing* 22(7), 37-64.

CHAPTER 4

MANAGERIAL SHORT-TERM ORIENTATION & MARKETING [5]

[5] Nikolov, A.N. and S. G. Bharadwaj. To be submitted to *Journal of Marketing Research.*

ABSTRACT

Managerial short-term orientation is the preference for managerial actions that have near term outcomes and have the potential to negatively impact long-term value creation. This construct is related, yet distinct from the construct of myopia used in marketing strategy research. While recent research has shown that firms tend to behave myopically with their marketing investments, such studies may suffer from the use of accounting statements numbers based proxies of myopia as such proxies provide only a limited view of the underlying processes behind managerial myopia. In this study, I propose that managerial short term orientation is an encompassing construct which overcomes some of the shortcomings of the prior operationalization of myopia, such as context specificity and the lack understanding of top management antecedents to myopic actions. Specifically, I develop a novel text-mining based measure of managerial short-term orientation by coding and analyzing the language patterns of senior management in conference calls with investors and analysts. The new measure reflects important cognitive antecedents of managerial myopia and acts as a precursor to myopic actions. I compile a ten year panel data set including data on firm promotions, advertising, new product innovativeness, and institutional ownership. Results suggest that managerial short term orientation is indicative of the mindset of top management and it may impact the likelihood that firms use more promotional tactics (discounts and promotional advertising), focus on incremental innovation at the expense of breakthrough innovation, and attract shorter term oriented institutional investors. The marketing and innovation variables partially mediate the impact of managerial short-termism on financial performance (Tobin's q). The findings are robust to endogeneity concerns.

INTRODUCTION

Practices of myopically managing marketing and innovation investments are of particular interest to marketing scholars and practitioners as such firm actions impact the value of market-based assets and ultimately firm value and the future performance potential of the firm (Aaker 1991; Pauwels et. al 2004; Mizik and Jacobson 2007; Chapman and Steenburgh 2011). However, myopic management research in marketing suffers from some potential shortcomings. First, most authors focus on unique scenarios under which myopic management is likely to occur, such as promotional spending, stockpiling behavior, overproduction and discounting, and brand equity "milking" practices (Aaker 1991; Chapman and Steenburgh 2009). Second, extant studies overwhelmingly rely on accounting-statements based metrics to infer managerial myopia, usually by using deviations from normal or expected earnings or profitability measures, and contemporaneous changes in marketing investments. These approaches limit the applicability of the phenomenon to a very specific set of firm strategic contexts and may only partially capture the antecedents and consequences of myopic actions. Third, there is a lack of a unified understanding of firm and top management team level processes that contribute to myopic management and to overall managerial short-termism and how those relate to firm marketing and innovation actions and ultimately firm performance. For example, top management cognitive limitations in processing increasingly more complex information inputs required to make decisions that may have both short and long term implications are important considerations. As such, the limited ability of management to process all available information and to make decisions that potentially maximize firm performance may result in a focus on decision frameworks and mental short-cuts which ultimately lead to a more short term oriented strategy, as the long term consequences of strategic decisions are harder to evaluate. Such processes are

important pre-conditions to specific marketing myopic actions reflected in most research on the topic in marketing; however, our understanding of these important antecedents is limited.

While the attention paid to myopic management in the marketing domain is important and necessary, crucial issues remain underexplored. Accounting statements' numbers-based proxies of myopia provide only a limited view of the mechanisms through which myopic actions manifest in the corporation. Marketing researchers attempting to demonstrate the value relevance of intertemporal managerial decision making choices have used such proxies to capture the construct of myopia, defined as firms beating earnings forecasts, while at the same time cutting marketing and/or R&D spending. There are clear limitations to this practice, as such firm actions may or may not represent actual "myopic" decisions on the part of the firm, but may merely capture strategically planned intertemporal shifting of resources or changes in strategic emphasis between value creation and value appropriation (Mizk and Jacobson 2003). For example, a pharmaceuticals company may increase its promotional budget and at the same time decrease its R&D investment in a newly developed drug in order to capture the benefits of its product innovation. However, such actions may be classified as potentially myopic by using accounting numbers proxies for myopia.

Furthermore, prior research assumes that the concept of myopic management as presented in marketing research is equivalent to the broader issue of managerial short-termism. Strategic management literature has established a strong tradition of research involving the issue of managerial short-termism, which is related, yet theoretically and empirically distinct from myopic management (Laverty 1996). Short-termism is strictly defined as "managerial decisions and outcomes that pursue a course of action that is best for the short term but suboptimal over the long run" (Mullins 1991; Laverty 1996), while the concept of managerial myopia has a different

connotation in the strategic management literature and it usually implies "cognitive limitations to the temporal dimensions of decision making" (Miller 2002). Short-termism incorporates the intertemporal choice and uncertainty interplay inherent in managerial decision making, and it includes issues as diverse as managerial motivations to manage for the long term (Hayes and Abernathy 1980; Loescher 1984), managerial opportunism (Narayanan 1985; Rumelt 1987; Campbell and Marino 1994), stock market pressures (Drucker 1984; Stein 1988; Froot, Scharfstein, and Stein 1992), impatient investment capital (Porter 1992; Jacobs 1991) and information asymmetry (Myers and Majluf 1984). On the other hand, managerial myopia follows from management's bounded rationality (Cyert and March 1963) and inherently limits the scope of the alternatives and time periods considered when making strategic decisions Thus, the assumption of opportunism or incentive incompatibility with the long-term shareholder wealth maximization is not necessary (Miller 2002). Relatedly, Marginson and Mcaulay (2007) use the construct of myopia to indicate managers' difficulty of assessing long-term consequences, irrespective of whether long-term outcomes may be suboptimal in some scenarios. Therefore, given the distinctions that exist between the related constructs of short termism and myopia, it is possible that the marketing literature's approach to managerial myopia is limited to the former definition. At the same time, the literature does not approach the notion of "cognitive limitations to the temporal dimensions of managerial decision making", thus limiting the field's collective understanding of myopic management by assuming managerial willingness to tradeoff short term results for future growth as a given.

In this study, I focus on the construct of managerial short-term orientation and suggest that it captures the managerial cognitive limitations regarding short term oriented actions, which is conceptually distinct from prior research on myopia in marketing. To accomplish this task, the

construct of short-term orientation builds upon the information disclosure in managerial communication literature (Brochet, Loumiothi, and Serafaim 2012; Hollander, Pronk, and Roelofsen 2010), the upper echelons theory (Hambrick 2007) and the cognition view of the firm (Ocassio 1997). It incorporates the notion that organizations take their cues from the top echelons of the firm, and to a large extent, managerial actions are driven by the issues top management considers important as well as the decision frameworks used to reach such decisions. For example, changes in R&D budgets aimed at meeting analysts' earnings targets in a given quarter are driven to a large degree by upper management (Graham, Harvey, and Rajgopal 2006). Thus, managerial short-term orientation may capture a wider range of drivers of intertemporal managerial decision making than what has been studied so far in the myopic literature in marketing. I use managerial short-term orientation to measure the degree of relative attention that management pays to the short term by developing and validating a dictionary containing key terms indicative of managerial cognitive focus. The construct incorporates the degree of top management's attention to the short term, using weighted counts of short term oriented keywords from text mining and analyzing the language patterns of senior management in quarterly conference calls with investors and analysts.

In this essay, I use the construct of managerial short-termism to examine whether top management's short term orientation tendencies have a systematic impact on the types of marketing and innovation investments firms undertake and to what extent do such firm actions mediate the link between managerial temporal orientation and firm performance. In essence, I propose that corporate short term orientation, as a broad construct, may act as an antecedent to specific myopic actions. Namely, I investigate the impact of increasing levels of managerial short-term orientation on (1) marketing mix actions (i.e. types and frequency of retail promotions

and promotional advertising used), (2) new product introductions' degree of innovativeness, (3) the type of institutional investor base attracted, and (5) on firm performance mediated through the marketing and innovation actions studied.

This essay extends the literature on intertemporal-choice in managerial decision making by: first, introducing and empirically measuring a construct which captures managerial short term orientation, extending the scope of the myopic management research in marketing and second, uncovering evidence that language patterns of top management's communication with analysts and investors during conference calls are indicative of firm-level temporal decision making tradeoff tendencies, which in turn significantly influence marketing and innovation investments and future firm performance.

CONCEPTUAL DEVELOPMENT

Managerial Short-Term Orientation

Managerial decision making should ideally involve such actions that emphasize long-term value creation (Porter 1992), and at the same time achieve short-term results which enable the firm to survive in the near term (Simmons 1995; 1999; Van der Stede 2000). Achieving this kind of intertemporal balance is a central task for management at different levels of the organization. Tilting the balance towards favoring short term actions brings about clearly detrimental outcomes for the firm, i.e. suboptimal intertemporal tradeoffs (Hayes and Abernathy 1980). On the other side of the scale, or actions focusing exclusively on the long-term at the expense of the short-term may also be suboptimal, due to the need for the firm to produce cash flow in order to sustain its existence. In this study, I focus on the intertemporal choices that some managers make in order to achieve short-term results. I use the construct of managerial *short term orientation* defined as the degree of short term focus exhibited by top management.

