MANAGEMENT EARNINGS FORECAST POLICIES AND THE COST OF EQUITY CAPITAL: DO MOTIVES MATTER?

by

LISA AUSTIN HINSON

(Under the Direction of Stephen P. Baginski)

ABSTRACT

I investigate whether managerial motivations for issuing management forecasts impact the relation between forecast policies and the cost of equity capital. Extant research on the relation between voluntary disclosure and the cost of equity capital assumes that management discloses information to credibly adjust investor expectations and, thus, lower cost of capital. My study is motivated by the low likelihood that all management forecasts yield the credible information underlying the beneficial effect on cost of equity capital. Drawing from the literature on management forecast incentives, I classify management forecast motivations other than cost of capital reduction into three categories: (1) compliance with exchange rules, (2) opportunism to benefit managerial self-interests, and (3) opportunism to benefit aligned managerial/existing shareholder interests. I find that, of firms that forecast, those with policies containing higher percentages of forecasts motivated by rule compliance, managerial opportunism, and aligned managerial/existing shareholder opportunism have higher cost of equity capital. Thus, evidence suggests that underlying forecast motivations impact the management earnings forecast policy-cost of equity capital relation.

INDEX WORDS: Management Forecasts, Voluntary Disclosure, Cost of Capital, Incentives, Motivations

MANAGEMENT EARNINGS FORECAST POLICIES AND THE COST OF EQUITY CAPITAL: DO MOTIVES MATTER?

by

LISA AUSTIN HINSON

B.S., Wake Forest University, 2008

M.S., Wake Forest 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

MANAGEMENT EARNINGS FORECAST POLICIES AND THE COST OF EQUITY CAPITAL: DO MOTIVES MATTER?

by

LISA AUSTIN HINSON

Major Professor:	Stephen P. Baginski
Committee:	Linda S. Bamber
	John L. Campbell
	Santhosh Ramalingegowda

Electronic Version Approved:

Suzanne Barbour
Dean of the Graduate School
The University of Georgia
May 2016

ACKNOWLEDGEMENTS

First and foremost, I want to sincerely thank Steve Baginski, my chairperson, for his constant and meaningful guidance and unwavering support throughout my doctoral program. From the very beginning, Steve has worked with me and his knowledge and enthusiasm have been invaluable to my education and success. I never imagined having such a kind, patient, generous, insightful, and fun mentor. I can only hope to be a mentor like him one day.

Second, I want to thank my committee members, Linda Bamber, John Campbell, and Santhosh Ramalingegowda for their excellent feedback. I feel so fortunate to have committee members that have gone above and beyond in providing detailed comments, preparing me for tough questions, and advising on solutions to possible concerns.

Finally, I want to thank my friends and family. I loved going through the PhD program with Ashley Austin and Steve Utke. I thank Ashley for being there for the highs and the lows; her friendship has meant so much to me and I look forward to a continued, lifelong friendship. I thank Steve for going through coursework with me, answering all of my questions, and being a great co-author; we may be unlikely friends, but we are great friends. I want to thank my parents for giving me the confidence to believe that I can succeed and for always encouraging and supporting me over the years. And last, but certainly not least, I want to thank my husband, Matt, for his unconditional love and support. I am so blessed and grateful to have him on this journey with me.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER 1

INTRODUCTION

"Whether disclosure policies and financial reporting affect a firm's cost of capital is one of the most interesting and important questions in the accounting and finance literature" (Beyer, Cohen, Lys, and Walther 2010, 307). Not surprisingly, a substantial body of recent research has investigated the relation between voluntary disclosure and the cost of equity capital, with a significant portion specifically addressing the high profile voluntary disclosure of management earnings forecasts. Theoretical models used to motivate the cost-of-capital-reducing effects of voluntary management forecast disclosure quality assume that management forecasts are issued to credibly adjust investor expectations (e.g., Diamond and Verrecchia 1991; Easley and O'Hara 2004). The empirical research on the relation between management forecast quality and the cost of equity capital also maintains this assumption in the sense that conclusions about the main effect of voluntary management forecasts on equity cost of capital are based on pooled samples rather than conditioned on the underlying motivations for forecasting (e.g., Coller and Yohn 1997; Francis, Nanda, and Olsson 2008; Baginski and Rakow 2012).

I examine the heterogeneity of the relation between voluntary management forecast disclosure quality and the cost of equity capital across forecast motivations. Specifically, I address the following research question: *Do underlying managerial motivations for issuing management earnings forecasts impact the forecast policy – cost*

of equity capital relation? My analysis is motivated by the low likelihood that motivations for issuing management forecasts and choosing forecast properties (e.g., bias, timing, content, accuracy) are homogeneous across forecast policies. Therefore, not all motivations are likely to yield the informative, credible forecasts underlying the theoretically predicted beneficial effect of management forecasts on the cost of equity capital.

Cost of capital reduction is one motivation for issuing management forecasts; however, many other motivations exist. My broad framework classifies those other management forecast motivations into three main categories: (1) compliance with exchange rules, which includes disclose or abstain forecasts and corrections, (2) opportunism to benefit managerial self-interests, which includes forecasts around insider purchases, insider sales, and option grants, and (3) opportunism to benefit aligned managerial/existing shareholder interests, which includes forecasts around repurchases, issuances, and stock mergers as well as forecasts to manage expectations, reduce litigation risk, and deter potential entrants (see Figure 1).[1]

I expect forecasts motivated by rule compliance, managerial self-interests, and aligned managerial/shareholder incentives to be less effective in reducing cost of capital relative to forecasts motivated by cost of capital reduction. Managers who forecast for non-cost-of-capital reasons may not have material, superior private information that will adjust market expectations when disclosed. Further, managers not motivated by cost of

[1] Cost-of-capital-motivated forecasts are forecasts not included in the three categories and are thus mutually exclusive from the management forecasts motivated by rule compliance, managerial self-interests, and aligned managerial/existing shareholder interests. However, it is possible for a management forecast to belong to more than one of the three categories in my framework (19% of sample forecasts belong to more than one of the three categories). For example, a bad news forecast issued before an insider purchase by a firm with low barriers to entry is classified in both the opportunism to benefit managerial interests and the opportunism to benefit aligned interests categories. In empirical tests, I include all three categories in the model to control for any overlap.

capital reduction may not deliberately choose the high quality forecast properties (i.e., timeliness, precision, accuracy) that are most likely to reduce information uncertainty and risk, and thus lower cost of capital. Instead, they may choose forecast properties that best achieve their disclosure objectives, and investors may perceive forecasts issued for non-cost-of-capital reasons to be less credible. Therefore, within the set of firms that forecast, I expect cost of equity capital to be higher for those firms that have forecast policies driven less by cost of capital reduction and driven more by rule compliance, managerial opportunism, and aligned opportunism.

Although I expect the cost of capital effect to vary by forecast motivation, it is possible that forecasts motivated by rule compliance, managerial self-interests, and aligned managerial/shareholder incentives are just as effective as cost-of-capital-motivated forecasts in reducing the cost of equity capital (and therefore, I will detect no variation). Non-cost-of-capital-motivated forecasts are not necessarily low quality, particularly because institutional factors (e.g., conditioning effects of ex post earnings announcements, legal systems, and information intermediaries such as analysts and auditors) might lead motives to be unassociated with forecast quality. Even if forecast quality is sub-optimal, the forecast information could still be superior to the existing public information or the market could be able to unravel any bias. However, if market participants are able to assess the forecast motivation, then the recognition of *potential* low quality may reduce the forecast's ability to resolve information uncertainty and asymmetry, resulting in a relatively higher cost of capital. Ultimately, whether the management forecast – cost of equity capital relation varies based on underlying motivation is an empirical question.

Economic theory links the *commitment* to high quality disclosure to lower cost of capital (Leuz and Verrecchia 2000); therefore, it is important to emphasize disclosure *policy*. Prior studies that examine the voluntary disclosure – cost of capital relation explicitly aim to capture policy (e.g., Francis et al. 2008; Baginski and Rakow 2012). I define disclosure policy as management forecast behavior over a period of time (as opposed to capturing forecast policy with a single forecast event). I first transact on the fact that forecast policy is relatively constant and assume that one year is a sufficient length of time to capture firms' policies.[2] Because it is not clear ex ante whether one year is sufficient, I also measure management forecast policy composition over five-year periods in supplemental tests.

More specifically, I measure disclosure policy as the firm-specific frequencies of forecasts motivated by cost of capital reduction, rule compliance, managerial opportunism, and aligned opportunism as percentages of total firm-specific forecasts over one-year and five-year periods. In the main analyses, I use a portfolio estimation of *ex ante* cost of capital based on the O'Hanlon and Steele (2000) model operationalized by Easton (2006). In supplemental analyses, I measure cost of capital using firm-specific *ex post* realized returns, as recommended by Wang (2015).

Descriptive evidence suggests that 33% of sample management forecasts are cost-of-capital-motivated, 25% are motivated by rule compliance, 36% are motivated by managerial self-interest, and 32% are motivated by aligned incentives.[3] I first examine a baseline case and find that, as expected, firm-years with policies motivated by cost of capital reduction have lower cost of capital among firms that forecast. Specifically, the

[2] The stickiness of forecast policies also implies the stickiness of the market's assessment of the quality of those policies (i.e., the underlying management motivations for forecasting).
[3] Firms may fall into multiple categories as described later.

cost of equity capital for firms motivated by cost of capital reduction is 8.3%, whereas the cost of equity capital for forecasting firms not motivated by cost of capital reduction is 10.6%.[4] Then, in my main tests of the effects of other non-cost-of-capital motivations on cost of capital, I find that, consistent with predictions, cost of capital is higher when a forecast policy has either above median proportions of forecasts motivated by rule compliance, manager interests, or manager/current investor-aligned incentives. The incremental cost of equity capital effects for firms with policies motivated more by rule compliance, managerial opportunism, and aligned managerial/existing investor opportunism are 0.7%, 1.1%, and 2.3%, respectively.

In the aforementioned tests, firms are alike in that they all make the decision to forecast during the year. To provide additional context, I also benchmark against firms that do not forecast during the year. Overall, management forecast issuance is negatively associated with cost of equity capital. However, relative to firm-years with no management forecasts, cost of capital is lower only for firm-years with above median percentages of forecasts motivated by cost of capital. It is not lower for firm-years with above median percentages of forecasts motivated by rule compliance, managerial self-interests, and aligned incentives. Taken as a whole, the evidence suggests that the cost of capital effects of management forecast policies vary based on underlying motivations. On average, a policy to forecast is associated with lower cost of capital, but among the set of

[4] The difference of 2.3% is in line with prior studies' findings on cost of equity capital differences between firms with low and high quality disclosures. For example, Francis, LaFond, Olsson, and Schipper (2004, 2005) find differences of 2.61% and 2.10% across levels of accruals quality, Francis et al. (2008) estimate a difference of 1.98% between firms with the least and most expansive voluntary disclosures, Dhaliwal, Li, Tsang, and Yang (2011) show a difference of 1.83% for producing superior voluntary corporate social responsibility disclosures, Baginski and Rakow (2012) find a 3.20% difference between firms with low and high quality management forecast policies, and Barth, Konchitchki, and Landsman (2013) estimate a difference of 3.36% between firms with less and more transparent earnings.

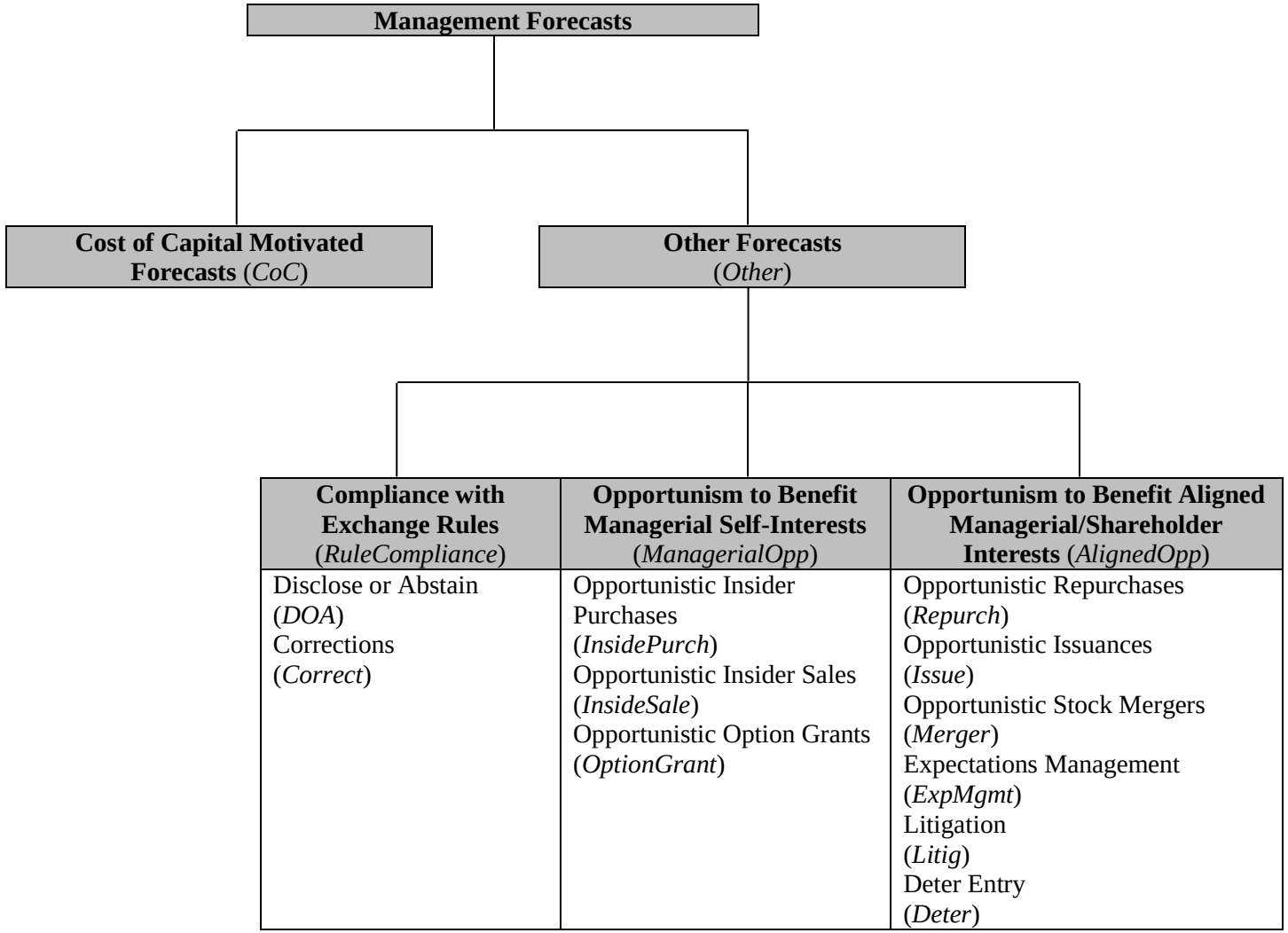
forecasting firms, non-cost-of-capital-motivated policies are not associated with lower cost of capital and are even associated with higher cost of capital in some cases.

My study contributes in several ways. First, cost of capital is fundamental to corporate decisions such as investment and capital structure choices, and therefore, it is important for managers to understand the relation between disclosure and cost of equity capital. Prior research suggests to managers that forecasts have homogenous effects on cost of capital whereas my study allows for more refined estimates of cost of capital effects and in turn, enables a more accurate cost-benefit analysis to aid in the creation of forecast policy. Because I examine management forecast policies rather than individual management forecast acts, the benefits I document are not related to a given management forecast, but instead are conditioned on the frequency of management motivations that characterize a firm's forecast policy.

Second, my study contributes to the literature that examines the relation between disclosure and the cost of equity capital. Theoretical research posits a unidirectional relation – disclosure decreases cost of capital, and several recent studies such as Leuz and Schrand (2009), Baginski and Rakow (2012), Balakrishnan, Billings, Kelly, and Ljungqvist (2014), and Baginski and Hinson (2016) have been successful in empirically documenting the theoretically negative relation. I extend this line of research and provide evidence of the uniformity of the findings by imposing additional structure on the relation. Specifically, I link cross-sectional variation in disclosure motivations to the *magnitude* of the cost of capital effect. This is not only important to understanding variation in the cost of capital effect, but also to strengthen empirical support for the relation between the supply of disclosure and cost of equity capital.

Finally, the traditional measure of management forecast *policy* equates higher forecast frequency to higher quality. My evidence suggests that underlying forecast motivations influence forecast policy quality in terms of the cost of capital impact. Thus, I identify another dimension of management forecast policy quality that is not captured in the traditional measures in the cost of capital literature.

Figure 1: Forecast Motivation Framework



CHAPTER 2

HYPOTHESES

2.1 Theoretical Background

The longstanding theoretical literature predicts a negative relation between high quality disclosure and cost of equity capital through two mechanisms. First, Barry and Brown (1985), Handa and Linn (1993), and Coles, Loewenstein, and Suay (1995) argue that investors face uncertainty in estimating the parameters of securities' expected return distributions. This estimation risk is nondiversifiable and constitutes a component of the cost of equity capital. Disclosure reduces estimation risk and thus has a negative relation with cost of capital.

Second, disclosure reduces information asymmetry between firm insiders and outsiders and among various types of investors, which increases liquidity, and lowers the cost of capital. Amihud and Mendelson (1986) show that disclosure reduces the adverse selection component of the bid-ask spread, which in turn reduces cost of capital. Diamond and Verrecchia (1991) argue that disclosure of private information decreases the impact of a trade, which increases liquidity and induces large traders to take bigger positions. The increase in demand results in a lower cost of capital. Easley and O'Hara (2004) show two channels through which information asymmetry affects cost of capital. First, relatively more private information results in informed traders holding larger amounts of stock. Disclosure of private information increases the number of informed

traders and as a result, increases demand for the stock, increases price, and decreases cost of capital. Second, when more traders are informed, the information indirectly revealed to the uninformed through the stock price has greater precision. The greater precision reduces the uninformed's risk and results in a further decrease in cost of capital.

The effects of information risk and information asymmetry on cost of equity capital are modeled through factor loadings on risk factors in asset pricing models (i.e., betas) and as separately priced information risk factors. Studies such as Easley and O'Hara (2004) and Lambert, Leuz, and Verrecchia (2012) model a separate risk factor for information quality.[5] However, Hughes, Liu, and Liu (2007), Lambert, Leuz, and Verrecchia (2007) and Caskey, Hughes, and Liu (2015) argue that, in a large economy where idiosyncratic risks can be diversified, information affects cost of capital only via factor loadings (i.e., betas). Shevlin (2013) argues that theoretical models cannot resolve the question of whether information quality is diversifiable through assumption and therefore, suggests that we do not restrict the impact of information on cost of equity capital to factor loadings.

Theoretical work continues to debate the mechanisms, and the relative strengths of the mechanisms, through which disclosure impacts cost of capital, as well as whether any effect is a separate risk factor or simply reflected in the factor loadings of asset pricing models.[6] The objective of this study is not to weigh in on these debates. No matter the mechanism – information risk, information asymmetry, or both – and no matter whether the mechanism works through factor loadings or is a separately priced risk

[5] The empirical evidence in Francis et al. (2005) is consistent with a separately priced risk factor: financial reporting quality is positively associated with realized returns after controlling for the Fama-French (1993) three factors.

[6] See, for example, Hughes et al. (2007), Lambert et al. (2007, 2012), Clinch (2013), Caskey et al. (2015), and Taylor and Verrecchia (2015).

factor, theory predicts a negative association between high quality disclosure and the cost of equity capital and several empirical studies document the effect.

Theoretical models (and many empirical studies) that link disclosure to cost of capital implicitly or explicitly assume that managers' signals are informative, high quality signals. That is, managers have material, superior private information capable of adjusting market expectations that they disclose in a timely, precise, and accurate fashion. In addition, when linking disclosure to cost of capital, the definition of quality is not only based on the characteristics that lead to forecast usefulness, but it also requires that market participants *perceive* the disclosure to be high quality. However, motivations exist for issuing management forecasts other than reducing cost of capital that might lead to lower quality or lower *perceived* quality. For example, managers may be motivated to issue a forecast when they do not have superior private information or when they do not face misaligned expectations. Further, opportunistic motivations may lead managers to choose forecast properties that deviate from theoretically assumed truthful representation. Theoretical models do not predict a negative disclosure/cost of capital relation for uninformative or biased disclosures.

2.2 Management Forecast Motivation Framework (and Related Hypotheses)

Management forecasts are a key disclosure that firms use to reduce information risk and asymmetry, and as a result, recent empirical disclosure/cost of capital studies have used management forecasts as the disclosure of interest. In an examination of management forecast *policy* (a composite measure of management forecast supply, frequency, and precision over a four-year period), Baginski and Rakow (2012) find that it is negatively related to cost of equity capital. In addition, Baginski and Hinson (2016)

find that increases in management forecast frequencies pursuant to forecast initiation are associated with decreases in the cost of equity capital. These studies do not condition the main effect on underlying forecast motivations, and thus do not document differential effects on cost of capital of potentially low quality forecasts.

A few studies exist that examine the relation between disclosure and information asymmetry, liquidity, and price increases (as opposed to cost of capital measured directly) and that condition on selected motivations rather than a broad set of motivations (e.g., Lang and Lundholm 2000; Rogers 2008; Li, Wasley, and Zimmerman 2015). Most closely related to my study is Li et al. (2015), which classifies management forecasts into three motivations: capital market incentives, the disclose or abstain rule, and managerial opportunism around insider trades. My framework includes additional motivations, such as corrections, opportunism around repurchases, issuances, and stock mergers, expectations management, litigation risk, and threats from potential entrants. Notably, expectations management and corrections are significant motivations for forecasting (26% and 23% of sample forecasts, respectively) and thus, are important classifications to analyze separately. This study not only differs from Li et al. (2015) in the extensiveness of the framework, but also in two other key ways. First is the motivation. Li et al. (2015) perform empirical tests to validate the disclose or abstain motivation. One of the four tests is similar to my study in that it examines bid-ask spread; however, my motivation is to thoroughly test the effects of forecast policies on *direct* measures of cost of capital.[7] The second key difference is that I classify and analyze management forecast *policies*. Looking beyond individual forecasts to forecast policies is important in the cost of capital

[7] Bid-ask spread proxies for information asymmetry. As previously discussed, theoretical studies debate whether information asymmetry impacts cost of capital (Easley and O'Hara 2004; Hughes et al. 2007; Lambert et al. 2012).

context as theory predicts that it is the *commitment* to disclosure that has the strongest impact.

Given that many motivations exist for management forecast disclosure other than cost of capital reduction (*CoC*), I develop a framework which classifies those "other" management forecast motivations into three categories: compliance with exchange rules, opportunism to benefit managerial self-interests, and opportunism to benefit aligned managerial/existing shareholder interests (see Figure 1). I develop and test hypotheses for the three categories separately rather than combined as the *Other* group because the expected mechanisms relating the motivations to cost of capital and the sources of tension vary across the categories and therefore, results for each of the three categories may vary.

2.2.1 Compliance with Exchange Rules

Two forecast motivations fall under the compliance with exchange rules rationale. First, to comply with rule 10b-5, managers who wish to trade in their firm's securities must disclose or abstain from trading.[8] I classify forecasts as disclose or abstain forecasts (*DOA*) if they are issued prior to insider trading and they are not otherwise classified as motivated by opportunism to benefit managerial self-interests (described in section 2.2.2).[9]

Second, under rule 10b-5, management has a duty to issue a correction if a previously issued disclosure becomes inaccurate, incomplete or misleading. I classify

[8] In the condition of subsequent insider trading, disclose or abstain forecasts are mandatory. However, unconditionally, these forecasts remain voluntary in that management can choose not to trade or can choose to delay trading until after the earnings announcement.

[9] Forecasts issued *prior to* insider trading that are classified as opportunism to benefit managerial self-interests include bad news and imprecise good news forecasts before insider purchases as well as good news and imprecise bad news forecasts before insider sales. Thus, *DOA* forecasts include those that convey precise good news prior to insider purchases and precise bad news prior to insider sales.

forecasts as corrections (*Correct*) if they are not the first for a given fiscal period end and are largely different from the previous forecast.[10]

Intuitively, forecasts issued to comply with exchange rules differ from the representative cost of capital reducing voluntary forecasts. While managers motivated by cost of capital reduction forecast when they have superior private information, managers motivated by the disclose or abstain rule might forecast whether or not they have superior private information (e.g., in order to protect themselves from claims of withheld information when engaging in insider trades). Thus, in some cases, disclose or abstain forecasts may not materially impact information precision or information asymmetry because the forecasts are of a relatively lower quality than existing market forecasts.

In contrast, the requirement to issue a correction specifically applies when management possesses material private information and, if withheld, existing information would be inaccurate, incomplete, or misleading. Thus, this type of forecast is similar to the representative cost of capital reducing forecast in its ability to adjust expectations. However, the requirement to update applies because the prior forecast was materially inaccurate, which signals management's inability to predict and control firm performance and thus increases information uncertainty. Consistent with the notion of increased uncertainty, experimental evidence suggests that investors over-react to corrections, suggesting increased volatility (Tan and Koonce 2011). Therefore, one mechanism

[10] I do not require a correction to be more accurate (i.e., closer to actual earnings) than the previous forecast because the forecast horizon can be such that management releases a correction, yet subsequent events in the time between the correction and the fiscal period end adjust earnings back towards the previous forecast. Nevertheless, results are robust to requiring corrections to be more accurate.

through which a forecast policy reduces cost of capital, namely by reducing information risk, is impaired when there are larger proportions of forecasts issued as corrections.[11]

Empirical evidence on the relation between management forecasts motivated by compliance with exchange rules and cost of capital is scarce; however, Li et al. (2015) document some indirect evidence. They examine bid-ask spreads, a measure of information asymmetry (which may or may not translate into increased cost of capital), and find that disclose or abstain forecasts do not reduce spreads.

Given that disclose or abstain forecasts might not possess properties associated with cost of capital reduction and corrections may convey information uncertainty, I expect forecasting firms with a relatively larger proportion of forecasts motivated by rule compliance to have higher cost of capital.

> *H1 Rule Compliance*: Relative to other forecasting firms, cost of capital is greater for firms with management forecast policies motivated by compliance with exchange rules.

2.2.2 Opportunism to Benefit Managerial Self-Interests

The second category captures opportunistic forecasts that benefit managerial self-interests. Prior research finds that the quality and properties of management forecasts issued around insider trades differ from the quality and properties of management forecasts not issued around insider trades, which suggests that opportunism around insider trades motivates managers' forecasting behavior. Evidence of this type of opportunism includes issuance of forecasts expected to deflate stock price prior to insider purchases and delay of forecasts expected to increase stock price until after insider purchases (*InsidePurch*), as well as forecasts expected to inflate stock price prior to

[11] An oft-cited manager defense for not issuing management forecasts is that they increase price volatility. Corrections add yet another signal to the stream of signals investors receive and are an explicit recognition that the prior forecast was incorrect.

insider sales and the delay of forecasts expected to deflate stock price until after insider sales (*InsideSale*).

Also, empirical research has documented that prior to stock option grants, management forecasts are more likely to contain bad news and less likely to contain good news (Aboody and Kasznik 2000), which suggests that managers may opportunistically bias forecasts in order to lower the exercise price on their options. Opportunistic forecasts around option grants include bad news forecasts before grants and good news forecasts after grants (*OptionGrant*).