Overall, there is a rich literature on managerial intertemporal decision making in the strategy domain. The sources of managerial short termism can be unified by (1) the cognition view of the firm, or the notion that managerial actions are primarily driven by what issues the top executives tend to pay attention to and what decision frameworks they use (Ocasio 1997) and (2) upper echelons theory which implies that organizations "…take their cues from the top" (Hambrick 2007). Thus I suggest that the top management team's attention to temporal issues is the ultimate driver of the firm's emphasis on the short term, incorporating the combined influence of all sources of short termism identified by the literature, and by design, it acts as an antecedent to specific myopic actions for a number of reasons.

First, the managerial cognition view or the attention based view of the firm implies that the decision frameworks used by top management and the issues they pay attention to impact all their strategic decision making choices (Ocasio 1997). The set of issues that top management is able to absorb, process, and interpret before making decisions is limited by the increasingly competitive, dynamic, and globalizing marketplace (Walsh 1995). Furthermore, the complexity of the issues, opportunities, problems, and solutions available often may exceed the limits of managements' cognitive capacity (Day 2011) and thus they may not be able to form a complete picture of the information environment faced by their firms. As a consequence of the almost unlimited information available in the environment, and the limited cognitive ability of managers to organize and use it efficiently, they tend to selectively focus on issues they consider important. In essence, based on prior experience (Walsh 1995), and the inability to possess and efficiently use all available information to make decisions, managers develop cognitive "short cuts" or mental roadmaps which they tend to use to make strategic decisions in different situations involving incomplete information (Nadkarni and Barr 2008).

Second, taking a complementary viewpoint, upper echelon's theory (Hambrick and Mason 1984) is based on the concept of bounded rationality (Cyert and March 1963).As such, it stipulates that managers are confronted with an excessive amount of information which they cannot process efficiently, as much of it is ambiguous and complex. Therefore they fall back on their past experiences, preferences, and other biases in order to deal with the complexities in the operating environment (Cho and Hambrick 2006). Thus, upper echelons theory takes a different approach to information processing, and suggests that managers would act on the basis on their filtered understanding of the situations they face in the environment.

Taken together, both the attention based view of the firm and upper echelons theory suggest that the top management team's emphasis on the short term is likely to influence the orientation, values, philosophies, as well as the ultimate strategic decision frameworks these firm executives use to make decisions regarding strategic investments in marketing and innovation. Subsequently, the strategic investments management undertakes while using such frameworks impact the firm's core strengths, such as innovation, cost leadership, niche marketing, customer orientation, or the emphasis on (or *de*-emphasizing of) the building market-based assets (Porter 1979; Srivastava, Shervani, and Fahey 1999; Treacy and Wierseman 1993) and are therefore reflected in future firm performance via its impact on those crucial marketing mix actions.

Marketing Investments and Managerial Short-Termism

Unique organizational resources and competencies that underlie long-term enduring abnormal profitability cannot be grown "overnight", but instead must be developed gradually over a significant amount of time (Dierickx and Cool 1989). The sustainable competitive advantages (SCA) literature suggests that since the barriers of imitation of a firm's skills and resources that have been built up over time tend to decay in the absence of maintenance

investments, the continual existence and growth of the set of firm capabilities requires constant monitoring and reinvestment in the existing sources of these assets, as well as investments in other, new potential sources of competitive advantage (Bharadwaj, Varadarajan, and Fahey 1993). Organizational competencies developed by firms such as Wal-Mart, Nordstrom, Toyota, Southwest, and Merck have taken many years to bring about competitive advantages, and must be maintained and supported on an ongoing basis (Helfat 2007), as such competencies rest on accumulation of trust and local knowledge, "residing" in the firm (Gibbons and Henderson 2010). As such, long-term investments can be viewed from the perspective of firms building a stock of capabilities which continually erodes through processes of entropy and require constant investment and maintenance (Rahmandan, Repenning, and Henderson 2014).

The dynamic capabilities literature (Dierickx and Cool 1989) suggests that marketing investments which have the potential to become firm-based assets and capabilities cannot be acquired directly from the marketplace, but rather represent the outcomes of an ongoing process of accumulation (i.e. building stock variables). Consequently, management cannot control the level of these assets (capabilities) directly, but rather can influence their rate of change (Srivastava, Shervani, and Fahey 1998).This process of continually building marketing and innovation market-based assets through long term investments versus focusing on short term marketing and innovation tactics is at the center of the intertemporal choices facing management. Drawing on managerial cognition and the sustainable competitive advantages literatures, I expect that managerial short term orientation affects critical marketing strategy decisions by impacting the nature of value generation and value appropriation (Mizik and Jacobson 2003) activities (i.e. advertising and promotional activities, degree of innovativeness of a firm's new products) which in turn impact firm future performance. Figure 1 presents the conceptual model, in which

managerial short term orientation leads to marketing mix investment choices in value generation and appropriation (retail promotions, advertising, innovativeness), which in turn affect firm future performance.

Advertising and Promotional Actions

The advertising literature in marketing has a rich tradition of examining the issue through multiple lenses as it relates to firm value creation and value communication. From a resource allocation viewpoint, marketing managers use advertising as a flexible vehicle to (a) build awareness and enhance product knowledge (Keller 1991), (b) distinguish their product offering from competitive products either directly or through a branding strategy (Fischer, Shin, and Hanssens 2013), and (c) influence consumer choice (Hoch and Ha 1986). Such a marketing action is expected to enhance brand reputation and perceived quality, facilitating effective value communication and appropriation (Mizik and Jacobson 2003). The empirical literature provides overall support for the value creating effects of advertising which (in general) results in superior firm performance. Advertising serves as the most important value communication and appropriation instrument that firms have at their disposal (Mizik and Jacobson 2003). Some research finds that advertising increases firm revenues (Leone and Schultz 1980; Lodish et al. 1995), while others find a direct impact on firm stock performance, while controlling for the indirect effects (Grullion, Kanatas, and Weston 2004; Joshi and Hanssens 2009; Xiong and Bharadwaj 2014).

Accordingly, advertising as a value communication and value appropriation tool is likely to be influenced by multiple contingency factors, including managerial short-term orientation. Namely, investments in advertising can be used to affect near term performance goals, such as reducing short term cash flow volatility and uncertainty through an emphasis on promotional

advertising, albeit at the expense of increased consumer price and promotion sensitivity over time (Mela, Gupta, and Lehmann 1997; Kopalle, Mela and Marsh 1999).

In the context of increasing managerial short term orientation, it is likely that the temporal tradeoffs between investments in advertising with the goal of strengthening brand equity (Jedidi, Mela, and Gupta 1999), enhancing consumer loyalty (Mehta, Chen, and Narasimhan 2008), and affecting firm value in the future (Joshi and Hanssens 2010), would contradict with the more salient goals espoused by management: namely, achieving stable short term cash flow generation. The former investments' longer term value generation implications may not be salient to managers focusing on short term value appropriation, as their payoffs are more uncertain and distant. Furthermore, a more short term oriented management team may not be able or willing to process fully all the information needed to balance the short and long term goals of the organization, thus it may simplify decision making by relying on overly simplified decision rules (Day 2011). Therefore, when managerial short-term orientation becomes a part of the corporate culture, I expect that firms would skew their focus of advertising and promotional strategies to such tactics that emphasize increasing use of promotional advertising, focused on generating higher levels of and less uncertain, current cash flows:

H1: Firms that exhibit increasing levels of managerial short term orientation increase their use of promotional advertising.

Relatedly, managerial short term orientation may manifest through the use of other promotional tactics, such as discounting, couponing, or paying for product features or displays at the retail level. This is particularly important in the case of the consumer packaged goods (CPG) industries, as such tools have the goal of achieving current (i.e. short term) cash flow generation for the firm, disregarding the future impact on sales or profitability, which in many cases is

negative (Mela, Jedidi, and Bowman 1998). This is because the decision frameworks and cognitive "filters" management uses may not be able to account for such long term implications of promotional marketing mix tactics. Therefore, if management exhibits an increasing short term temporal orientation mindset, it is likely that the firm would focus on the increased usage of value generating tools with a shorter term payoff structures such as retail promotions (discounting, features and displays) in order to boost short term firm performance:

H2: Firms that exhibit increasing levels of managerial short-term orientation, increase their use of promotional tactics such as discounting, product features, and displays.

New Product Introductions and Investments in Innovation

Innovation requires significant investment of resources, risk taking as well as foregoing current returns in the hope of future cash flows; thus it represents a perfect microcosm to demonstrate the intertemporal tradeoff of resources dilemma. Among the major findings in the diffusion of innovation literature (Mahajan and Wind 1991) is that revenue from new products may take considerable time to materialize and that revenue levels depend on several factors, including the degree of product innovation (incremental vs. radical innovations), as well as the focus on innovation placed within the firm (innovation intensity). The rich literature in accounting, finance, and marketing, suggests that R&D (innovation) budgets are one of the most direct channels via which management can prevent an earnings shortfall in a given quarter (Roychowdhury 2006) thus exhibiting a pattern of managerial short-termism due to the importance placed on stock markets' reactions to any shortfalls in earnings measures.

Overall, the degree of innovation intensity is likely to be dependent on intertemporal investment decisions that management makes, and should directly relate to the degree of short-termism exhibited. For example, increasing managerial short term orientation is likely to impact

the aggregate amount of resources invested into pursuing innovation projects; an increasingly short-term oriented management, is likely to discount future research and development needs of the firm and focus on maintaining and renewing the existing product offerings on a consistent basis in order to ensure firm survival (Chaney, Devinney, and Winer 1991), as well as to stabilize short term cash flows. Also, short term oriented managers emphasize current accounting performance (i.e. earnings per share) as a metric to track their performance, and thus may be inclined to manage earnings in order to ensure they meet their earnings targets. Consistent with that logic, survey research shows that over 78% of chief financial officers are likely to underfund discretionary expenses (i.e. R&D and marketing) if they were close to not meeting their earnings targets for the current quarter (Graham, Harvey, Rajgopal, 2006). Therefore, the amount and intensity of investments in innovation inputs (R&D), directly relate to managerial intertemporal investment choices (short-term orientation):

H2a: Companies that exhibit an increasing level of managerial short-term orientation tend to be increasingly less innovation intensive.

Furthermore, because R&D investments represent mostly the initial and ongoing input of investments into innovation projects, it is important to also consider output measures of innovation as well, in order to have a more robust picture of short-termism influenced innovation practices. One such metric is the nature of innovation output, measured by the degree of innovativeness of the final output (breakthrough or incremental). Breakthrough innovations are defined as new products that are the first to bring novel and significant consumer benefits to the market (Chandy and Tellis 1998; Sorescu and Spanjol 2008), usually at a significant investment cost in terms of time and resources devoted to their development and commercialization. Breakthrough offerings have the potential to create new markets and to capture a significant

share of consumer spending. The initial market lead over competitive products may last for a significant period of time providing it a de facto monopoly position, enabling it to capture higher margins than incremental products (Sorescu and Spanjol 2008). Empirical research suggests that the more innovative the product is, the more the financial market value it generates (Chaney, Devinney and Winer 1991; Sorescu, Chandy and Prabhu 2003; Sorecu and Spanjol 2008). However, breakthrough innovations require more investments in R&D and related processes (Moorman and Miner 1997) which could hurt near term cash flows and at the same time, the failure rate for such new products is alarmingly high (Min, Kalwani and Robinson 2006), ranging from 33% to 60% (McMath and Forbes 1998), which would negatively impact the level and volatility of the cash-flows, thus mitigating firm value. Consumers may perceive such innovative products as being riskier (at least initially), and thus delay their adoption (e.g., Sorescu and Spanjol 2008), which consequently postpones cash inflows and increases the cash flow uncertainty for the firm.

Taking the challenges in development and launch costs together, the high uncertainty and potentially longer-term payoff structure associated with breakthrough innovation do not align with an increasingly short term oriented management, as such managers would induce an overall short term oriented culture at the organization-wide level, and would therefore likely de-emphasize innovation projects which could potentially lead to breakthrough new product introductions. This process may manifest through increasingly defunding promising, albeit costly in the short term, research projects, or by enforcing decision rules and hurdle rates that align with the increasingly short term orientation of management. Consequently, the mismatch between the temporal orientation of management and that necessary for successfully developing break through new product innovations widens:

H2c: Companies that exhibit an increasing level of managerial short-term orientation tend to introduce fewer breakthrough innovative new products.

On the other hand, Incremental innovation refers to new products which do not deliver novel and significant benefits (Sorescu and Spanjol 2008). Incremental innovations, as minor changes (non-novel) to existing products, typically have no patent protection and are easier to imitate. Moreover, because they offer no novel or significant consumer benefits, such products are likely to be priced competitively and generate no significant margins (e.g., Dixit 1980). Such product innovations are likely to require less time and investment to bring to market, and are also likely to provide less volatile and more certain cash flows in the short term, as the process of incremental product innovations is necessary for long-term firm survival (Chaney, Devinney, and Winer 1991). Empirical research shows that firm cash flows and future profitability are enhanced through such product introductions on a regular basis in the consumer packaged goods industry (Sorescu, Shankar, and Kushwaha 2007). Incremental products are likely to be adopted more quickly as they require little change in consumer behavior and firms can more easily communicate their attributes and benefits to consumers. Developing new products faster and getting them adopted quickly accelerates firm cash flows (Srivastava, Shervani, and Fahey 1998). Depending on the level of improvement over the previous version of a product, such incremental new product innovations also have the ability to increase the residual value of the firm (Srinivasan et al. 2009).

Taking the costs and benefits of incremental innovation together, I expect that firms with increasingly short term oriented management are more likely to place more emphasis on this type of new product introduction pattern, than on breakthrough innovation, as incremental innovation is less complex and risky, provides faster consumer adoption, and therefore produces quicker and

more stable cash flows for the firm (Srivastava, Shervani and Fahey 1998). Therefore, as incremental innovations have more near term results and thus their value can be appropriated quicker into current firm financial results, I suggest that those attributes of incremental innovation would make it attractive for short term oriented management; i.e. there is likely to be a temporal orientation match between management's preferred value generation and appropriation horizons and the characteristics of incremental innovations:

H2b: Companies that exhibit an increasing level of managerial short-term orientation tend to introduce more incrementally innovative new products.

Institutional Investor Ownership

Prior research classifies professionally managed funds and other entities that value short-term benefits over long-term gains as short-term oriented institutional investors (Bushee 1998; 2001). Short-term institutional investors hold relatively small amount of stock in each individual firm they invest in, while doing so in a large number of firms. As a group, such investor entities hold large percentage of public companies' outstanding shares, and the trend has been increasing: between 1980 and 2010 the total market value of common stocks owned by such institutions increased by 33% to $11.5 trillion (Blume and Keim 2014). These institutions are subject to large short-term redemptions (by investors in the funds that they manage) thus necessitating a short-term investment horizon. In effect, these institutional investors have high levels of portfolio turnover and diversification (Bushee 2001). Short-term investors tend to overweight the near term earnings component of value and underweight the long-term earnings component (Bushee 2001). Thus they focus on current accounting earnings which are easily quantifiable (i.e. earnings per share), and thus behave in a manner similar to arbitragers by constantly turning over their stock holdings in order to capitalize on short-term gains

opportunities (Shleifer and Vishny 1990; Cespa 2002). Furthermore, because fund managers are evaluated quarterly and are under pressure to report good earnings (Graves and Waddock 1994), offloading poorly performing stocks is a common practice around these time points, and in particular the end of the fourth quarter. Therefore, such investors may not be able or willing to afford long time horizons in their investment decisions (Porter 1992).

Thus, I suggest that an increasingly short-term temporal orientation of a focal firms' management is likely to attract an ownership base which consists of a high proportional ownership by short-term institutions for a number of reasons. First, top management's increasing short term orientation is likely to make them increasingly unlikely to invest in marketing and innovation projects with longer term payoff structures (i.e. brand building advertising, breakthrough new products) as such investments have higher costs and higher potential for mispricing in the short-term. Second, an increasingly short term oriented management is likely to attempt to meet current period earnings targets by (myopically) managing discretionary expenses (i.e. marketing, R&D, maintenance and capital expenditures). Finally, by virtue of being short term oriented, management may be (unwittingly) catering to the interests of short term oriented institutional investors via its increasing focus on short term value generation strategies. Thus:

H3: Companies that exhibit an increasing level of managerial short-term orientation tend to attract an increasing proportional ownership by short term oriented institutional investors.

The Marketing Mix as a Mediating Process

I suggest that in order to uncover the complex processes through which managerial short term orientation, and in general, intertemporal tradeoff of resources affect firm performance, marketing mix actions, such as promotions at the retail level, promotional and aggregate

advertising spending, as well as new product innovation policies and investments must be explicitly considered. First, most prior studies only allude to the pathways of impact of myopic actions on firm performance, without explicitly testing such frameworks. Second, short term oriented resource tradeoffs are likely to occur through deemphasizing investments in less visible, "discretionary" spending such as certain marketing initiatives as well as R&D budgets (Cohen, Mashruwala and Zach 2010; Mizik and Jacobson 2007), due to their accounting statements treatment. Therefore, I study the impact of managerial short term orientation on the marketing mix and innovation metrics, as those marketing strategies are most likely to be affected by such myopic management of resources (Graham, Harvey, and Rajgopal 2005). Furthermore, value creation and value appropriation strategies (Mizik and Jacobson 2003) emphasize creating customer value (through producing and delivering new product offerings) and appropriating the value created (through the use of isolating mechanism such as the building of strong brands through advertising). As such, marketing mix tactics and innovation strategies are key drivers of firm performance and shareholder wealth.

I suggest that (at least in consumer packaged goods industries) the impact of an increasingly short term oriented management on future firm performance manifests through an increased reliance on (1) incremental new product introductions and an increased overall volume of new product introductions at the expense of breakthrough innovations, (2) promotional tactics at the retail store level (i.e. emphasizing discounts, features, and displays) as well as promotional advertising for a number of reasons. First, as breakthrough innovation is inherently riskier than incremental innovation (Sorescu and Spanjol 2008) and the increased uncertainty of payoffs with the former make short term oriented management less likely to pursue such projects. This is because top executives may not be able to cognitively organize and make sense of all necessary

information for pursuing riskier breakthrough innovation projects with more distant payoff structures. Thus, they are likely to respond to the complexity and uncertainty in the environment by relying on previously proven innovation strategies and by deemphasizing the building of market-based assets, and reducing their overall intensity of investments in R&D projects, as they may not be able to justify the benefits of a long-term strategy emphasis (Sorescu and Spanjol 2008; Sorescu 2012). Thus, in the context of increasing short term managerial orientation the increased focus on incrementally innovative new product offerings at the expense of breakthrough new products, and the reduced intensity of investments in R&D projects are likely to lead to increasing firm performance. This is because management relies on short term value realization through its emphasis on incremental innovation, resulting in higher, more stable and less volatile cash flows in the short term. Therefore, the innovation characteristics of new product introductions, as well as the overall decreased intensity of investments in R&D projects are all likely to partially mediate the relationship between managerial short term orientation and firm performance.