Relative to the representative cost of capital reducing forecast, opportunistic forecasts that benefit managerial self-interests may be less likely to represent truthful representations of managers' private information and thus, are less likely to improve the information environment and reduce cost of equity capital. However, scrutiny around insider transactions is high. If the costs related to high scrutiny provide sufficient conditioning effects on managers, then forecasts opportunistically motivated by managers' self-interests may not be significantly different than forecasts motivated by cost of capital reduction. Further, the ability of forecasts motivated by managerial self-interest to reduce cost of capital may not be impaired if the market is able to anticipate and perfectly unwind biases. Findings in Rogers and Stocken (2005) that the market filters out the predictable portion of bias for good news forecasts, but not for bad news forecasts, suggest that the market can partially, although not perfectly, unravel biases.

Some prior research examines the relation between management forecasts prior to insider trades and indirect measures of cost of capital, but the results are mixed. Rogers (2008) distinguishes between insider sales and purchases, arguing that higher scrutiny

and litigation risk incentivize managers to issue high quality forecasts prior to sales whereas reduced risk and the incentive to maintain an information advantage lead to low quality forecasts prior to purchases. He finds that management forecasts released prior to net insider sales *increase* liquidity and quoted dollar depth and management forecasts released prior to net insider purchases *decrease* liquidity and do not impact quoted dollar depth relative to forecasts not associated with trading. Li et al. (2015) find that opportunistic forecasts issued prior to insider trading are *not associated* with bid-ask spreads whereas forecasts that are not issued opportunistically nor issued to comply with disclose or abstain rules are associated with reductions in bid-ask spread.

Although indirect evidence from prior research is not conclusive and external scrutiny and investors' ability to partially unwind biases provide significant tension, I expect that the *perception* of diminished credibility and the inability to fully unwind biases will impair the ability of forecasts motivated by managerial self-interests to reduce information risk. Therefore, I hypothesize that management forecast policies with high percentages of forecasts issued for managers' self-serving motives are associated with higher cost of capital relative to policies with low percentages of forecasts motivated by managerial self-interest.

> *H2 Managerial Opportunism*: Relative to other forecasting firms, cost of capital is greater for firms with management forecast policies motivated by managerial opportunism.

2.2.3 Opportunism to Benefit Aligned Managerial/Shareholder Interests

The third category captures forecasts for which opportunism benefits both managers and existing shareholders through higher cash flows for the firm. Several types of forecasts fall into this category. First, extant research suggests opportunism around

repurchases, issuances, and stock mergers. Brockman, Khurana, and Martin (2008) find that managers manipulate forecasts before share repurchases as evidenced by a higher frequency of bad news, larger magnitude of bad news, and a greater likelihood of pessimism relative to forecasts not issued in the 30 days prior to a repurchase. Related to equity offerings, Frankel, McNichols, and Wilson (1995) do not find evidence of biased annual forecasts prior to accessing capital, but Lang and Lundholm (2000) find evidence consistent with managers hyping the stock prior to equity offerings. In a stock merger, the acquirer's stock price affects the cost of the acquisition and thus, the acquirer desires a high stock price. Consistent with this intuition, Ge and Lennox (2011) find that managers are more likely to delay bad news forecasts until after the acquisition announcement when acquisitions are financed with stock compared to when acquisitions are financed with cash.[12] Managers exhibit these types of opportunism by issuing bad news before and good news after repurchases (*Repurch*) and issuing good news before and bad news after issuances (*Issue*) and stock mergers (*Merger*).

Another type of forecast benefiting aligned managerial and existing shareholder incentives is a forecast used in the expectations management game. Managers bias forecasts downward to artificially deflate expectations so that expectations are easily meetable or beatable at the earnings announcement (*ExpMgmt*) (Matsumoto 2002; Richardson, Teoh, and Wysocki 2004; Cotter, Tuna, and Wysocki 2006; Kross, Ro, and Suk 2011).

[12] Other extant research suggests opportunism prior to stock mergers, but focuses on the stock price effects of earnings rather than management forecasts. Erickson and Wang (1999) find that managers manipulate earnings to inflate stock price and He, Liu, Netter, and Shu (2015) document expectations management to create a positive earnings surprise prior to stock mergers.

Litigation risk also motivates forecasting behavior. Specifically, firms facing high litigation risk issue forecasts to preempt large negative earnings surprises (Skinner 1994; Kasznik and Lev 1995; Baginski, Hassell, and Kimbrough 2002). In addition, litigation risk impacts forecast precision and timeliness (Baginski et al. 2002) and firms facing high litigation risk issue pessimistically biased forecasts (Rogers and Stocken 2005). Forecasts motivated by reducing litigation risk are bad news warnings by firms that belong to high litigation risk industries (*Litig*).

Finally, management forecasts not only provide information to existing and potential shareholders, but also to existing and potential competition. If a potential competitor views favorable information and decides to enter the industry, then the incumbent firm and therefore existing shareholders, experience a decline in future profits (Newman and Sansing 1993). Thus, in industries with low barriers to entry, managers may strategically issue bad news forecasts in order to reduce threats from potential entrants (*Deter*).

Opportunistic forecasts may be less likely to convey credible and truthful information intended to align market expectations with managers' true expectation. Again, in some cases, the market may predict and adjust for biases. However, market participants are not always aware of upcoming transactions. For example, companies can repurchase shares without announcing that they are doing so (Brockman et al. 2008). In cases where the market has knowledge of an incentive, it is unlikely that participants can perfectly adjust for biases. Rogers and Stocken (2005) find inconsistent adjustment for predictable biases and in the case of expectations management, Bartov, Givoly, and Hayn

(2002) and Kross et al. (2011) find that investors are unable to fully unravel the downward bias.

Very little research exists on the relation between disclosure motivated by aligned opportunism and cost of capital; however, Lang and Lundholm (2000) provide some indirect evidence. They investigate whether voluntary disclosure prior to equity offerings is consistent with the motivation to reduce information asymmetry or the motivation to hype the stock. They do not specifically examine management forecasts, but rather collect all public disclosures and hand code the voluntary information. If firms maintain a consistent level of voluntary disclosure in the year prior to the offering announcement, the motivation is classified as information asymmetry reduction, and if firms increase voluntary disclosure in the latter six months of that year, the motivation is classified as hyping the stock. Using this classification scheme and using price increases prior to the offering as a proxy for cost of capital (with higher increases signifying lower cost of capital), Lang and Lundholm (2000) find that both types of voluntary disclosure reduce cost of capital, but the reduction associated with hype is not as strong. This indirect evidence suggests that opportunistic disclosure before equity issuances is not as effective in reducing cost of capital.

I predict that, among forecasting firms, management forecast policies with higher percentages of forecasts motivated by aligned managerial/existing shareholder incentives (i.e., *Repurch*, *Issue*, *Merger*, *ExpMgmt*, *Litig*, and *Deter*) will have higher costs of capital.

> *H3 Aligned Opportunism*: Relative to other forecasting firms, cost of capital is greater for firms with management forecast policies motivated by aligned managerial/existing shareholder opportunism.

CHAPTER 3

CLASSIFICATION MEASURES

The specific measurement criteria for inclusion in each classification are as follows:

3.1 Compliance with Exchange Rules

I classify forecasts as motivated by compliance with disclose or abstain exchange rules (*DOA*) if they are followed by insider trading within the next 30 days and are not otherwise classified as forecasts motivated by opportunistic insider trading. I obtain insider open market purchases, open market sales, and option exercises from Thomson Reuters Insider Trading database.[13]

I classify a forecast as a correction (*Correct*) if it is not the first forecast for a fiscal period end and it is more than 2 cents and 1% different than the prior forecast for the fiscal period end.

3.2 Opportunism to Benefit Managerial Self-Interests

Opportunism around insider trading occurs when managers issue good (bad) news forecasts before insider sales (purchases) and when managers withhold bad (good) news until after insider sales (purchases).[14] In addition, evidence suggests that managers

[13] I define insiders as CEOS, board chairs, presidents, CFOs, executive VPs, senior VPs and COOs because members of this group likely possess private information and affect disclosure decisions (Rogers 2008; Li et al. 2015).

[14] I measure forecast news as the difference between the management forecast and the consensus analyst forecast, scaled by the pre-release share price. The consensus analyst forecast is the average of the analyst forecasts issued in the 90 days preceding the management forecast announcement.

opportunistically select the level of forecast precision prior to insider trading (Cheng, Luo, and Yue 2013). Specifically, prior to insider sales, good news forecasts are more precise and bad news forecasts are less precise than other management forecasts. The opposite applies to forecasts prior to insider purchases.[15] Therefore, I classify the following as opportunistic forecasts motivated by insider sales (*InsideSale*): (1) good news forecasts in the 30 days before insider sales, (2) abnormally imprecise bad news forecasts in the 30 days before insider sales, and (3) bad news forecasts in the 30 days after insider sales. Similarly, the following are classified as opportunistic forecasts motivated by insider purchases (*InsidePurch*): (1) bad news forecasts in the 30 days before insider purchases, (2) abnormally imprecise good news forecasts in the 30 days before insider purchases, and (3) good news forecasts in the 30 days after insider purchases.

I classify a forecast as opportunistically motivated by option grants (*OptionGrant*) if at least one grant occurs in the 30 days before (after) a good (bad) news forecast. Following prior research on option grants (e.g., Heron and Lie 2007; Ali, Wei, and Zhou 2010), I use data from the Thomson Reuters Insider Trading database and consider transactions with code "A" (award or grant transaction).

3.3 Opportunism to Benefit Aligned Managerial/Shareholder Interests

In the U.S., the most common method of repurchases is open market repurchase programs. Management forecasts are particularly influential before the start of the repurchase program and after managers have finished repurchasing shares. I use the

[15] Following Cheng et al. (2013), I measure *Width* as the difference between the upper- and lower- bound estimates, divided by the absolute value of the mid-point forecast for range forecasts and set *Width* equal to 0 for point forecasts. *Precision* is *Width**-1 so that a large value of *Precision* is a more precise forecast. I consider a forecast to be abnormally imprecise if *Precision* is 50% lower than the firm's average *Precision*.

Security Data Corporation (SDC) Merger and Acquisition database along with Compustat data to identify open market repurchase programs.[16] I classify bad news forecasts in the 30 days before the start of a repurchase program and good news forecasts in the 30 days after the end of a repurchase program as forecasts opportunistically motivated by repurchases (*Repurch*).

Aligned managerial/existing shareholder interests incentivize companies to issue good news prior to, and withhold bad news until after, equity issuances. Two examples of issuances are equity issuances and stock mergers. To obtain equity offering data, I use the SDC's Global New Issues database. Good (bad) news forecasts in the 30 days before (after) equity issuances are classified as forecasts motivated by opportunistic issuances (*Issue*). For stock mergers, I use the SDC's Merger and Acquisitions database to identify firm-quarters of acquirers who used stock or a combination of stock and cash as the method of payment. Similar to the equity issuance classification, good (bad) news forecasts in the 30 days before (after) stock mergers are classified as forecasts opportunistically motivated by stock mergers (*Merger*).

Management forecasts intended to create positive earnings surprises typically guide analyst forecasts downward and are pessimistic relative to actual earnings. Therefore, I classify forecasts as motivated by expectations management (*ExpMgmt*) if the management forecast contains bad news (i.e., MF < AF) and is less than ex post actual earnings (i.e., MF < Actual).

[16] In SDC, I gather observations where Acquisition Technique = 20 Repurchases. Repurchases with 'Intended' status whose Compustat item 'Purchases of Common and Preferred Stock' exceeds 1% of the firm's market value in the quarter of and the quarter after the repurchase signify the start of the repurchase program (Lie 2005; Gong, Louis, and Sun 2008). Repurchases with 'Completed' status whose Compustat item 'Purchases of Common and Preferred Stock' is less than 1% of the firm's market value in the quarter after the repurchase signify the end of the repurchase program.

Forecasts issued to minimize litigation risk typically preempt large negative earnings surprises (Skinner 1994). As such, I classify bad news forecasts issued in the last three weeks of the fiscal period by firms in high litigation risk industries as forecasts motivated by potential litigation costs (*Litig*).[17]

Following Li (2010), I consider industries with the highest threats from potential entrants as those with low weighted-average PP&E, R&D, and CapEx (weighted by market share), as well as small product market size (measured as the natural log of aggregate industry sales).[18] These industries have low set-up costs, initial investments, and product demand, i.e., low barriers to entry. Bad news forecasts of firms in these industries are classified as forecasts motivated to deter entry (*Deter*).

3.4 Using the Classifications to Characterize Forecast Policy

I assume that forecasts belonging to the eleven classifications described above (*DOA*, *Correct*, *InsideSale*, *InsidePurch*, *OptionGrant*, *Repurch*, *Issue*, *Merger*, *ExpMgmt*, *Litig*, and *Deter*) are issued for reasons other than cost of capital reduction and thus make up the *Other* sample, while remaining forecasts are likely issued for informational and cost of capital reduction purposes and thus make up the *CoC* sample.[19] The *Other* and *CoC* samples are mutually exclusive, but it is possible for a management forecast to belong to more than one of the eleven classifications, and consequently, more than one of the three categories in the *Other* grouping.

---

[17] High litigation risk industries include Bio-technology (SIC 2833 to 2836), Computer Hardware (SIC 3570 to 3577), Electronics (SIC 3600 to 3674), Retailing (SIC 5200 to 5961), and Computer Software (SIC 7371 to 7379) (e.g., Rogers and Stocken 2005).

[18] For each of the four variables, I rank the industries smallest to largest and then sum the four ranks across each industry. Industries with sums of ranks in the bottom quintile have the highest threats from potential entrants.

[19] Given that the definition of disclosure quality extends beyond forecast properties to include information environment characteristics, credibility, and investors' perceptions of quality (which may not relate to ex post measurable properties), I do not require *CoC* forecasts to be more accurate or precise than *Other* forecasts.

Because it is the *commitment* to disclosure that affects cost of capital (Leuz and Verrecchia 2000; Baginski and Rakow 2012) and because it takes time for the market to recognize firms' forecast strategies, I create *policy* measures rather than rely on the classification of single forecasts. Specifically, I measure the percentage of forecasts in a category out of the total number of forecasts issued during the firm-year.[20] I examine the percentages of *CoC* forecasts as well as the percentages of forecasts in the three categories: (1) *RuleCompliance* which includes *Correct* and *DOA*, (2) *ManagerialOpp* which includes *InsidePurch*, *InsideSale*, and *OptionGrant*, and (3) *AlignedOpp* which includes *Repurch*, *Issue*, *Merger*, *ExpMgmt*, *Litig*, and *Deter*.[21]

[20] In the main tests, I measure forecast policy at the firm-year level. In robustness tests, I measure forecast policy over two, non-overlapping five-year periods (ending in 2008 and 2013).

[21] In the main tests, I combine the eleven classifications into three categories because some of the individual classifications have very small sample size (see Table 2 Panel A). In supplemental analyses, I examine the three largest of the eleven classifications – *Correct*, *InsideSale*, and *ExpMgmt* – individually.

CHAPTER 4

PRIMARY EMPIRICAL MODEL

In my primary analyses, I use an *ex ante* implied cost of equity capital measure. Numerous ex ante accounting-based proxies for cost of equity capital exist. These proxies can be firm-specific or portfolio-based and can require analyst forecasts or not. Prior literature identifies firm-level estimation, growth assumptions, and low quality analyst forecasts as the primary sources of bias in these measures and propose alternative models to deal with these issues.[22]

Because of the potential bias in ex ante cost of capital estimates often attributed to firm-level estimation, growth assumptions, and low quality analyst forecasts, I use a portfolio-based ex ante cost of capital measure that is not dependent on analyst forecasts nor a growth assumption. The O'Hanlon and Steele (2000) method as operationalized by Easton (2006) provides a way to measure differences in cost of capital across regimes.[23] The method uses actual earnings (eliminating the need for analyst earnings forecasts) and simultaneously estimates growth and cost of capital (eliminating the need for a growth assumption). The model, derived from the residual income model, is as follows:

$$\frac{EPS_{i,t}}{BPS_{i,t-1}} = \lambda_0 + \lambda_1 \frac{P_{i,t} - BPS_{i,t}}{BPS_{i,t-1}} + \lambda_2 D + \lambda_3 D \frac{P_{i,t} - BPS_{i,t}}{BPS_{i,t-1}} + \lambda_4 X + \lambda_5 X \frac{P_{i,t} - BPS_{i,t}}{BPS_{i,t-1}} + \varepsilon_{i,t} \qquad (1)$$

[22] Easton, Taylor, Shroff, and Sougiannis (2002), Botosan and Plumlee (2005), Easton and Monohan (2005), Easton and Sommers (2007), Easton (2009), Guay, Kothari, and Shu (2011), Botosan, Plumlee, and Wen (2011), Hou, Van Dijk, and Zhang (2012), Larocque (2013), and Wang (2015) investigate the issues with various forms of the ex ante models.

[23] Other studies that have used the O'Hanlon and Steele (2000) model to estimate cost of equity capital include Easton and Sommers (2007), Baginski and Rakow (2012), and Baginski and Hinson (2016).

where *EPS* is earnings per share before extraordinary items, *P* is price, *BPS* is book value per share, and *X* is a vector of control variables. The estimate of λ_0 is the cost of equity capital. The dummy variable, *D*, partitions the sample into portfolios based on the variable of interest. I set *D* equal to 1 when *pctMotivation* is above its median and 0 otherwise, where *pctMotivation* is *pctCoC*, *pctRuleCompliance*, *pctManagerialOpp*, or *pctAlignedOpp*. I expect management forecast policies with above median percentages of cost-of-capital-motivated forecasts to be negatively associated with cost of capital; $\lambda_2 < 0$. On the other hand, I expect policies with above median *pctRuleCompliance* (H1), *pctManagerialOpp* (H2), and *pctAlignedOpp* (H3) to be associated with higher cost of capital; $\lambda_2 > 0$.

Cost of equity capital is unobservable and therefore, all measures are imperfect proxies. Despite the attention to assessing cost of equity capital proxies, there is no consensus as to which measure provides the best estimate. Accordingly, in supplemental analyses, I replicate my primary tests using an ex post realized returns approach, as suggested in Wang (2015). [24]

Following prior literature that examines disclosure and cost of equity capital, some estimations of equation (1) include controls for market beta (*Beta*), earnings quality (*StdEarn*), and firm size (*MVE*) (Botosan 1997; Dhaliwal, Krull, and Li 2007; Rogers

[24] Another alternative to obtaining an ex ante estimate of cost of equity capital by reverse-engineering an accounting-based valuation model is to use an asset-pricing based model estimate. Use of an asset-pricing based model estimate of cost of equity capital assumes that disclosures impact cost of capital through firms' sensitivity to the risk factors in the chosen model (e.g., the single factor market model or the multi-factor Fama-French models). Because theoretical studies continue to debate whether disclosure quality is a distinct information risk factor or whether it impacts the loadings on other risk factors, I do not use an asset-pricing based estimate of the cost of equity capital.

2008; Kothari, Li, and Short 2009; Baginski and Rakow 2012).[25] Beta is a determinant of cost of equity capital in the capital asset pricing model (Sharpe 1964; Lintner 1965) so I control for it in empirical tests (Botosan 1997; Baginski and Rakow 2012).[26] I expect *Beta* to be positively associated with cost of equity capital. Francis et al. (2008) find that voluntary disclosure quality and earnings quality are positively associated, while earnings quality and cost of capital are negatively associated. To mitigate the concern that management forecast policy quality is a proxy for earnings quality, I control for earnings quality using earnings variability (*StdEarn*).[27] Higher values of *StdEarn* signify lower earnings quality and thus, I expect a positive association with cost of equity capital. Prior research controls for two other sources of risk that are associated with cost of capital: firm size and market-to-book (Rogers 2008; Kothari et al. 2009; Baginski and Rakow 2012). I include firm size (*MVE*) but cannot include market-to-book as a control because of its relation to the regressor used to estimate cost of capital and growth in the model. [28]

[25] In empirical tests, I convert control variables to indicator variables equal to one for above median values and zero otherwise (refer to Table 2 Panel B for medians). Results are robust to using continuous measures of controls.
[26] I measure *Beta* using the market model estimated over 60 months (minimum of 30 required) with the value-weighted market return as the market index.
[27] *StdEarn* is the log of 1 plus the standard deviation of quarterly earnings before extraordinary items estimated for firm *i* over five years ending in year *t* (with a minimum of 8 quarters of earnings data).
[28] I measure firm size (*MVE*) as the log of the market value of equity for firm *i* at the end of year *t*. In supplemental analyses using realized returns to measure cost of capital, I control for market-to-book and results continue to hold.

CHAPTER 5

RESULTS

5.1 Sample Selection

From Thomson Reuters Guidance Datafeed, I obtain management forecasts of quarterly and annual EPS announced between 2004 and 2013, inclusive, by firms in the intersection of IBES, Compustat, and CRSP.[29] To focus on forecasts rather than preannouncements, I keep forecasts made before the last day of the corresponding fiscal period, which results in an initial sample of 75,493 management forecasts. To measure forecast news and optimism/pessimism relative to actual earnings, I require (a) the forecast form to be point or range, (b) at least one analyst forecast in the 90 days prior to the management forecast announcement, and (c) an actual EPS value. Finally, I remove forecasts in firm-years that do not have the data to measure cost of capital and control variables and in firm-years with negative earnings per share, book value per share less than $1, and values of the dependent and independent variables used to estimate cost of capital that fall below the 1st or above the 99th percentile of their respective distributions.[30] This process results in a sample of 45,373 management forecasts issued in 7,996 firm-years (Table 1 Panel A). Table 1 Panel B presents an industry breakdown of

[29] The sample period starts in 2004 because SEC Rule 10b-18 did not require firms to disclose the number of shares issued or repurchased in a repurchase program prior to December 17, 2003.
[30] The earnings value used in the O'Hanlon and Steele (2000) model is an estimate of permanent earnings and negative earnings are not persistent (Hayn 1995). Because it is used as a deflator, a book value per share below $1 creates large values of both the main independent and dependent variables and can cause the observation pair to dominate the regression estimation. A similar concern leads to truncation of the bottom and top percentiles.

the sample into two-digit SIC industry sectors. Manufacturing firms issue the largest percentage of sample forecasts (44.5%), followed by services (18.8%), retailing (13.8%), and transportation and utilities (10.3%).

5.2 Descriptive Statistics

Table 2 reports descriptive statistics on management forecast classifications (Panel A) as well as other regression variables (Panel B). Cost of capital reduction (*CoC*) is the motivation with the largest percentage of forecasts (32.9%), which is consistent with the assumptions in theoretical research and empirical research that pools management forecasts together in examining cost of capital effects (i.e., that managers issue credible and truthful disclosure intended to improve the information environment). Also not surprisingly based on the attention from practitioners and academics, the second largest motivation is expectations management (*ExpMgmt*), which contains 27.6% of forecasts. Other large classifications are opportunistic forecasts around insider sales (*InsideSale*) (25.6%) and corrections (*Correct*) (22.9%).

On average, *CoC* (*Other*) forecasts make up 34.5% (65.5%) of firms' management forecasts during a year and 32.1% (67.9%) of firms' management forecasts over 5 years. The average percentages classified in the three major categories for management forecast policies measured over one-year (five-year) periods are: 23.4% (24.8%) for rule compliance, 31.6% (33.2%) for managerial opportunism, and 29.6% (30.7%) for aligned opportunism. Sample firms' risk is representative of the market portfolio's risk; mean *Beta* is 1.1 and median *Beta* is 1.0.

Table 3 presents pair-wise univariate correlations. By construction, *pctCoC* is negatively correlated with *pctRuleCompliance*, *pctManagerialOpp*, and *pctAlignedOpp*

($p < 0.0001$). The same holds for the five-year policy measures. Also as expected, firm-year percentages (e.g., *pctCoC*) are positively correlated with their related five-year percentages (e.g., *pctCoC5*) ($p < 0.0001$). In some cases, policy measures are significantly correlated with beta (*Beta*), earnings quality (*StdEarn*), and size (*MVE*). The multivariate analyses control for these variables in various combinations.

In Table 4, I present estimates of the mean cost of equity capital for my sample using two different methodologies. In the O'Hanlon and Steele (2000) as adapted by Easton (2006) model, λ_0, the model intercept, is the cost of equity capital estimate. Therefore, to measure the sample mean, I estimate equation (1) without the partitioning variable, *D*, and without the control vector, *X*. Table 4 Panel A shows the regression results, which suggest a mean cost of equity capital of 9.4% for sample firm-years. In Table 4 Panel B, I present descriptive statistics for an alternative cost of equity capital estimate that is based on the Fama-French (1993) three-factor asset pricing model. The model is as follows:

$$R_i - R_f = a_i + b_i\,[R_m - R_f] + s_i\,SML + h_i\,HML + e_i \qquad (2)$$

where $[R_m - R_f]$ is the market factor (excess return on the CRSP value-weighted portfolio), *SML* is the size factor (small minus large firm returns), and *HML* is the book-to-market factor (high minus low book-to-market firm returns). Using 60 months of returns ending in year *t*, I estimate firm-specific *b*, *s*, and *h* coefficients. Multiplying the coefficients by average returns for the three factors from 1963 to 2013 and annualizing gives the firm-specific cost of capital measure. The mean cost of equity capital estimate of 9.3% using the Fama-French (1993) three-factor model is in line with the mean cost of

equity capital estimate of 9.4% using the O'Hanlon and Steele (2000) as operationalized by Easton (2006) method.

5.3 CoC Forecasts and Cost of Equity Capital

Before I examine the effects of the three categories of management forecast motivations on the cost of equity capital, I first examine a baseline test to verify that forecast policies with higher percentages of cost-of-capital-motivated forecasts are negatively associated with cost of equity capital relative to other policies with at least one management forecast.[31] I estimate equation (1) where D equals one for above median values of *pctCoC* and zero otherwise.[32] Table 5 Panel A presents the results. The first column shows the model estimation without controls; this model allows any effect of disclosure to work through factor loadings on risk factors in asset pricing models (i.e., betas), consistent with the theory in Lambert et al. (2007) and Caskey et al. (2015), or as a separate risk factor. Successive columns include controls for beta, earnings quality, and firm size.[33] An estimate of the impact on cost of equity capital of belonging to the portfolio of interest is given by the coefficient λ_2 on D. As expected, λ_2 is negative in all four columns in Panel A ($p < 0.001$). Therefore, of firms that forecast, cost of capital is lower for firm-years with above median values of *pctCoC*. The difference in cost of equity capital between firm-years with management forecast policies characterized by

[31] Tests in this section and in section 5.4 include firm-years with at least one management forecast. The mean number of forecasts in a firm-year is 5.6 and the median is 5. I limit tests to firm-years with at least one forecast so that the decision of whether or not to forecast is constant across firms. The focus of this study is not whether a forecast is issued, but rather the underlying motivation for an issued forecast. In section 5.6, I expand tests to include firm-years with no management forecasts to provide additional context.

[32] Table 5 results are robust to using the continuous measures *pctCoC*, *pctRuleCompliance*, *pctManagerialOpp*, and *pctAlignedOpp*.