Second, increasing managerial short term orientation is likely to lead to prioritizing marketing mix strategies such as promotions and promotional advertising in order to skew the value appropriation horizon of the firm to the nearer future. In the context of the CPG industries, price competition between brands is usuallyt conducted using promotions (Shankar and Bolton 2004) communicated via advertising. Research has established the positive (near term) performance implications of promotional tactics (Mela, Gupta, and Lehmann 1997; Mizik and Jacobson 2007; Pauwels et al. 2004), albeit at the expense of brand image and future performance implications. Yet, despite such detrimental impact, promotional tactics align with an increasingly more short term orientation horizon of management, which is likely to be more

concerned about current period cash flow maximization and reducing uncertainty of earnings than long term value appropriating (i.e. isolating) mechanisms such as strong brands and customer loyalty. Therefore, I expect that as managerial short term orientation increases the importance placed on promotional tactics such as discounts, displays, product features, and promotional advertising, the resulting increase in short term cash flows to in turn lead to higher firm performance. Thus, I suggest that the marketing mix of consumer packaged goods companies partially mediates the relationship between short term orientation and firm performance. To summarize:

H4: Marketing mix and innovation actions mediate the relationship between managerial short term orientation and firm performance.

METHODS AND ANALYSES PROCEDURES

Empirical Context

First, I obtain data on marketing-specific promotional variables from the Nielsen/IRI Marketing Data Set purchased from *http://mktsci.pubs.informs.org* (Bronenberg, Kruger, and Mela 2008) for all publicly traded firms tracked by that database which focuses on the consumer packaged goods industry and has detailed promotional activities data for 30 large CPG categories in 47 markets in the U.S. The categories include data on number of price reductions, products on display, and products placed on special feature at the firm level. Second, I collect full-text annual (fourth quarter) earnings conference calls between management and analysts from the LexisNexis and MorningStar databases in order to build a panel dataset of mult-firm, multi-period observations for all firms identified by the IRI dataset for the period between 2001 – 2010. The choice of quarter is important, as most firms and analysts place more importance on year-end earnings calls (Cornell and Landsman 1989), as they tend to preview the upcoming

fiscal year, as well as review the past performance in the year just ended. The transcripts include information on all participants, date, duration, and location of the call. I eliminate transcripts with missing company names, missing dates, or missing participant information. Furthermore, some firms do not have published quarterly earnings reports, and I drop those from the sample. I obtain the new product introductions data and innovativeness rankings from the Datamonitor Product Scan Analytics database, which has been previously used in innovations research (Sorescu and Spanjol 2008). I obtain firm financial data as well as data on institutional investor ownership by manually matching firms by their names and tickers with identifiers in the COMPUSTAT and CRSP databases. Last, upon merging the datasets, I have complete panel dataset on 74 consumer packaged goods firms for the period 2001 – 2010 at the annual level.

Measures

Managerial Short-Term Orientation

I use content analysis of fourth quarter firm earnings conference calls in order to proxy for managerial short-termism. Consistent with prior research, I use the following steps to implement the text mining procedure; First, I develop, refine and validate a dictionary of key temporal orientation-related terms relating to managerial short-termism (please see Figure 1). Second, I compute the short-term orientation measure. Third, I check robustness and validity of the dictionary and the short-term orientation measure.

Since there is no pre-existing keyword set in the marketing literature that represents different temporal associations and managerial mindset metrics, I set out with the goal of developing such a keyword set (i.e. dictionary) to attempt to capture the semantic network of temporally-oriented language patterns of senior executives in conference calls with analysts. At this stage, Following Kothari, Li, and Short (2011), I identify terms that are indicative of the

overall time horizon of managerial disclosure both manually and through a text mining algorithm. After this step, I used an expert sorting task to identify terms with substantive validity and to drop ambiguous terms and further refine the dictionary. The resulting final dictionary has 18 terms indicative of short-term managerial orientation. These terms indicate time period related keywords measuring time periods below one calendar year in duration, such as quarter, quarters, month, months, week, etc.

Second, to compute the short-term managerial orientation measure, I use the number of keywords related to short-term information disclosed during conference calls throughout the year, scaled by the total number of words contained in the information disclosure and take into account each term's inverse document frequency (Manning, Raghavan, and Schutze 2008). For example, inverse document frequency of term *i* is defined as the logged result of the total number of conference calls divided by the total number of documents containing at least one occurrence of term *i*. Furthermore, I compute the short-term orientation measure as a weighted count of term occurrences, by accounting for both document length and a term's frequency of appearance across conference call reports.

Firm Performance

Tobin's q is a widely-used measure of firm value in marketing research (e.g., Sorescu and Spanjol 2008; Dotzel, Shankar, and Berry 2013; Rego, Morgan, and Fornell 2013). Because it is based on stock prices, Tobin's q is inherently forward looking and risk adjusted, as the market value of the firm (i.e. the numerator) is the discounted value of the future cash flows, and the discount rate used to arrive at the present value of such cash flows reflects the risk adjustment (Chung & Pruitt 1994; Perfect and Wiles 1994). Because Tobin's q reflects the market's expectations of the firm's future performance, it is more responsive to such strategic signals and

better captures their impact over multiple years than any single measure of a firm's annual performance (e.g. sales, profits, cash flows) (Lee and Grewal 2004). Following Chung and Pruitt (1994), I calculate Tobin's q as:

$$TQ_{i,t} = (MVE_{i,t} + PS_{i,t} + DEBT_{i,t}) / TA_{i,t} \quad (1)$$

,where MVE is the closing prices of shares at the end of the financial year multiplied by the number of common shares outstanding, PS is the liquidation value of outstanding preferred stock, DEBT = (current liabilities – current assets) + (book value of inventories) + (long-term debt), and TA is the book value of total assets.

Advertising

I use advertising data from COMPUSTAT's annual file which contains company reported total advertising spending over the course of the calendar year. I also use a sub-sample of annual advertising data for the years 2009 and 2010 from the TNS dataset which provides a breakdown of aggregate advertising spending into promotional advertising (i.e. intended to support a particular brand of the company's product line) and corporate brand advertising (i.e. advertising intended to build the brand image of the corporation overall).

Promotions

I collect the promotional variables for the study from the IRI Marketing Dataset. The first promotional variable, *price reduction* equals the count of the aggregate number of units of products sold at a discounted price in a given time period by each company in the dataset. This measure does not incorporate the percentage magnitude of the discounts, due to lack of data granularity. Similarly *feature reduction* and *display reduction* represent the aggregate number of product units sold which were either promoted by a special feature with the retailer or part of a special display (at an additional merchandising cost to the manufacturing firm).

Product Innovations

I obtain measures for the degree of product innovativeness from Datamonitor's Product Launch Analytics database, which tracks new product launches in the consumer packaged goods (CPG) industries. I follow Sorescu and Spanjol (2008) and Wies and Moorman (2015) and use the product innovativeness ratings provided by Product Launch Analytics to classify new product introductions as breakthrough or incremental. Breakthrough innovations in the CPG context are defined as new products that are the first to bring novel and significant consumer benefits to the market (Chandy and Tellis 1998). Such benefits could create entirely new markets or consist of new formulations or new technology. On the other hand, incremental innovations are new products which do not deliver novel and significant benefits.

Short-Term Institutional Investor ownership

I use Bushee's (2001) measures of SEC rule 13f investors' investment horizon to categorize institutional investors. He classifies institutional investors into groups by drawing on the specific characteristics of investment horizons that are expected to increase the pressure on managers toward either a short or long-term orientation in investment decisions. The use of the investor type classification system is consistent with its prior implementation in empirical accounting research (Dikolli, Kulp, and Sedatole 2009; Akins, Ng, and Verdi 2012; Brochet, Loumioti, and Serafeim 2012). The classification system uses institutions' expected investment horizons for each quarter, by first conducting a principal factor analysis, followed by a k-means cluster analysis to place institutions into groups based on a number of variables previously determined to describe institutional investor trading behavior. In the case of the short-term investors, the main differentiating factors from other institutions are the significantly higher portfolio turnover and the highly diversified nature of the portfolio holdings. Consistent with prior

accounting research, I measure the proportional ownership by short-term institutional investors using the percentage of outstanding stock they own in each investee firm at the end of each fiscal year.

Control Variables

Following prior research, I use firm size operationalized as a log of total revenues to incorporate any economies of scale effects (Pauwels et al. 2004; Srinivasan et al. 2009; Sorescu and Spanjol 2008). R&D intensity and advertising intensity are scaled by the firm's total sales, and control for firm-level propensity to return on assets (ROA) is operationalized as earnings before interest, taxes, depreciation, and amortization divided by firm total assets and serves as a measure of past accounting performance (McAlister, Srinivasan, and Kim 2007). Firm leverage is the value of long-term debt divided by the sum of long-term debt and the market value of the firm, and competitive intensity (Hirschmann-Herfindahl Index) is the sum of the squared market shares of all firms in each industry. Table 1 summarizes correlations statistics for each of the variables in the data set and Table 2 presents the descriptive statistics.

Models and Estimation Procedures

I test the hypotheses using panel data (i.e. 47 firms across 10 years); the panel data structure and the nature of the specified relationship potentially introduces concerns about endogeneity (i.e. omitted variable bias, measurement error, simultaneity, and dynamic endogeneity). I use alternative methodological approaches to test the hypotheses in a way that addresses these concerns. First, I estimate the following model to test for the impact of short-term managerial orientation on institutional investor presence:

(1) $$\textit{Institutional Ownership}_{i,t} = \beta_0 + \beta_1 \, MSTO_{i,t-1} + \beta_2 \, Z_{i,t} + \beta_3 \sum_{2001}^{2010} YearDummy_{i,t} + u_i + \varepsilon_{i,t} ,$$

Second, I estimate the models 2a and 2c in simultaneous systems of equations in order to account for simultaneity engendered endogeneity concerns with new product introductions:

(2a) $\boldsymbol{R\&D\ Intensity_{i,t} = \beta_0 + \beta_1\ MSTO_{i,t-1} + \beta_2\ Z_{i,t} + \beta_3 \sum_{2001}^{2010} YearDummy_{i,t} + u_i + \varepsilon_{i,t}}$

(2b) $\boldsymbol{Breakthrough\ Innovations_{i,t} = \beta_0 + \beta_1\ MSTO_{i,t-1} + \beta_2\ Z_{i,t} + \beta_3 \sum_{2001}^{2010} YearDummy_{i,t} + u_i + \varepsilon_{i,t}}$

(2c) $\boldsymbol{Incremental\ Innovations_{i,t} = \beta_0 + \beta_1\ MSTO_{i,t-1} + \beta_2\ Z_{i,t} + \beta_3 \sum_{2001}^{2010} YearDummy_{i,t} + u_i + \varepsilon_{i,t}}$,

Third, I estimate equation 3 separately, only using a subset of the data due to data availability:

(3) $\boldsymbol{Promotional\ Advertising_{,t} = \beta_0 + \beta_1\ MSTO_{i,t-1} + \beta_2\ Z_{i,t} + \beta_3 \sum_{2001}^{2010} YearDummy_{i,t} + u_i + \varepsilon_{i,t}}$,

Fourth, as in the case with new product introductions, simultaneity engendered endogeneity also arises in the case of firm promotional actions, therefore, I estimate the following three equations (4a-4c) jointly:

(4a) $\boldsymbol{Promotional\ Discounts_{i,t} = \beta_0 + \beta_1\ MSTO_{i,t-1} + \beta_2\ Z_{i,t} + \beta_3 \sum_{2001}^{2010} YearDummy_{i,t} + u_i + \varepsilon_{i,t}}$,

(4b) $\boldsymbol{Promotional\ Displays_{i,t} = \beta_0 + \beta_1\ MSTO_{i,t-1} + \beta_2\ Z_{i,t} + \beta_3 \sum_{2001}^{2010} YearDummy_{i,t} + u_i + \varepsilon_{i,t}}$,

(4c) $\boldsymbol{Promotional\ Features_{i,t} = \beta_0 + \beta_1\ MSTO_{i,t-1} + \beta_2\ Z_{i,t} + \beta_3 \sum_{2001}^{2010} YearDummy_{i,t} + u_i + \varepsilon_{i,t}}$.

In equations 1 – 4, i stands for firm, and t for time (year); $MSTO_{i,t-1}$ is the focal variable of interest, managerial short-term orientation, and $Z_{i,t}$ is a vector of control variables including firm size, leverage, advertising and/or R&D intensity, ROA and industry concentration as described previously. $\sum_{2001}^{2010} YearDummy$ is a set of mutually exclusive year dummies; u_i is time invariant unobservable factor and $\varepsilon_{i,t}$ is an i.i.d. error term.

These model specifications have the following characteristics. First, they account for time invariant, unobserved and firm-specific differences (u_i). Second, models 2a – 2c, as well as 4a – 4c directly address the simultaneity endogeneity concerns by joint estimation and rule out any

reverse causality as they estimate the effect of past managerial short-term orientation on current levels of the dependent variables of interest (new product introductions and promotional activities, respectively). Third, including ROA and advertising and R&D intensity as predictors, potentially eliminate firm-level endogeneity introduced by efficiencies (ROA) (Feng, Morgan, and Rego 2015) and learning from utilization of advertising and R&D resources at higher intensities than competitors.

In order to test the mediation hypotheses (i.e. the impact of MSTO on firm performance via firms' marketing actions), I estimate the following mediation framework:

(5) $\boldsymbol{Firm\ Action}_{i,t} = \alpha_0 + \alpha_1 \boldsymbol{MSTO}_{i,t-1} + \alpha_2 Z_{i,t} + r_{i,t}$

(6) $\boldsymbol{Tobin's\ q}_{i,t} = \beta_0 + \beta' \boldsymbol{MSTO}_{i,t-1} + \beta_1 \boldsymbol{Firm\ Action}_{i,t-1} + \beta_2 Z_{i,t} + r_{i,t}$,

where α_0 and β_0 are intercept terms and $r_{i,t}$ is a regression residual. The rest of the variables are the same as specified previously. The coefficients α_1 and β_1 are then used to assess the presence, strength, and the significance of the indirect effect of managerial short-term orientation on firm performance (Tobin's q) via the set of firm actions specified in the hypotheses, including new product introductions (breakthrough and incremental) and innovation intensity (R&D intensity), promotional activities (discounts, displays, and features) and advertising (promotional advertising). I estimate Equations 5 and 6 via generalized structural equations modeling (GSEM), as suggested by Preacher, Rucker, and Hayes (2007).

Although the model specifications of Equations 1 – 4 mitigate concerns about unobserved firm-specific heterogeneity and endogeneity concerns, these considerations may not be fully alleviated. Furthermore, if I cannot claim on theoretical grounds that the short-term managerial orientation effect is uncorrelated with the error term $\varepsilon_{i,t}$ in models 1 – 4 (e.g., due to omitted variables), I use an instrumental variables (IVs) approach and look for an IV that correlates with

the managerial orientation variable, but not with the unobservable variables (which are part of the error term) that in turn determine firm performance, or the other dependent variables. Therefore, I find an IV to meet the relevance and exclusion criterion (Angrist and Pischke 2009). I use the prevalence of managerial short-termism (operationalized as the average managerial short-term orientation) at competitor firms at the industry level as my primary IV. I define competitor firms as those sample firms that operate in the same two-digit SIC code(s) as the focal firm. Specifically, for each k = 1, … K SIC code , given that there are i = 1, 2, ….N_k firms listed in the code, the IV for firm I would be the average managerial short-term orientation value of all firms in code k other than firm I divided by N_k - 1.

In order to verify that average short-term managerial orientation at the industry level is a strong IV, I need to demonstrate instrument relevance (i.e. that the IV predicts focal firm managerial short term orientation) and also argue that it meets the exclusion restrictions (i.e. the IV does not correlate with the error term that contains any omitted variables). First, in terms of instrument relevance, I attempt to make the case that managerial short term orientation among industry competitors correlates with such orientation at the focal firm (Germann, Ebbes, and Grewal 2015). I propose that this is the case, since the focal firm faces similar market conditions and the expectations of these firms are uniformly similar, as I limit my sample to all publicly traded firms from the consumer packaged goods industries from the IRI/Nielsen data base. Moreover, the sample firms are relatively large, and invest in both advertising and innovation, functions which relate to the core firm activities likely to be influenced by managerial short-term orientation. Therefore, similar market conditions and similarity of managerial expectations should argue for relevance of the instrument. Second, in terms of meeting the exclusion restriction, or why the IV should be uncorrelated with the omitted variables that affect firm

performance of the focal firm, I attempt to theoretically demonstrate that the two types of omitted variables of concern (e.g. firm-level and exogenous shocks) have limited impact in the study context. Namely, firm-level omitted variables, such as corporate organizational culture is not likely to pose an issue, as firms cannot collectively observe and/or act on a focal firm's omitted variables in a strategic manner, as cultures are likely to be difficult to imitate (Grewal and Slotegraaf 2007). Therefore, it is unlikely that competitors would be able or willing to take collective actions against the focal firm, and as such, the IV is unlikely to be correlated with the omitted variable and therefore the error term that contains such variable, thus meeting the exclusion restriction. Next, I consider the second type of omitted variable that is of concern, exogenous shocks that may affect firm performance and managerial short term orientation systematically, thereby implying a correlation between managerial short term orientation and the error term (which also contains the exogenous shocks). Srinivasan, Lilien, and Sridhar (2011) suggest that such shocks could include economy-wide boom and bust cycles in which the overall health of the economy influences organization-wide marketing and innovation investments and orientation. I include time-fixed effects to proxy for such shocks in all model specifications. Industry-specific shocks are unlikely to pose a problem in this study context, as the firms represented in the sample are pulled from related consumer packaged goods industries, thus such shocks would impact all firms in a similar manner.

I use the two stage least-squares random-effects estimator for estimating equations 1 and 3, given the panel structure of the data. In estimating the mediation relationships (Equations 5 and 6) as well as equations 2 and 4, I use a two-step GSEM approach with instrumental variables due to the joint estimation necessary to control for serial correlation in the error terms. In all

equations, managerial short term orientation is operationalized as the lagged value of its instrumental variable.