[33] In estimations of the O'Hanlon and Steele (2000) model, the firm size control (*MVE*) introduces multicollinearity concerns; Variance Inflation Factors (VIFs) exceed the cutoff of 10 commonly used to assess multicollinearity (Mendenhall and Sincich 2003). When *MVE* is not included, VIFs are below 10.

high percentages of cost-of-capital-motivated forecasts and firm-years with policies characterized by low percentages of cost-of-capital-motivated forecasts is 2.3%. Consistent with expectations, the control variables *Beta* and *StdEarn* are positive. *MVE* is also positive, but difficult to interpret due to multicollinearity concerns.[34]

5.4 Test of Hypotheses

Table 5 Panels B-D present the results of hypothesis tests. H1 predicts that cost of capital is greater for management forecast policies motivated by compliance with exchange rules. Consistent with H1, I find a positive coefficient on D in Panel B, when D equals one for above median values of *pctRuleCompliance* and zero otherwise ($p < 0.05$). Of management forecast policies consisting of at least one forecast, policies with high percentages of forecasts issued to comply with exchange rules are associated with cost of equity capital that is 70 basis points higher.

H2 predicts that cost of equity capital is greater for management forecast policies motivated by managerial opportunism. The evidence in Table 5 Panel C supports H2; the coefficient λ_2 when D equals one for above median *pctManagerialOpp* and zero otherwise is positive ($p < 0.01$). Economically, cost of equity capital is approximately 9.9% for firms with management forecast policies with above median percentages of opportunistic forecasts intended to benefit managerial self-interests, whereas cost of equity capital is approximately 8.8% for firms with management forecast policies that contain at least one forecast, but have low percentages of forecasts motivated by managerial opportunism.

[34] Table 5 results are also robust to controlling for the average news in management forecasts (*AvgNews*) and analyst following (*Analysts*) (untabulated).

Consistent with the prediction in H3 that cost of capital is greater for forecast policies motivated by aligned managerial/existing shareholder interests, the coefficient on D in Panel D, when D equals one for above median values of *pctAlignedOpp* and zero otherwise, is positive ($p < 0.001$). When firm-years' forecast policies contain above median percentages of forecasts motivated by managerial/existing shareholder aligned incentives, cost of equity capital is 2.3 percentage points higher relative to other firm-years in which management issues at least one forecast.

As previously mentioned, a management forecast can belong to more than one category. To control for any overlap, I include all three categories in the model. Table 5 Panel E presents the results, which continue to support hypotheses ($p < 0.05$). In sum, firm-years with policies motivated more by rule compliance, managerial opportunism, and aligned opportunism have higher costs of equity capital.

5.5 Providing Context

The purpose of this section is to provide additional context to interpret the results. To do so, I again convert the continuous firm-year classification measures into indicator variables; D equals one if *pctCoC* (*pctRuleCompliance*/ *pctManagerialOpp*/ *pctAlignedOpp*) is above the median value, and zero otherwise. In addition, I include firm-years with no management forecasts, which is advantageous in providing context but disadvantageous in that this subset of firms that chooses not to forecast is likely to be a materially different set than those firms that choose to forecast.[35]

[35] Untabulated analyses indeed confirm that nearly all control variables are significantly different between the no forecast sample and each of the four classification samples of firms that issue at least one forecast. Many of these control variables are considered determinants of the management forecast decision. The majority of past research on the effects of voluntary management forecast disclosure on both indirect and direct measures of cost of capital ignore endogeneity. However, Baginski and Rakow (2012) document that the relation between management forecast disclosure policy estimated via ordinary least squares regression with controls is robust to alternative two-stage least squares and Heckman-type selection modelling.

In Table 6, each regression includes two groups: the base group, which is always firm-years with no management forecasts, and another group, which is alternatively, firm-years with above median *pctCoC*, *pctRuleCompliance*, *pctManagerialOpp*, or *pctAlignedOpp*. The theoretical literature assumes disclosure is truthful (i.e., intended to improve the information environment and reduce cost of capital) and thus, posits a negative effect of disclosure on cost of capital. Consistent with theory, the cost of equity capital is significantly lower (170 basis points; $p < 0.001$) for firms whose one-year forecast policies consist of above median percentages of forecasts motivated by cost of capital reduction relative to firms that do not forecast.

To my knowledge, the theoretical literature does not predict the cost of capital effects of potentially uninformative and potentially biased disclosures; therefore, it is unclear how policies motivated by rule compliance, managerial self-interests, and aligned managerial/current shareholder interests will impact cost of capital *relative to no management forecasts*. On one hand, these non-cost-of-capital-motivated policies could provide partially useful information and reduce cost of capital relative to no forecasts, but to a lesser extent than policies of cost-of-capital-motivated forecasts. On the other hand, the policies could be uninformative and thus have a cost of capital impact similar to no information or the policies could even introduce more uncertainty and volatility and increase cost of capital relative to no information. The evidence in Table 6 is consistent with the latter. Relative to policies of no management forecasts, policies with above median percentages of forecasts motivated by rule compliance and managerial

---

Further Balakrishnan et al. (2014) and Baginski and Hinson (2016) document the expected negative forecasting relation between *changes* in management forecasting activity and changes in indirect and direct measures of cost of capital, respectively, subsequent to plausibly exogenous shocks. In summary, to date, empirical evidence suggests that the relation between the disclosure/nondisclosure variable and cost of equity capital is robust to controls for various forms of endogeneity.

opportunism do not significantly impact cost of capital ($p = 0.505$ and $p = 0.874$, respectively) and policies with above median forecasts motivated by aligned managerial/current shareholder opportunism are associated with higher cost of equity capital (60 basis points; $p = 0.090$). Overall, evidence is consistent with prior literature that finds an on average beneficial effect of management forecasts on cost of equity capital (e.g., Baginski and Rakow 2012; Baginski and Hinson 2016), but suggests that the benefit goes away or even becomes a detriment when policies have high percentages of forecasts motivated by non-cost-of-capital reasons. [36]

[36] Setting D equal to one if management issued at least one forecast in the firm-year regardless of motivation and zero if management does not forecast during the firm-year indicates that, on average, management forecast issuance is negatively associated with cost of equity capital ($p < 0.05$; results untabulated).

TABLE 1

Sample selection

Panel A: Sample selection procedure	
Management forecasts (MF) of quarterly and annual EPS announced between 2004 and 2013, inclusive, issued by firms with IBES TICKER, GVKEY, and PERMNO	75,493
Less:	
Open-ended or qualitative MF	2,257
Those without an analyst EPS forecast issued within 90 days prior to the MF	4,410
Those without an actual EPS value	1,751
Those in firm-years without data to measure cost of capital and control variables	21,702
Management forecasts	45,373
Firm-years containing those management forecasts	7,996

Panel B: Industry composition

Two-Digit SIC Industry Sector	Number of MF	% of Sample Forecasts	Number of firm-years	% of Sample Firm-Years
Manufacturing (20-39)	20,189	44.50%	3,577	44.73%
Transportation and Utilities (40-49)	4,692	10.34%	842	10.53%
Wholesale (50-51)	1,486	3.28%	295	3.69%
Retailing (52-59)	6,268	13.81%	802	10.03%
Finance (60-67)	2,996	6.60%	698	8.73%
Services (70-88)	8,524	18.79%	1,554	19.43%
Other	1,218	2.68%	228	2.85%
Total	45,373	100.00%	7,996	100.00%

This table shows the sample selection and industry composition of management forecasts and firm-years in my sample. Panel A provides details of the sample selection procedure. Panel B shows the distribution of management forecasts and firm-years across two-digit SIC industry sectors.

TABLE 2

Descriptive statistics

Panel A: Forecast classification frequencies

Classification	Frequency	Percent
CoC	14,911	32.86%
RuleCompliance		
DOA	1,140	2.51%
Correct	10,375	22.87%
ManagerialOpp		
InsidePurch	775	1.71%
InsideSale	11,606	25.58%
OptionGrant	3,806	8.39%
AlignedOpp		
Repurch	644	1.42%
Issue	223	0.49%
Merger	118	0.26%
ExpMgmt	12,539	27.64%
Litig	298	0.66%
Deter	576	1.27%

Panel B: Descriptive statistics

Variable	N	Mean	Std Dev	25th Pctl	Median	75th Pctl
O'Hanlon and Steele (2000) adapted by Easton (2006) variables						
EPS_t/BPS_{t-1}	7,996	0.169	0.115	0.096	0.146	0.210
$(P_t - BPS_t)/BPS_{t-1}$	7,996	2.201	2.125	0.781	1.582	2.849
Management forecast policy variables						
pctCoC	7,996	0.345	0.315	0.000	0.286	0.500
pctRuleCompliance	7,996	0.234	0.234	0.000	0.200	0.375
pctManagerialOpp	7,996	0.316	0.313	0.000	0.250	0.500
pctAlignedOpp	7,996	0.296	0.314	0.000	0.231	0.500
pctCoC5	988	0.321	0.191	0.174	0.291	0.435
pctRuleCompliance5	988	0.248	0.148	0.145	0.244	0.345
pctManagerialOpp5	988	0.332	0.204	0.182	0.321	0.463
pctAlignedOpp5	988	0.307	0.199	0.144	0.286	0.443
Control variables						
Beta	7,996	1.141	0.676	0.658	1.049	1.492
StdEarn	7,996	0.013	0.016	0.004	0.008	0.014
MVE	7,996	7.754	1.504	6.691	7.645	8.771

This table presents descriptive statistics for the management forecast classifications and regression variables. Panel A shows the frequencies and percentages of the 45,373 sample management forecasts in each classification. Note that some forecasts fall into more than one classification. Panel B shows descriptive statistics for variables used in regressions. Variables are defined in the appendix.

TABLE 3

Correlation matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) EPS_t/BPS_{t-1}		0.6360	-0.1659	0.0715	0.1104	0.1215	-0.2245	0.1108	0.1420	0.1536	-0.0459	0.0805	0.2357
		(<0.0001)	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(0.0005)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*
(2) $(P_t - BPS_t)/BPS_{t-1}$	0.62446		-0.13391	0.03466	0.16966	0.02547	-0.15014	0.06378	0.19097	0.01743	-0.01412	0.07299	0.24028
	(<0.0001)		*(<0.0001)*	*(0.0019)*	*(<0.0001)*	*(0.0228)*	*(<0.0001)*	*(0.0450)*	*(<0.0001)*	*(0.5841)*	*(0.2068)*	*(<0.0001)*	*(<0.0001)*
(3) *pctCoC*	-0.20399	-0.14919		-0.37728	-0.5744	-0.5431	0.61831	-0.27822	-0.38646	-0.33073	0.03648	0.07177	-0.10531
	(<0.0001)	*(<0.0001)*		*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(0.0011)*	*(<0.0001)*	*(<0.0001)*
(4) *pctRuleCompliance*	0.09318	0.04717	-0.32406		0.05675	-0.06707	-0.25656	0.66281	-0.0069	0.01487	-0.07869	-0.07928	0.03569
	(<0.0001)	*(<0.0001)*	*(<0.0001)*		*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(0.8284)*	*(0.6405)*	*(<0.0001)*	*(<0.0001)*	*(0.0014)*
(5) *pctManagerialOpp*	0.14347	0.1754	-0.56601	0.09784		-0.02968	-0.38421	0.02631	0.64229	-0.03663	-0.00534	-0.05373	0.16665
	(<0.0001)	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*		*(0.0079)*	*(<0.0001)*	*(0.4088)*	*(<0.0001)*	*(0.2501)*	*(0.6328)*	*(<0.0001)*	*(<0.0001)*
(6) *pctAlignedOpp*	0.19099	0.05248	-0.52964	-0.01823	0.00198		-0.36509	-0.00025	0.00485	0.63895	-0.02704	-0.01321	-0.00321
	(<0.0001)	*(<0.0001)*	*(<0.0001)*	*(0.1031)*	*(0.8597)*		*(<0.0001)*	*(0.9937)*	*(0.8790)*	*(<0.0001)*	*(0.0156)*	*(0.2376)*	*(0.7739)*
(7) *pctCoC5*	-0.26348	-0.16221	0.61627	-0.2576	-0.38545	-0.37619		-0.41017	-0.61128	-0.58808	-0.01987	0.03785	-0.09162
	(<0.0001)	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*		*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(0.5327)*	*(0.2346)*	*(0.0039)*
(8) *pctRuleCompliance5*	0.12151	0.04159	-0.27431	0.67803	0.02671	0.01813	-0.38862		0.05797	-0.00771	-0.00052	-0.00824	-0.00964
	(0.0001)	*(0.1915)*	*(<0.0001)*	*(<0.0001)*	*(0.4016)*	*(0.5692)*	*(<0.0001)*		*(0.0686)*	*(0.8089)*	*(0.9869)*	*(0.7960)*	*(0.7621)*
(9) *pctManagerialOpp5*	0.16725	0.21016	-0.38778	0.00553	0.63912	0.0231	-0.59798	0.06621		-0.0159	0.0283	-0.02179	0.19995
	(<0.0001)	*(<0.0001)*	*(<0.0001)*	*(0.8622)*	*(<0.0001)*	*(0.4683)*	*(<0.0001)*	*(0.0374)*		*(0.6177)*	*(0.3742)*	*(0.4939)*	*(<0.0001)*
(10) *pctAlignedOpp5*	0.21558	0.00536	-0.31922	0.04672	-0.02905	0.62793	-0.58434	0.02801	0.00354		-0.03616	-0.04303	-0.03251
	(<0.0001)	*(0.8663)*	*(<0.0001)*	*(0.1423)*	*(0.3616)*	*(<0.0001)*	*(<0.0001)*	*(0.3792)*	*(0.9115)*		*(0.2561)*	*(0.1765)*	*(0.3073)*
(11) *Beta*	-0.06617	-0.02	0.02724	-0.06368	0.00162	-0.01684	-0.02853	0.00908	0.03649	-0.02845		0.34803	-0.2001
	(<0.0001)	*(0.0737)*	*(0.0149)*	*(<0.0001)*	*(0.8848)*	*(0.1322)*	*(0.3703)*	*(0.7756)*	*(0.2519)*	*(0.3717)*		*(<0.0001)*	*(<0.0001)*
(12) *StdEarn*	0.11128	0.17685	0.02145	-0.06053	-0.02527	0.02036	-0.0047	0.0033	0.02339	-0.01844	0.37179		-0.21247
	(<0.0001)	*(<0.0001)*	*(0.0552)*	*(<0.0001)*	*(0.0238)*	*(0.0687)*	*(0.8828)*	*(0.9176)*	*(0.4628)*	*(0.5627)*	*(<0.0001)*		*(<0.0001)*
(13) *MVE*	0.29603	0.27152	-0.09155	0.07075	0.18667	0.00295	-0.08783	-0.01674	0.20557	-0.04087	-0.19613	-0.24495	
	(<0.0001)	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(<0.0001)*	*(0.7922)*	*(0.0057)*	*(0.5993)*	*(<0.0001)*	*(0.1993)*	*(<0.0001)*	*(<0.0001)*	

This table presents Pearson correlations above the diagonal and Spearman correlations below the diagonal with *p*-values in parentheses. Variables are defined in the appendix.