RESULTS

Impact of Managerial Short Term Orientation on Firm Actions

I present the results of the hypotheses testing starting with Table 3. First, I present the results from testing the impact of managerial short-term orientation on future short term institutional investor ownership in Table 3. The result suggests that managerial short-term orientation is positively associated with future short-term investor ownership ($\beta_1 = 4.0335$, $p < .10$), controlling for firm size, advertising intensity, ROA, and firm leverage. As the direction of the causality can be theoretically reversed (i.e institutional investors' pressures may lead to a higher short-term orientation of management) and to enhance the robustness of this finding, I run granger causality tests (Granger 1988). This test estimates that if a signal X_1 granger causes a signal X_2, then the past values of X_1 should contain information that helps to predict X_2 above and beyond the information contained in the past values of X_2 alone. The results suggest that short-term orientation granger causes short term institutional investor ownership (please see Table 3), while the reverse relationship is not statistically significant.

Second, I present the results from testing equations 2a and 2b in Table 3, which indicates that managerial short-term orientation is systematically associated with a firm's pattern of new product introductions in the following way: it has no impact on the number of breakthrough new product introductions, however, it is positively associated with the number of incrementally innovative new products ($\beta_1 = .7176$, $p < .001$), as well as with the total number of product introductions ($\beta_1 = .6960$, $p < .001$). Overall, controlling for firm size, advertising intensity, ROA, and leverage, these analyses show that a short term oriented top management team

significantly impacts the pattern of new product introductions by introducing more incrementally innovative new product which is reflected in the sheer number of new product introductions, consistent with my hypotheses. Because the dependent variables in these models represent counts, and in particular, the count of breakthrough new products contains multiple zero observations, as such products are relatively rare, I also used a negative binomial model to estimate equations 2a – 2c. A Vuong test indicated that a zero-inflated negative binomial model is not necessary, thus I estimated the negative binomial model for innovation, with the results remaining consistent with those reported in Table 4.

Third, I present the results from equations 3 and 4 for the impact of managerial short term orientation on promotional actions. The estimates for the direct effect of managerial short term orientation is positively associated with all promotional activities: firms seem to rely on more price discounting ($\beta_1 = .0058$, $p < .001$), place more products on display ($\beta_1 = .0379$, $p < .001$), feature more products at the retail store level ($\beta_1 = .1824$, $p < .001$), and rely on more promotional advertising ($\beta_1 = .6720$, $p < .10$). These results suggest that controlling for firm size, advertising intensity and accounting performance (ROA), managerial short term orientation is associated with an increased reliance on promotional firm tactics.

Mediation Models for Firm Performance

I test the mediation hypothesis using Baron and Kenny's (1986) arguments that if firm innovation and promotional actions mediate the effect of short term managerial orientation on future firm performance, I will observe (1) managerial short term orientation predicts firm actions (promotions and new product introductions), (2) firm actions predict future firm performance, and (3) the direct effect of managerial short term orientation on future firm performance is weaker when the effect of firm promotional and innovation actions are accounted

for. Results reveal that (1) managerial short term orientation negatively predicts R&D intensity, while it positively predicts incremental new product innovation, and total new product innovation with coefficients of -1.2197 ($p < .05$), 1.0799 ($p<.10$), and 1.0814 ($p < .05$). Furthermore, managerial short term orientation positively predicts promotional tactics such as the number of discounts given (.0021, $p < .001$), aggregate number of products featured (.0326, $p < 001$), and the number of products on display (.5829, $p < .001$); (2) R&D intensity, incremental, and total product innovation predict future Tobin's q with coefficients .0703 ($p < .001$), .0758 ($p < .05$), and .0767 ($p < .05$) respectively. The promotional mediators in turn predict future Tobin's q as follows: discounts (.0009, $p < .10$), featured products (.0002, $p < .05$), and displayed products (.0003, $p < .001$); (3) the direct effect of managerial short term orientation on future Tobin's q does not reach significance when accounting for firm innovation and promotional actions in any of the mediation frameworks tested.

These results suggest partial mediation for the impact of managerial short term orientation on firm performance (Tobin's q) through firms' innovation and promotional actions and provide support for the mediation hypotheses. This finding suggests that managerial short term orientation is a significant predictor of firm performance through its impact on resource allocation (i.e. R&D investments) and the increased focus on a certain types of new product introductions (incrementally innovative new products) and on the total number of new product introductions (i.e. volume), perhaps at the expense of breakthrough innovation. Furthermore, short term orientation manifests its impact on firm performance through influencing the firms' reliance on promotional tactics which help boost (short term) performance, a finding consistent with the literature on promotions' impact on firm performance.

In contrast, the mediation test results do not lend support for partial mediation of managerial short term orientation on firm performance via advertising proxies (i.e. promotional and aggregate advertising investments). Overall, these results suggest that a short term oriented managerial mindset affects firm's performance mainly through its effect on the resources dedicated to and the types of new product innovation pursued, as well as through specific promotional activities at the brand level.

Robustness checks

I perform two checks to establish the robustness of the findings. First, I perform outlier influence tests by winsorizing the data to the fifth and tenth percentile and results remain substantively unchanged. Second, I used alternative model specification for estimating equations 2 and 4, as the dependent variables in these models is a count. In particular, I used a poison specification to account for the count nature of the innovation and promotion dependent variables, with the results remaining substantively unchanged.

DISCUSSION

This essay provides several important implications to the literature on intertemporal-choice in managerial decision making. First, I introduce and empirically justify a novel construct which captures managerial short term orientation, and find that it extends the scope of the myopic management literature beyond the narrow focus on accounting statements-based metrics. I develop the construct of managerial short term orientation based on managerial mindset metrics gleaned from the coding and textual analysis of speech patterns during end of quarter conference calls of management with investors and analysts. I find that this operationalization of managerial temporal orientation is a better fit with the literature on corporate intertemporal decision making from the strategy literature, as it directly measures the impact of intertemporal tradeoffs on

concrete marketing mix and innovation firm actions and ultimately on firm performance. Second, I find that managerial short term orientation is a complex, culture based, firm specific construct, consistent with the cognition view of the firm and upper echelons theory (Ocasio 1997; Hambrick 2007), as firms which exhibit short term managerial orientation are systematically linked with firm actions that manifests such managerial views throughout the organizational structure via marketing mix and innovation actions. Clearly, organizations do take their "cues from the top" when it comes to firm tactical choices of marketing mix and innovation actions.

Taken together, these findings suggest that managerial attention to temporal orientation decision making and tradeoffs have a profound impact on the choice of marketing mix and innovation tactics pursued by the firm, and in particular, that short term orientation affects firm's strategy and operations in a systematic way, by emphasizing promotional tactics at the expense of longer term investments into nurturing market based assets, as well as an overreliance on incremental innovation, perhaps at the expense of breakthrough innovation. Finally, managerial short term orientation's effects on firm performance seem to be mediated through firm marketing and innovation actions.

As an initial effort to introduce a new construct, this study is subject to several limitations. First, the focus on consumer packaged goods industries limits the generalizability of findings, in particular, regarding the nature of the impact of managerial short term orientation on promotional actions, as such actions are more characteristic of firms in that industry, than most other industries. Second, it is possible that the proposed dictionary does not fully capture all temporal variation that exists in the language patterns of executives, as it was tested using conference calls with analysts and investors. It may be beneficial to test the short term orientation proxy using other forms of corporate communication for validation purposes. Third,

as managerial short term orientation is a context free measure of corporate temporal orientation, future research may benefit from developing more context specific marketing oriented measures of temporal orientation. Finally, the data on promotional advertising is difficult to obtain and not widely available to researchers, thus making the generalizations of the results of this essay applicable mostly to the consumer packaged goods and similar industries.

TABLES

Table 1
Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12
STO	1											
Tobin's q	.0312	1.										
ADVG	.0623	.2496	1.									
R&D	-.0185	.3015	-.0395	1.								
SIZE	.0025	.0239	-.2268	.3543	1.							
ROA	-.0346	.3918	.0498	.2154	.2724	1.						
Leverage	.0133	-.428	-.0126	-.158	.0063	-.348	1.					
HHI	.0749	-.0798	.0319	-.1207	-.1989	-.0756	.1072	1.				
Investors	.1015	-.029	.1076	-.0917	-.1726	-.1074	.0181	.3277	1.			
Discounts	.0307	.14	-.062	-.0844	.4348	.1517	-.1362	-.0896	-.1444	1.		
Displays	.0539	.2028	-.0054	-.0914	.2945	.164	-.1654	-.0847	-.132	.7497	1.	
Features	.0268	.1507	-.0632	-.0968	.4316	.1493	-.145	-.0613	-.1304	.9738	.7838	1.

Table 2
Descriptive Statistics

Variable	Obs	M	SD	Min	Mdn	Max
STO	490	.7212	.241	0	.7439	1.3421
Tobin's q	575	1.6315	1.2317	-.3094	1.3322	10.7061
Investors	424	26.5186	11.5231	0	27.35	55.77
Marketing Mix Variables						
ADVG	474	.0754	.1062	.0001	.0355	.6871
R&D	655	.0173	.0287	0	.0044	.1517
Discounts	603	382935.4	763218.4	0	36253.	4,400,000
Displays	603	102175.9	311744.6	0	4575.	3,000,000
Features	603	172279.4	371219.9	0	7486.	2,100,000
Controls						
Firm size (log of total revenues)	655	8.1523	1.939	1.7346	8.3362	11.6232
ROA	645	.159	.0832	-.5904	.1535	.3821
Leverage	575	.1961	.1813	0	.1501	.9232
HHI (Competitive Intensity)	441	.0438	.048	0	.0358	.6038

Table 3
Managerial Short Term Orientation and Institutional Investor Ownership

Variable	**Short Term Investor Ownership**
Short-Term Orientation (t-1)	4.0335*
Controls	
Firm Size	3.8494***
Advertising	-.7912***
ROA	.6349***
Leverage	.1065
Number of Observations	324
Time Fixed Effects	YES
F-test	13.84***
Granger Causality Tests	
Short Term Orientation → Investor Ownership (χ2)	2.938*
Investor Ownership → Short Term Orientation (χ2)	.785

Table 4
Managerial Short Term Orientation and Innovation Actions

Variable	Breakthrough	Incremental	Total Innovation
Short-Term Orientation (t-1)	-.2081	.7176***	.6960***
Controls			
Firm Size	.5771***	.9538***	.9439***
Aggregate Advertising	4.3280***	5.8816***	5.8446***
ROA	-2.4677***	-.5166***	-.6038***
Leverage	-3.6565***	-2.3088***	-2.3631***
Number of Observations	449	449	449
Time Fixed Effects	YES	YES	YES

Table 5
Managerial Short Term Orientation and Promotional Actions

Variable	Discounts	Displays	Features	Promotional Advertising
Short-Term Orientation (t-1)	.0058***	.0379***	.1824***	.6720*
Controls				
Firm Size	-.0611***	-.2037***	-.0466***	.9373***
Aggregate Advertising	-.7164***	.1741***	-1.3724***	
ROA	-.4030***	.7147***	-.2373***	2.9400
Number of Observations	375	366	340	103
Time Fixed Effects	YES	YES	YES	YES

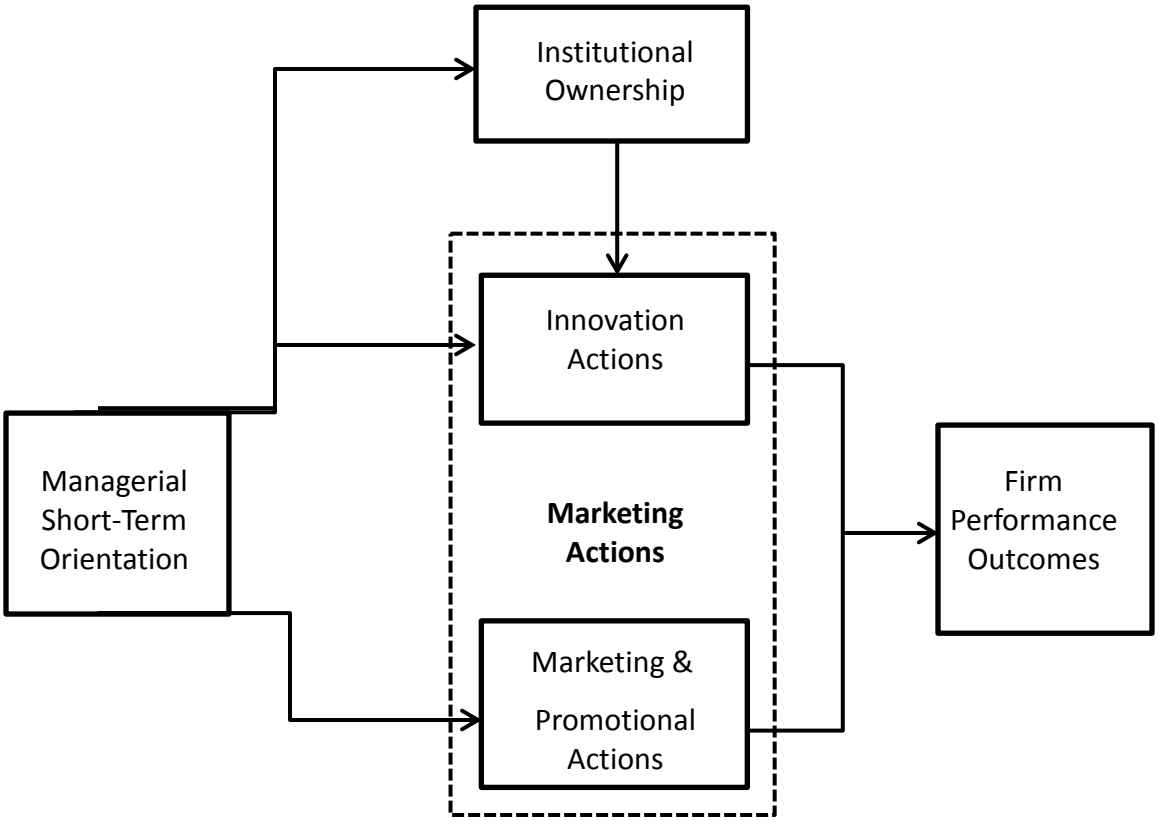
Figure 1

Keyword Proxies for Firm Time Horizon Orientation

Short-Term Horizon
Day, days, week, weeks, month, months, quarter, quarters, year, short-term, short term, short-run, short run, latter half, year-end, yearend, year end

Figure 2

Proposed Framework



References

Aaker, David A. (1991), *Managing Brand Equity: Capitalizing on the Value of a Brand Name*. New York: The Free Press.

Acharya, V. V., & Xu, Z. (2013), "*Financial dependence and innovation: The case of public versus private firms,"* (w19708), National Bureau of Economic Research.

Assmus, G., Farley, J. U., & Lehmann, D. R. (1984), "How advertising affects sales: Meta-analysis of econometric results," *Journal of Marketing Research*, 65-74.

Baum, Calabrese and Brian Silverman (2000), "Don't go it alone," *Strategic Management Journal, 21*(3), 267-94.

Bayus, B. L., Erickson, G., & Jacobson, R. (2003), "The financial rewards of new product introductions in the personal computer industry," *Management Science*, *49*(2), 197-210.

Bharadwaj, Sundar, Varadarajan R., and Fahy, J. (1993), "Sustainable competitive advantage in service industries: a conceptual model and research propositions," *The Journal of Marketing*, 83-99.

Bhojraj, S., & Libby, R. (2005), "Capital market pressure, disclosure frequency-induced earnings/cash flow conflict, and managerial myopia," *The Accounting Review*, 80(1), 1-20.

Brochet, Francois, Maria Loumioti, and George Serafeim (2012), "Short-Termism, Investor Clientele, and Firm Risk," Harvard Business School, Working Paper #12-072.

Brownell, P. (1987), "The role of accounting information, environment and management control in multi-national organizations," *Accounting & Finance*, *27*(1), 1-16.

Bushee, Brian (1998), "The influence of institutional investors on myopic r&d investment behavior", *Accounting Review*, 73(3), 305-33.

Campbell, T. S., & Marino, A. M. (1994). Myopic investment decisions and competitive labor markets. *International Economic Review*, 855-875.

Chakravarty, Anindita and Rajdeep Grewal (2011), "The Stock Market in the Driver's Seat! Implications for R&D and Marketing," *Management Science*, 57 (9), 1594-1609.

Chaney, P. K., Devinney, T. M., & Winer, R. S. (1991), "The impact of new product introductions on the market value of firms," *Journal of Business*, 573-610.

Chapman, C.J. and T.J. Steenburgh (2011), "An Investigation of Earnings Management Through Marketing Actions," *Management Science*, 57 (1), 72–92.

Chava, S., Nanda, V. K., & Xiao, S. C. (2013), "Lending to innovative firms: The role of lender expertise and control rights," *Available at SSRN 2327910*.

Chow, C. W., Shields, M. D., & Wu, A. (1999), "The importance of national culture in the design of and preference for management controls for multi-national operations," *Accounting, Organizations and Society*, *24*(5), 441-461.

Chung, Kee and Stephen Pruitt (1994), "A simple approximation of Tobin's q," *Financial Management*, *23*(3), 70-4.

Dierickx, I., & Cool, K. (1989), "Asset stock accumulation and sustainability of competitive advantage," *Management science*, *35*(12), 1504-1511.

DiMaggio, P. J., & Powell, W. W. (1983), And Collective Rationality In Organizational Fields, *American Sociological Review*, *48*(2), 147-160.

Dotzel, Thomas, Venkatesh Shankar, and Leondar Berry (2013), "Service innovativeness and firm value," *Journal of Marketing Research*, *50*(2), 259-76.

Drucker, P. F. (1986). The changed world economy. *Foreign affairs*, 768-791.

Edmans, A., & Manso, G. (2011). Governance through trading and intervention: A theory of multiple blockholders. *Review of Financial Studies, 24*(7), 2395-2428.

Fiske, S. T., & Taylor, S. E. (1984), Social cognition. New York: Random House.

Froot, K. A., Scharfstein, D. S., & Stein, J. C. (1992). Herd on the street: Informational inefficiencies in a market with short-term speculation. *The Journal of Finance, 47*(4), 1461-1484.

Geroski, Paul, Steve Machin, and John Van Reenen (1993), "The profitability of innovating firms," *RAND Journal of Economics*, 24, 198-211.

Gibbons, R. and R. Henderson (2010). Relational Contracts and the Origins of Organizational Capabilities. Forthcoming in R. Gibbons and J. Roberts (eds.), The Handbook of Organizational Economics. Princeton, NJ: Princeton University Press.