TABLE 4

Cost of equity capital estimates:
O'Hanlon and Steele (2000) as operationalized by Easton (2006) model
and Fama-French (1993) three-factor model

Panel A: O'Hanlon and Steele (2000) as adapted by Easton (2006) cost of equity capital estimate

Variable		Coefficient *(p-value)*	
Intercept	λ_0	**0.094**	***
		(<0.001)	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1	**0.034**	***
		(<0.001)	
Adj. R^2		40.45%	
N		7,996	

Panel B: Fama-French (1993) cost of equity capital estimate

Variable	**N**	**Mean**	**Std Dev**	**25th Pctl**	**Median**	**75th Pctl**
Cost of Capital $_{Fama\text{-}French}$	7,996	0.093	0.058	0.050	0.081	0.124

This table presents cost of equity capital estimates for my sample using two different methods. Panel A shows the cost of equity capital estimate using the O'Hanlon and Steele (2000) method as operationalized by Easton (2006). The model, derived from the residual income model, is as follows: $EPS_i/BPS_{i,t-1} = \lambda_0 + \lambda_1 (P_{i,t} - BPS_{i,t})/BPS_{i,t-1} + \varepsilon_{i,t}$ and the cost of equity capital estimate is the model intercept, λ_0, which is 9.4% for my sample. Panel B shows descriptive statistics for the cost of equity capital estimate from the Fama-French (1993) method. The Fama-French (1993) three-factor model is $R_i - R_f = a_i + b_i [R_m - R_f] + s_i SML + h_i HML + e_i$, where $[R_m - R_f]$ is the market factor (excess return on the CRSP value-weighted portfolio), *SML* is the size factor (small minus large firm returns), and *HML* is the book-to-market factor (high minus low book-to-market firm returns). Using 60 months of returns ending in year t, I estimate firm-specific b, s, and h coefficients. Multiplying the coefficients by average returns for the three factors from 1963 to 2013 and annualizing gives the firm-specific cost of capital measure and its mean of 9.3% for my sample. Regression variables are defined in the appendix.

TABLE 5

Analysis of the effects of one-year management forecast policies on cost of capital:
O'Hanlon and Steele (2000) method as operationalized by Easton (2006)

Panel A: *pctCoC*

Variable		**Exp.**	Coefficient *(p-value)*	Coefficient *(p-value)*	Coefficient *(p-value)*	Coefficient *(p-value)*
Intercept	λ_0		**0.106** ***	**0.103** ***	**0.101** ***	**0.088** ***
			(<0.001)	*(<0.001)*	*(<0.001)*	*(<0.001)*
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.032** ***	**0.035** ***	**0.034** ***	**0.035** ***
			(<0.001)	*(<0.001)*	*(<0.001)*	*(<0.001)*
D	λ_2	-	**-0.023** ***	**-0.023** ***	**-0.023** ***	**-0.022** ***
			(<0.001)	*(<0.001)*	*(<0.001)*	*(<0.001)*
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**0.003** *	**0.003** *	**0.003** *	**0.003**
			(0.063)	*(0.081)*	*(0.076)*	*(0.108)*
Beta	λ_4			**0.007** *	**0.004**	**0.006**
				(0.081)	*(0.328)*	*(0.131)*
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_5			**-0.005** **	**-0.005** *	**-0.005** **
				(0.043)	*(0.056)*	*(0.034)*
StdEarn	λ_6				**0.009** **	**0.012** ***
					(0.038)	*(0.005)*
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_7				**0.001**	**0.001**
					(0.755)	*(0.778)*
MVE	λ_8					**0.022** ***
						(<0.001)
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_9					**-0.003**
						(0.216)
Adj. R^2			41.01%	41.20%	41.38%	41.89%
N			7,996	7,996	7,996	7,996

Panel B: *pctRuleCompliance* (H1)

Variable		**Hyp.**	Coefficient *(p-value)*	Coefficient *(p-value)*	Coefficient *(p-value)*	Coefficient *(p-value)*
Intercept	λ_0		**0.090** ***	**0.086** ***	**0.084** ***	**0.071** ***
			(<0.001)	*(<0.001)*	*(<0.001)*	*(<0.001)*
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.033** ***	**0.035** ***	**0.035** ***	**0.036** ***
			(<0.001)	*(<0.001)*	*(<0.001)*	*(<0.001)*
D	λ_2	+	**0.007** **	**0.007** **	**0.008** **	**0.007** **
			(0.026)	*(0.023)*	*(0.014)*	*(0.021)*
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**0.002**	**0.002**	**0.002**	**0.002**
			(0.269)	*(0.265)*	*(0.293)*	*(0.259)*
Beta	λ_4			**0.007** *	**0.004**	**0.007**
				(0.067)	*(0.302)*	*(0.109)*
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_5			**-0.005** **	**-0.005** **	**-0.005** **
				(0.035)	*(0.048)*	*(0.027)*
StdEarn	λ_6				**0.010** **	**0.013** ***
					(0.031)	*(0.004)*
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_7				**0.000**	**0.000**
					(0.835)	*(0.861)*
MVE	λ_8					**0.024** ***
						(<0.001)
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_9					**-0.003**
						(0.152)
Adj. R^2			40.74%	40.94%	41.12%	41.67%
N			7,996	7,996	7,996	7,996

Panel C: *pctManagerialOpp* (H2)												
			Coefficient		Coefficient		Coefficient		Coefficient	
Variable		**Hyp.**	*(p-value)*		*(p-value)*		*(p-value)*		*(p-value)*	
Intercept	λ_0		**0.088**	***	**0.085**	***	**0.082**	***	**0.071**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.036**	***	**0.038**	***	**0.037**	***	**0.038**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
D	λ_2	+	**0.011**	***	**0.011**	***	**0.012**	***	**0.009**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(0.003)*	
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**-0.003**	*	**-0.003**	*	**-0.003**	*	**-0.003**	
			(0.088)		*(0.087)*		*(0.086)*		*(0.139)*	
Beta	λ_4				**0.006**		**0.004**		**0.006**	
					(0.117)		*(0.409)*		*(0.169)*	
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_5				**-0.005**	**	**-0.004**	*	**-0.005**	**
					(0.045)		*(0.059)*		*(0.037)*	
StdEarn	λ_6						**0.009**	**	**0.012**	***
							(0.043)		*(0.005)*	
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_7						**0.001**		**0.001**	
							(0.789)		*(0.808)*	
MVE	λ_8								**0.023**	***
									(<0.001)	
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_9								**-0.003**	
									(0.223)	
Adj. R^2			40.55%		40.74%		40.91%		41.43%	
N			7,996		7,996		7,996		7,996	
Panel D: *pctAlignedOpp* (H3)												
			Coefficient		Coefficient		Coefficient		Coefficient	
Variable		**Hyp.**	*(p-value)*		*(p-value)*		*(p-value)*		*(p-value)*	
Intercept	λ_0		**0.083**	***	**0.080**	***	**0.078**	***	**0.065**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.034**	***	**0.036**	***	**0.035**	***	**0.036**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
D	λ_2	+	**0.023**	***	**0.022**	***	**0.022**	***	**0.023**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**0.001**		**0.001**		**0.001**		**0.001**	
			(0.644)		*(0.604)*		*(0.607)*		*(0.655)*	
Beta	λ_4				**0.007**		**0.004**		**0.006**	
					(0.100)		*(0.349)*		*(0.129)*	
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_5				**-0.005**	**	**-0.005**	*	**-0.005**	**
					(0.040)		*(0.052)*		*(0.030)*	
StdEarn	λ_6						**0.008**	*	**0.012**	***
							(0.061)		*(0.007)*	
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_7						**0.001**		**0.001**	
							(0.759)		*(0.778)*	
MVE	λ_8								**0.024**	***
									(<0.001)	
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_9								**-0.003**	
									(0.184)	
Adj. R^2			41.58%		41.78%		41.92%		42.51%	
N			7,996		7,996		7,996		7,996	

Panel E: *pctRuleCompliance* (H1), *pctManagerialOpp* (H2), and *pctAlignedOpp* (H3)												
			Coefficient		Coefficient		Coefficient		Coefficient	
Variable		**Hyp.**	*(p-value)*		*(p-value)*		*(p-value)*		*(p-value)*	
Intercept	λ_0		**0.074**	***	**0.071**	***	**0.069**	***	**0.058**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.034**	***	**0.036**	***	**0.036**	***	**0.036**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
D_{H1}	λ_2	+	**0.007**	**	**0.007**	**	**0.008**	**	**0.007**	**
			(0.031)		*(0.027)*		*(0.017)*		*(0.023)*	
$D_{H1}*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**0.002**	***	**0.002**		**0.002**		**0.002**	
			0.023		*(0.256)*		*(0.283)*		*(0.262)*	
D_{H2}	λ_4	+	**0.009**	***	**0.009**	***	**0.009**	***	**0.007**	**
			(0.004)		*(0.005)*		*(0.004)*		*(0.020)*	
$D_{H2}*(P_t - BPS_t)/BPS_{t-1}$	λ_5		**-0.003**		**-0.003**		**-0.003**		**-0.002**	
			(0.113)		*(0.112)*		*(0.111)*		*(0.176)*	
D_{H3}	λ_6	+	**0.022**	***	**0.022**	***	**0.022**	***	**0.023**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$D_{H3}*(P_t - BPS_t)/BPS_{t-1}$	λ_7		**0.001**		**0.001**		**0.001**		**0.001**	
			(0.667)		*(0.627)*		*(0.629)*		*(0.681)*	
Beta	λ_8				**0.007**	*	**0.004**		**0.006**	
					(0.082)		*(0.326)*		*(0.124)*	
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_9				**-0.005**	**	**-0.005**	**	**-0.005**	**
					(0.036)		*(0.048)*		*(0.029)*	
StdEarn	λ_{10}						**0.009**	**	**0.012**	***
							(0.042)		*(0.005)*	
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_{11}						**0.001**		**0.001**	
							(0.762)		*(0.775)*	
MVE	λ_{12}								**0.023**	***
									(<0.001)	
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_{13}								**-0.003**	
									(0.219)	
Adj. R^2			41.93%		42.13%		42.29%		42.83%	
N			7,996		7,996		7,996		7,996	

This table presents the results from the O'Hanlon and Steele (2000) method as adapted by Easton (2006). Motivation percentages are measured for each firm-year in the sample. D = 1 if *pctMotivation* is greater than its median and 0 otherwise, where *pctMotivation* is *pctCoC*, *pctRuleCompliance*, *pctManagerialOpp*, or *pctAlignedOpp* (refer to Table 2 Panel B for median values). ***, **, * indicate significance at the one, five, and ten percent levels, respectively. When expectations are made, p-values are one-tailed. Standard errors are clustered by firm. Variables are defined in the appendix.

TABLE 6

Analysis of the effects of one-year management forecast policies on cost of capital relative to firm-years with no management forecasts: O'Hanlon and Steele (2000) method as operationalized by Easton (2006)

		pctCoC	***pctRuleCompliance***	***pctManagerialOpp***	***pctAlignedOpp***
		Coefficient	Coefficient	Coefficient	Coefficient
Variable		*(p-value)*	*(p-value)*	*(p-value)*	*(p-value)*
Intercept	λ_0	**0.100** ***	**0.100** ***	**0.100** ***	**0.100** ***
		(<0.001)	*(<0.001)*	*(<0.001)*	*(<0.001)*
$(P_t - BPS_t)/BPS_{t-1}$	λ_1	**0.036** ***	**0.036** ***	**0.036** ***	**0.036** ***
		(<0.001)	*(<0.001)*	*(<0.001)*	*(<0.001)*
D	λ_2	**-0.017** ***	**-0.002**	**-0.001**	**0.006** *
		(<0.001)	*(0.505)*	*(0.874)*	*(0.090)*
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3	**0.000**	**-0.001**	**-0.003**	**-0.001**
		(0.891)	*(0.737)*	*(0.151)*	*(0.479)*
Adj. R^2		36.16%	37.15%	37.54%	37.56%
N		12,881	13,205	13,306	12,943

This table presents the results from the O'Hanlon and Steele (2000) method as adapted by Easton (2006). Motivation percentages are measured for each firm-year in the sample. D = 1 if *pctMotivation* is greater than its median and 0 otherwise, where *pctMotivation* is *pctCoC*, *pctRuleCompliance*, *pctManagerialOpp*, or *pctAlignedOpp* (refer to Table 2 Panel B for median values). Regressions include two classifications at a time, one being the group of no management forecast firm-years, the other being firm-years with above median *pctCoC*, *pctRuleCompliance*, *pctManagerialOpp*, or *pctAlignedOpp*. ***, **, * indicate significance at the one, five, and ten percent levels, respectively. Standard errors are clustered by firm. Variables are defined in the appendix.

CHAPTER 6

SUPPLEMENTAL TESTS

I investigate the sensitivity of my findings to the two main research design choices, the management forecast policy measure and the cost of equity capital estimate, and I discuss causality.

6.1 Alternative Management Forecast Policy Measures

6.1.1 Five-year Management Forecast Policy Measures

Because it is not clear ex ante whether one year is sufficient to capture management's forecast *policy*, I also measure management forecast behavior over the two, non-overlapping, five-year periods ending in 2008 and 2013. Results are consistent with the results of the one-year policy tests. Table 7 Panel A presents the baseline test where D equals one when the five-year forecast policies consist of above median percentages of cost-of-capital-motivated forecasts (*pctCoC5*), and zero otherwise. As expected, the coefficient on D, λ_2, is negative ($p < 0.001$). Economically, the difference in cost of equity capital between firms with five-year forecast policies motivated by cost of capital reduction and firms with five-year forecast policies not motivated by cost of capital reduction is 3.0%.

Tests of hypotheses with the five-year policy measures appear in Table 7 Panels B-D. Consistent with H1, the coefficient on D is positive when D equals one for above median five-year percentages of forecasts motivated by rule compliance

(*pctRuleCompliance5*) and zero otherwise ($p < 0.05$). In Panel C, D equals one when the percentage of forecasts motivated by managerial self-interests in the five-year policy (*pctManagerialOpp5*) is above median and zero otherwise. Consistent with H2, the coefficient on D is positive (significant at $p < 0.10$ or less). Lastly, results in Panel D are consistent with H3. The coefficient on D, λ_2, is positive when D equals one for above median values of *pctAlignedOpp5* and zero otherwise ($p < 0.01$). Economically, the cost of equity capital differences between forecasting firms and firms with five-year management forecast policies motivated by rule compliance, managerial interests, and aligned managerial/existing shareholder incentives are approximately 1.5%, 1.6%, and 2.5%, respectively. Results are similar in Table 7 Panel E when all three categories are included in the model, except the coefficient on D_{H1} is weaker.

6.1.2 Management Forecast Policy Measures of Large Individual Classifications

In the main tests, I analyze four underlying motivations for management forecast policies: cost of capital reduction (*CoC*), compliance with exchange rules (*RuleCompliance*), opportunism to benefit managerial self-interests (*ManagerialOpp*), and opportunism to benefit aligned managerial/existing shareholder interests (*AlignedOpp*). The latter three motivations are categories that, together, consist of eleven individual motivations (see Figure 1). In the main tests, I analyze the three categories, rather than the eleven classifications, because some of the individual classifications have small sample size (see Table 2 Panel A). In this section, I examine the individual classifications with the largest percentages of sample management forecasts – *Correct* (22.9%), *InsideSale* (25.6%), and *ExpMgmt* (27.6%). These classifications belong to the *RuleCompliance*, *ManagerialOpp*, and *AlignedOpp* categories, respectively.

Although corrections are somewhat similar to the representative cost-of-capital-reducing voluntary forecasts in their ability to adjust market expectations, they could also signal managers' inability to predict and control firm performance and thus increase information uncertainty and cost of capital and thus have a positive relation with cost of capital. Table 8 Panel A presents the results of estimating the cost of capital effect for corrections in isolation. D equals one for above median percentages of *pctCorrect* and zero otherwise. The coefficient on D, λ_2, is insignificant in the first two columns and positive in the last two columns ($p < 0.10$). Thus, evidence suggests no relation or a weak positive relation between forecast policies with high percentages of corrections and cost of equity capital.

I expect management forecast policies motivated by opportunism to be positively associated with cost of equity capital. Two classifications of opportunistic motives contain large percentages of sample management forecasts and attract substantial attention from practitioners and academics. These include opportunistic forecasts around insider sales (*InsideSale*), which belong to the managerial opportunism category, and forecasts issued to manage expectations in order to create a positive surprise at the earnings announcement (*ExpMgmt*), which belong to the aligned opportunism category. As expected, I find a positive coefficient on D in Table 8 Panel B, when D equals one for above median *pctInsideSale* and zero otherwise ($p < 0.001$) and a positive coefficient on D in Table 8 Panel C, when D equals one for above median *pctExpMgmt* and zero otherwise ($p < 0.001$). Thus, of firms that forecast, firm-years with management forecast policies motivated by opportunism around insider sales and expectations management have higher cost of equity capital.

6.2 Alternative Cost of Capital Measure – Realized Returns

As previously discussed, no proxy for cost of equity capital is perfect and the preferred proxy remains controversial. Because the objective of my paper is not to weigh in on the debate, I present sensitivity tests based on firm-specific realized returns. A disadvantage of the realized returns proxy for cost of capital is that it is an ex post, non-forward looking measure. Further, realized returns are likely noisy proxies for expected returns (Campbell 1991; Vuolteenaho 2002). On the other hand, realized returns are straightforward and free from potential model-induced bias and noise. In addition, studies continue to use realized returns as a benchmark to assess the validity of ex ante cost of equity capital proxies (Easton and Monahan 2005; Botosan et al. 2011). Wang (2015) argues that unlike ex ante implied cost of capital measures, realized returns are unbiased. However, realized returns are less efficient, which yields lower power and more conservative tests. Nonetheless, Wang (2015) recommends using realized returns in robustness tests of ex ante implied measures.

To investigate the association between management forecast policy type and cost of capital measured using realized returns, I estimate the following model:

$$CoC\_RR_{i,t} = \alpha + \beta_1 pctClassification_{i,t} + \beta Controls_{i,t} + \varepsilon \quad (3)$$

where *CoC_RR* is the twelve-month buy and hold return for firm *i* in year *t+1* (Botosan et al. 2011); *pctClassification* is the continuous percentage of forecasts classified as *CoC*, *RuleCompliance*, *ManagerialOpp*, or *AlignedOpp*; and *Controls* is a vector of control variables described below.

CoC_RR is a measure of cost of capital that uses returns and thus not only reflects cost of equity but also potentially reflects earnings news. Because I am interested in the

cost of equity component, I control for the average news in management forecasts issued by firm *i* during year *t* (*AvgNews*).[37] In addition to management forecast news, I also include return on equity (*ROE*) to control for performance.[38] Analyst following is associated with the quality and quantity of management forecasts (Lang and Lundholm 1996; Healy, Hutton, and Palepu 1999; Anantharaman and Zhang 2011). In addition, higher analyst coverage is associated with lower cost of capital (Frankel and Li 2004). As such, I control for analyst following (*Analysts*) and expect it to be negatively associated with cost of capital.[39]

Following prior literature that examines disclosure and cost of equity capital, I include controls for market beta (*Beta*), firm size (*MVE*), market-to-book (*MB*), and earnings quality (*StdEarn*) (Botosan 1997; Dhaliwal et al. 2007; Rogers 2008; Kothari et al. 2009; Baginski and Rakow 2012).[40, 41] Finally, I include industry and year fixed effects and cluster standard errors by firm (Petersen 2009).

Results appear in Table 9.[42] As expected, I find a negative association between the cost of equity capital and the percentage of forecasts classified as *CoC* (coefficient = -0.054; $p < 0.001$). Consistent with the hypotheses and main results, I find positive

[37] *News* is the management forecast estimate minus the mean of analyst forecasts issued in the 90 days prior to the management forecast release, scaled by the pre-release share price and *AvgNews* is the mean *News* in the management forecasts issued by firm *i* during year *t*.
[38] *ROE* is calculated as earnings before extraordinary items divided by end of period book value.
[39] *Analysts* is the number of unique analysts issuing forecasts of EPS for firm *i* during year *t*.
[40] *MB* is the log of the ratio of market value of equity to book value of equity for firm *i* at the end of year *t*.
[41] Control variables equal one for above median values and zero otherwise. Results are robust to using continuous measures of control variables.
[42] The sample is larger than the main sample because it includes observations with *EPS* less than zero and *BPS* less than one as well as observations that were truncated when using the O'Hanlon and Steele (2000) as adapted by Easton (2006) method. Mean (median) cost of capital estimated with buy and hold returns is 10.0% (8.8%).

coefficients of 0.036 on *pctRuleCompliance* (p = 0.009), 0.016 on *pctManagerialOpp* (p = 0.071), and 0.071 on *pctAlignedOpp* (p < 0.001). [43]

6.3 Causality

Cross-sectional tests of management forecast policy motivation do not permit a definitive conclusion that disclosure motivation *causes* cost of capital differences. For example, reverse causality is possible if firms with higher cost of equity capital (i.e., riskier firms) are more likely to hire non-cost-of-capital-motivated (i.e., more opportunistic or riskier) managers. While possible, it is not clear, and to my knowledge no evidence suggests, that a riskier firm would want to hire a manager who is more opportunistic *in disclosure*. It is just as likely that a riskier firm would hire a manager to effectively manage and reduce risk through disclosure. Thus, on conceptual grounds, it is unlikely that reverse causality is an explanation for the results.

Also, it is possible that some correlated variable is omitted from the model relating forecasting motivations to cost of capital. For example, to be classified in one of the insider trade-related motivations, a manager at a particular firm has to engage in insider trades, raising the possibility that firms classified in those groups engage in more insider transactions. Possibly frequent insider trading per se (rather than forecasting around insider trades) has some relation to cost of capital. However, I am unaware of a theoretical argument relating insider trading to cost of capital, except possibly that insider trades might provide credible information to the market, which would decrease cost of capital and work against my finding of *higher* cost of capital for the insider trading motivation group. Another potential correlated omitted variable is transparency in

[43] Variance Inflation Factors (VIFs) do not exceed 3 in any of the equation (3) regressions, well below the cutoff of 10 commonly used to assess multicollinearity (Mendenhall and Sincich 2003).

general, which could relate to the market's ability to assess managerial motivation. For transparency to be a correlated omitted variable, it would have to be the case that, because the market can assess the motivation, managers do not forecast opportunistically and therefore fall into the *CoC* category and also have lower cost of capital because of the transparent information environment. While potentially better assessment of motivation might dissuade managers from forecasting opportunistically to benefit self-interests or aligned interests, it is not obvious that it would dissuade managers from forecasting to comply with exchange rules. In fact, none of the alternative explanations apply to all three of the non-cost-of-capital-motivated categories. With respect to the reverse causality example, it is improbable that a riskier firm would be more likely to hire a manager who is more likely to comply with exchange rules or that a riskier firm would want to hire a manager who is riskier in ways that only provide benefits to the manager. Similarly, firms with more insider transactions are not more likely to belong to the aligned opportunism category. My results hold for all three categories, which works against these alternative explanations.

Despite the logical arguments, I construct empirical tests to cast doubt on the alternative explanations. First, if a firm's appetite for high risk leads to managers issuing non-cost-of-capital-motivated forecasts, then firm-years in the three *Other* categories will have characteristics suggesting higher risk and volatility relative to the characteristics of firm-years in the *CoC* category. Descriptive evidence (untabulated) suggests that is not the case; relative to *CoC* firm-years, firm-years in the three *Other* categories do not have higher beta, higher earnings volatility, smaller size, lower ROE, or lower analyst following. Further, the median industry cost of equity capital (measured using the Fama-

French 1993 model) is the same for the *CoC* and *Other* categories, suggesting that industry risk is not leading to a certain type of forecast motivation.

Second, I re-run my main analysis (Table 5) on the subset of firms with time-varying forecast policy motivation. Specifically, I require that firms in the sample belong to the *CoC* category in at least one year and belong to one of the *Other* categories in at least one year during the ten-year sample period. If some unspecified, time-invariant, firm-specific effect (such as a risky firm's preference to hire risky managers, if such a preference exists, or a lack of transparency) is driving results then one would expect the classifications to be time-invariant. This is not the case in my sample. In my main sample of 1,863 firms, 1,352 firms (72.6%) switch between the *CoC* and *Other* categories. Further, results of my main Table 5 tests are robust to using the alternative sample of firms that switch categories, which suggests that results are not driven by a time-invariant firm characteristic.

Extant research suggests that forecasting firms have lower cost of equity capital; regardless of causality, my results suggest that the relation does not always hold and thus enable a richer understanding of the relation between disclosure and cost of equity capital.

TABLE 7

Analysis of the effects of five-year management forecast policies on cost of capital:
O'Hanlon and Steele (2000) method as operationalized by Easton (2006)

Panel A: *pctCoC5*												
			Coefficient		Coefficient		Coefficient		Coefficient	
Variable		**Exp.**	*(p-value)*		*(p-value)*		*(p-value)*		*(p-value)*	
Intercept	λ_0		**0.119**	***	**0.115**	***	**0.115**	***	**0.102**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.030**	***	**0.030**	***	**0.025**	***	**0.026**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
D	λ_2	-	**-0.030**	***	**-0.030**	***	**-0.032**	***	**-0.031**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**0.005**		**0.005**		**0.005**		**0.005**	
			(0.273)		*(0.297)*		*(0.259)*		*(0.260)*	
Beta	λ_4				**0.008**		**0.001**		**0.005**	
					(0.400)		*(0.892)*		*(0.600)*	
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_5				**0.001**		**0.002**		**0.001**	
					(0.916)		*(0.726)*		*(0.810)*	
StdEarn	λ_6						**0.014**		**0.016**	*
							(0.137)		*(0.081)*	
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_7						**0.004**		**0.004**	
							(0.384)		*(0.355)*	
MVE	λ_8								**0.024**	***
									(0.003)	
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_9								**-0.002**	
									(0.655)	
Adj. R^2			40.75%		40.77%		41.60%		42.21%	
N			988		988		988		988	
Panel B: *pctRuleCompliance5* (H1)												
			Coefficient		Coefficient		Coefficient		Coefficient	
Variable		**Hyp.**	*(p-value)*		*(p-value)*		*(p-value)*		*(p-value)*	
Intercept	λ_0		**0.096**	***	**0.091**	***	**0.090**	***	**0.076**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.033**	***	**0.033**	***	**0.029**	***	**0.029**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
D	λ_2	+	**0.015**	**	**0.015**	**	**0.016**	**	**0.017**	**
			(0.041)		*(0.043)*		*(0.036)*		*(0.024)*	
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**0.000**		**-0.001**		**0.000**		**0.000**	
			(0.918)		*(0.911)*		*(0.923)*		*(0.915)*	
Beta	λ_4				**0.009**		**0.002**		**0.006**	
					(0.313)		*(0.778)*		*(0.473)*	
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_5				**0.000**	**	**0.001**		**0.001**	
					(0.035)		*(0.800)*		*(0.905)*	
StdEarn	λ_6						**0.014**		**0.016**	*
							(0.128)		*(0.074)*	
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_7						**0.004**		**0.004**	
							(0.398)		*(0.357)*	
MVE	λ_8								**0.027**	***
									(0.001)	
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_9								**-0.003**	
									(0.519)	
Adj. R^2			40.21%		40.22%		41.01%		41.71%	
N			988		988		988		988	