Grullon, G., Kanatas, G., & Weston, J. P. (2004), "Advertising, breadth of ownership, and liquidity," *Review of Financial Studies, 17*(2), 439-461.

Hayes, R.H, and W.J. Abernathy (1980), "Managing Our Way to Decline," *Harvard Business Review*, pp. 63–74.

Helfta, C.E. (2007), Dynamic Capabilities: Understanding Strategic Change in Organizations, Blackwell Publications, Malden, MA.

Holmstrom, B., & Costa, J. R. I. (1986). Managerial incentives and capital management. *The Quarterly Journal of Economics*, 835-860.

Hopwood, A.G. (1972), An empirical study of the role of accounting data in performance evaluation ,*Empirical Research in Accounting*, 12, pp. 156–182.

Jacobs, M. T. (1991), *Short-term America: The causes and cures of our business myopia*. Harvard Business School Press, Boston, MA.

Jensen, Michael C. (1986), "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers," *American Economic Review*, 76 (2), 323-329.

Johnson, H. T., & Kaplan, R. S. (1987), "The rise and fall of management accounting," *Engineering Management Review, IEEE, 15*(3), 36-44.

Joshi, Amit and Dominique Hanssens (2009), "Movie advertising and the stock market valuation of studios: a case of "great expectations?", *Marketing Science*, 28(2), 239-250.

Karl E. Weick (1995), *Sensemaking in organizations*, (3), Sage Publishing.

Kerr, W. R., & Nanda, R. (2014), "*Financing Innovation*, National Bureau of Economic Research, (w20676).

Kothari, S. P., Li, X., & Short, J. E. (2009), "The effect of disclosures by management, analysts, and business press on cost of capital, return volatility, and analyst forecasts: A study using content analysis," *The Accounting Review*, *84*(5), 1639-1670.

Laverty, Kevin J.(1996), "Economic "short-termism": The debate, the unresolved issues, and the implications for management practice and research," *Academy of Management Review*, *21*(3), 825-860.

Leone, R. P., & Schultz, R. L. (1980), "A study of marketing generalizations," *The Journal of Marketing*, 10-18.

Lodish, L. M., Abraham, M. M., Livelsberger, J., Lubetkin, B., Richardson, B., & Stevens, M. E. (1995), "A summary of fifty-five in-market experimental estimates of the long-term effect of TV advertising," *Marketing Science*,*14*(3), G133-G140.

Loescher, S. M. (1984), “Bureaucratic measurement, shuttling stock shares, and shortened time horizons: Implications for economic growth,” *Quarterly Review of Economics and Business*, 24, 8-23.

Mahajan, Vijay and Jerry Wind (1992), “New product models: practice, shortcomings and desired improvements,” *Journal of Product Innovation Management*, *9*(2), 128-39.

Marginson, David, and Laurie McAulay (2008), "Exploring the debate on short-termism: a theoretical and empirical analysis," *Strategic Management Journal*, 29(3), 273-292.

Menguc, Bulent and Seigyoung Auh (2006), “Creating a firm-level dynamic capability through capitalizing on market orientation and innovativeness,” *Journal of the Academy of Marketing Science*, 34(1), 63-73.

Merchant, K. A. (1990), “The effects of financial controls on data manipulation and management myopia,” *Accounting, organizations and society*, *15*(4), 297-313.

Miller, Kent D. (2002), “Knowledge inventories and managerial myopia,” *Strategic Management Journal*, *23*(8), 689-706.

Mizik, Natalie (2010), “The Theory and Practice of Myopic Management,” *Journal of Marketing Research*, 47 (4), 594–611.

Mizik, Natalie and Robert Jacobson (2007), “Myopic Marketing Management: Evidence of the Phenomenon and Its Long-Term Performance Consequences in the SEO Context,” *Marketing Science*, 26 (3), 361–79.

Mullins, D. W. (1991), Foreword, In: M. T. Jacobs, Short-term America, Harvard Business School Press, Boston, MA.

Narayanan, M. P. (1985), “Managerial Incentives for Short-Term Results,” *Journal of Finance*, 40 (5), 1469–84.

Ocasio, W. (1997), "Towards an Attention-Based View Of The Firm," *Psychology*, (1), 403-404.

Otley, D. T. (1978), "Budget use and managerial performance," *Journal of Accounting Research*, 122-149.

Pauwels, Koen, Jorge Silva-Risso, Shuba Srinivasan, and Dominique Hanssens (2004), "New Products, Sales Promotions, and Firm Value: The Case of the Automobile Industry," *Journal of Marketing*, 68 (4), 142-56.

Porter, Michael E. (1992), "Capital choices: changing the way America invests in industry," *Journal of Applied Corporate Finance*, 5(2), 4-16.

Prelec, D., & Loewenstein, G. (1991), "Decision making over time and under uncertainty: A common approach," *Management science*, *37*(7), 770-786.

Rappaport, A. (1992, *CFOs And Strategists: Forging A Common Framework*, Harvard Business Review, 70(3): 84-91.

Rebele, J. E., & Michaels, R. E. (1990), "Independent auditors' role stress: Antecedent, outcome, and moderating variables," *Behavioral Research in Accounting*, *2*(1), 124-153.

Rego, Lopo, Neil Morgan, and Claes Fornell (2013), "Re-examining the market share-customer satisfaction relationship," *Journal of Marketing*, 77(5), 1-20.

Roychowdhury, S. (2006), "Earnings Management through Real Activities Manipulation," *Journal of Accounting and Economics*, 42 (3), 335–70.

Rubera, Gaia and Ahmet H. Kirca (2012), "Firm innovativeness and its performance outcomes: a meta-analytic review and theoretical integration," *Journal of Marketing*, 76(3), 130-47.

Rumelt, R. P., Schendel, D. E., & Teece, D. J. (Eds.) (1994), *Fundamental issues in strategy: A research agenda*, Boston: Harvard Business School Press.

Salancik, G. R., & Pfeffer, J. (1978), A social information processing approach to job attitudes and task design, *Administrative science quarterly*, 224-253.

Samuel, C (2000), "Does Shareholder Myopia Lead to managerial myopia? A first look," *Applied Financial Economics*, 10, 493-505.

Sethuraman, Raj, Gerard Tellis, and Richard Briesch (2011), "How well does advertising work?," *Journal of Marketing Research*, 48(3), 457-471.

Shleifer, Andrei and Robert Vishny (1990), "Equilibrium short horizons of investors and firms," *American Economic Review*, 80(2), 148-53.

Simmons, R. (1995), *Levers of Control*, Harvard Business School Press: Boston, MA.

Simmons, R. (1999), *Performance Measurement and Control Systems for Implementing Strategy*, Prentice-Hall*:* Englewood Cliffs, NJ.

Sood, Ashish and Gerard Tellis (2009), "Do innovations really pay off? Total stock market returns to innovation," *Marketing Science*, 28(3), 442-56.

Sorescu, Alina, Rajesh Chandy, and Jaideep Prabhu (2003), "Sources and financial consequences of radical innovation: insights from pharmaceuticals," *Journal of Marketing*, 67 (4), 82-102.

———, and Jelena Spanjol (2008), "Innovation's Effect on Firm Value and Risk: Insights from Consumer Packaged Goods," *Journal of Marketing*, 72 (2), 114-32.

———, Vekatesh Shankar, and Tarun Kushwaha (2007), "New product preannouncements and shareholder value," *Journal of Marketing Research*, 44 (3), 468-89.

Srivastava, Rajendra, Tasadduq Shervani, and Liam Fahey (1998), "Market-based assets and shareholder value: a framework for analysis," *Journal of Marketing*, 62(1), 1-18.

Stinchcombe, A. L. (1990). *Information and organizations*, (19), Univ of California Press: Loss Angeles, CA.

Turner, J. C. (1991), *Social influence*, Thomson Brooks/Cole Publishing Co.

Van der Stede, Wim A (2000), "The relationship between two consequences of budgetary controls: budgetary slack creation and managerial short-term orientation," *Accounting, Organizations and Society*, 25(6), 609-622.

CHAPTER 5

CONCLUSION

Overall, in this dissertation, I attempt to uncover and empirically test a number of important gaps in the myopic management literature in marketing. I find that internal as well as external factors combine to create pressures for a corporate atmosphere conducive to myopic actions to occur and to systematically impact marketing and innovation activities of publicly traded firms. Top management team compensation horizon along with the presence of short term oriented institutional investor funds drives managerial myopia, while firm leverage, financial analyst following, and competitive intensity seem to moderate those relationships. Furthermore, I find that external factors, such as ownership by short term oriented institutional investors tend to moderate the relationship between new product innovativeness (breakthrough vs. incrementally innovative new product introductions) and the ultimate payoff in financial markets, presenting one of the pathways via which stock market factors may influence managerial innovation policies. Finally, I introduce the construct of managerial short term orientation, which is distinct from managerial myopia as it is based on language patterns of top executives uncovered by textual analysis of conference calls with analysts. Using multiple estimation approaches, I find that managerial short term orientation is systematically linked with firm use of promotional tactcs and advertising, as well as with an increased pattern of incremental vs. breakthrough innovation and finally, with increased presence by short term institutional investors. Overall, this dissertation presents some novel findings regarding the underlying processes and the impact of

managerial myopia on marketing and innovation policies, as well as a different conceptualization of managerial myopia, in the new construct of managerial short term orientation.