Panel C: *pctManagerialOpp5* (H2)												
			Coefficient		Coefficient		Coefficient		Coefficient	
Variable		**Hyp.**	*(p-value)*		*(p-value)*		*(p-value)*		*(p-value)*	
Intercept	λ_0		**0.094**	***	**0.090**	***	**0.089**	***	**0.078**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.037**	***	**0.037**	***	**0.032**	***	**0.032**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
D	λ_2	+	**0.016**	**	**0.016**	**	**0.017**	**	**0.014**	*
			(0.033)		*(0.041)*		*(0.029)*		*(0.056)*	
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**-0.006**		**-0.006**		**-0.006**		**-0.006**	
			(0.191)		*(0.202)*		*(0.188)*		*(0.207)*	
Beta	λ_4				**0.008**		**0.002**		**0.005**	
					(0.345)		*(0.824)*		*(0.533)*	
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_5				**0.000**		**0.001**		**0.001**	
					(0.979)		*(0.784)*		*(0.872)*	
StdEarn	λ_6						**0.014**		**0.016**	*
							(0.140)		*(0.085)*	
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_7						**0.004**		**0.004**	
							(0.435)		*(0.410)*	
MVE	λ_8								**0.023**	***
									(0.007)	
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_9								**-0.001**	
									(0.760)	
Adj. R^2			40.17%		40.18%		40.95%		41.52%	
N			988		988		988		988	
Panel D: *pctAlignedOpp5* (H3)												
			Coefficient		Coefficient		Coefficient		Coefficient	
Variable		**Hyp.**	*(p-value)*		*(p-value)*		*(p-value)*		*(p-value)*	
Intercept	λ_0		**0.091**	***	**0.086**	***	**0.084**	***	**0.071**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.032**	***	**0.032**	***	**0.028**	***	**0.029**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
D	λ_2	+	**0.025**	***	**0.025**	***	**0.026**	***	**0.026**	***
			(0.002)		*(0.001)*		*(0.001)*		*(<0.001)*	
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**0.001**		**0.001**		**0.001**		**0.001**	
			(0.852)		*(0.844)*		*(0.901)*		*(0.897)*	
Beta	λ_4				**0.009**		**0.003**		**0.007**	
					(0.279)		*(0.714)*		*(0.426)*	
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_5				**0.000**		**0.001**		**0.001**	
					(0.975)		*(0.787)*		*(0.885)*	
StdEarn	λ_6						**0.014**		**0.016**	*
							(0.123)		*(0.069)*	
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_7						**0.004**		**0.004**	
							(0.439)		*(0.400)*	
MVE	λ_8								**0.026**	***
									(0.002)	
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_9								**-0.002**	
									(0.607)	
Adj. R^2			41.14%		41.18%		41.93%		42.63%	
N			988		988		988		988	

Panel E: *pctRuleCompliance5* (H1), *pctManagerialOpp5* (H2), and *pctAlignedOpp5* (H3)												
			Coefficient			Coefficient			Coefficient			Coefficient	
Variable		**Hyp.**	*(p-value)*			*(p-value)*			*(p-value)*			*(p-value)*	
Intercept	λ_0		**0.077**	***		**0.072**	***		**0.071**	***		**0.058**	***
			(<0.001)			*(<0.001)*			*(<0.001)*			*(<0.001)*	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.036**	***		**0.036**	***		**0.031**	***		**0.031**	***
			(<0.001)			*(<0.001)*			*(<0.001)*			*(<0.001)*	
D_{H1}	λ_2	+	**0.011**	*		**0.011**	*		**0.011**	*		**0.013**	*
			(0.091)			*(0.092)*			*(0.087)*			*(0.061)*	
$D_{H1}*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**0.002**	***		**0.001**			**0.002**			**0.001**	
			0.025			*(0.738)*			*(0.709)*			*(0.744)*	
D_{H2}	λ_4	+	**0.017**	**		**0.017**	**		**0.018**	**		**0.015**	**
			(0.018)			*(0.024)*			*(0.015)*			*(0.037)*	
$D_{H2}*(P_t - BPS_t)/BPS_{t-1}$	λ_5		**-0.007**			**-0.007**			**-0.007**			**-0.006**	
			(0.126)			*(0.136)*			*(0.121)*			*(0.147)*	
D_{H3}	λ_6	+	**0.025**	***		**0.025**	***		**0.025**	***		**0.026**	***
			(0.002)			*(0.002)*			*(0.001)*			*(<0.001)*	
$D_{H3}*(P_t - BPS_t)/BPS_{t-1}$	λ_7		**0.001**			**0.001**			**0.000**			**0.000**	
			(0.896)			*(0.887)*			*(0.947)*			*(0.940)*	
Beta	λ_8					**0.008**			**0.002**			**0.005**	
						(0.338)			*(0.836)*			*(0.515)*	
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_9					**0.000**			**0.001**			**0.001**	
						(0.978)			*(0.783)*			*(0.880)*	
StdEarn	λ_{10}								**0.014**			**0.017**	*
									(0.110)			*(0.063)*	
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_{11}								**0.004**			**0.004**	
									(0.426)			*(0.396)*	
MVE	λ_{12}											**0.025**	***
												(0.003)	
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_{13}											**-0.002**	
												(0.703)	
Adj. R^2			41.62%			41.63%			42.43%			43.11%	
N			988			988			988			988	

This table presents the results from the O'Hanlon and Steele (2000) method as adapted by Easton (2006). Motivation percentages are measured for each firm over the five-year periods ending in 2008 and 2013. D = 1 if *pctMotivation5* is greater than its median and 0 otherwise, where *pctMotivation5* is *pctCoC5* , *pctRuleCompliance5* , *pctManagerialOpp5* , or *pctAlignedOpp5* (refer to Table 2 Panel B for median values). ***, **, * indicate significance at the one, five, and ten percent levels, respectively. When expectations are made, p-values are one-tailed. Standard errors are clustered by firm. Variables are defined in the appendix.

TABLE 8

Analysis of the effects of large individual classifications on cost of capital:
O'Hanlon and Steele (2000) method as operationalized by Easton (2006)

Panel A: *pctCorrect*

Variable		**Exp.**	Coefficient *(p-value)*		Coefficient *(p-value)*		Coefficient *(p-value)*		Coefficient *(p-value)*	
Intercept	λ_0		**0.091**	***	**0.088**	***	**0.085**	***	**0.073**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.033**	***	**0.035**	***	**0.034**	***	**0.036**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
D	λ_2	+	**0.004**		**0.005**		**0.005**	*	**0.005**	*
			(0.118)		*(0.102)*		*(0.073)*		*(0.084)*	
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**0.003**		**0.003**		**0.003**		**0.003**	
			(0.154)		*(0.156)*		*(0.173)*		*(0.159)*	
Beta	λ_4				**0.007**	*	**0.004**		**0.007**	
					(0.073)		*(0.314)*		*(0.113)*	
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_5				**-0.005**	**	**-0.005**	*	**-0.005**	**
					(0.037)		*(0.050)*		*(0.028)*	
StdEarn	λ_6						**0.009**	**	**0.013**	***
							(0.035)		*(0.004)*	
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_7						**0.001**		**0.000**	
							(0.824)		*(0.850)*	
MVE	λ_8								**0.024**	***
									(<0.001)	
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_9								**-0.003**	
									(0.156)	
Adj. R^2			40.72%		40.91%		41.08%		41.65%	
N			7,996		7,996		7,996		7,996	

Panel B: *pctInsideSale*

Variable		**Exp.**	Coefficient *(p-value)*		Coefficient *(p-value)*		Coefficient *(p-value)*		Coefficient *(p-value)*	
Intercept	λ_0		**0.086**	***	**0.083**	***	**0.080**	***	**0.070**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.036**	***	**0.039**	***	**0.038**	***	**0.038**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
D	λ_2	+	**0.016**	***	**0.016**	***	**0.017**	***	**0.014**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**-0.004**	**	**-0.004**	**	**-0.004**	**	**-0.003**	*
			(0.040)		*(0.039)*		*(0.037)*		*(0.076)*	
Beta	λ_4				**0.007**	*	**0.004**		**0.006**	
					(0.096)		*(0.365)*		*(0.160)*	
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_5				**-0.005**	**	**-0.005**	*	**-0.005**	**
					(0.042)		*(0.055)*		*(0.037)*	
StdEarn	λ_6						**0.009**	**	**0.012**	***
							(0.038)		*(0.005)*	
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_7						**0.001**		**0.001**	
							(0.765)		*(0.783)*	
MVE	λ_8								**0.022**	***
									(<0.001)	
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_9								**-0.003**	
									(0.276)	
Adj. R^2			40.68%		40.87%		41.04%		41.52%	
N			7,996		7,996		7,996		7,996	

Panel C: *pctExpMgmt*

Variable		**Exp.**	Coefficient *(p-value)*		Coefficient *(p-value)*		Coefficient *(p-value)*		Coefficient *(p-value)*	
Intercept	λ_0		**0.081**	***	**0.078**	***	**0.077**	***	**0.064**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$(P_t - BPS_t)/BPS_{t-1}$	λ_1		**0.033**	***	**0.035**	***	**0.035**	***	**0.036**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
D	λ_2	+	**0.026**	***	**0.026**	***	**0.026**	***	**0.026**	***
			(<0.001)		*(<0.001)*		*(<0.001)*		*(<0.001)*	
$D*(P_t - BPS_t)/BPS_{t-1}$	λ_3		**0.002**		**0.002**		**0.002**		**0.002**	
			(0.449)		*(0.421)*		*(0.435)*		*(0.450)*	
Beta	λ_4				**0.007**	*	**0.004**		**0.006**	
					(0.095)		*(0.334)*		*(0.125)*	
$Beta*(P_t - BPS_t)/BPS_{t-1}$	λ_5				**-0.005**	**	**-0.005**	**	**-0.005**	**
					(0.038)		*(0.050)*		*(0.029)*	
StdEarn	λ_6						**0.008**	*	**0.011**	***
							(0.063)		*(0.008)*	
$StdEarn*(P_t - BPS_t)/BPS_{t-1}$	λ_7						**0.001**		**0.001**	
							(0.788)		*(0.807)*	
MVE	λ_8								**0.023**	***
									(<0.001)	
$MVE*(P_t - BPS_t)/BPS_{t-1}$	λ_9								**-0.003**	
									(0.193)	
Adj. R^2			42.08%		42.28%		42.41%		42.97%	
N			7,996		7,996		7,996		7,996	

This table presents the results from the O'Hanlon and Steele (2000) method as adapted by Easton (2006). Motivation percentages are measured for each firm-year in the sample. D = 1 if *pctMotivation* is greater than its median and 0 otherwise, where *pctMotivation* is *pctCorrect*, *pctInsideSale*, or *pctExpMgmt*. ***, **, * indicate significance at the one, five, and ten percent levels, respectively. When expectations are made, p-values are one-tailed. Standard errors are clustered by firm. Variables are defined in the appendix.

TABLE 9

Analysis of the effects of one-year management forecast policies on cost of capital:
Realized returns measure of cost of capital

Variable	Exp.	Coefficient *(p-value)*	Coefficient *(p-value)*	Coefficient *(p-value)*	Coefficient *(p-value)*	Coefficient *(p-value)*
pctCoC	-	**-0.054** ***				
		(<0.001)				
pctRuleCompliance	+		**0.036** ***			**0.044** ***
			(0.009)			*(0.002)*
pctManagerialOpp	+			**0.016** *		**0.016** *
				(0.071)		*(0.075)*
pctAlignedOpp	+				**0.071** ***	**0.074** ***
					(<0.001)	*(<0.001)*
ROE		**0.019** **	**0.024** ***	**0.025** ***	**0.015** *	**0.014**
		(0.026)	*(0.004)*	*(0.004)*	*(0.074)*	*(0.116)*
AvgNews		**0.006**	**0.002**	**0.002**	**0.016** **	**0.015** **
		(0.370)	*(0.764)*	*(0.737)*	*(0.025)*	*(0.041)*
Beta		**0.017** **	**0.017** **	**0.017** **	**0.017** **	**0.017** **
		(0.035)	*(0.033)*	*(0.037)*	*(0.039)*	*(0.033)*
StdEarn		**0.012**	**0.011**	**0.011**	**0.012**	**0.013** *
		(0.126)	*(0.142)*	*(0.156)*	*(0.126)*	*(0.100)*
Analysts		**-0.012**	**-0.011**	**-0.013**	**-0.011**	**-0.010**
		(0.152)	*(0.177)*	*(0.119)*	*(0.202)*	*(0.239)*
MVE		**0.008**	**0.010**	**0.009**	**0.010**	**0.009**
		(0.331)	*(0.259)*	*(0.272)*	*(0.221)*	*(0.292)*
MB		**-0.020** **	**-0.018** **	**-0.019** **	**-0.018** **	**-0.019** **
		(0.021)	*(0.040)*	*(0.032)*	*(0.038)*	*(0.026)*
Year Fixed Effects		Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects		Yes	Yes	Yes	Yes	Yes
Adj. R^2		28.93%	28.80%	28.77%	29.03%	29.10%
N		9,093	9,093	9,093	9,093	9,093

This table presents the results from the regression analysis of cost of equity capital measured as realized returns (*CoC_RR*) on the percentage of forecasts classified as the motivation of interest. Motivation percentages are measured for each firm-year in the sample. ***, **, * indicate significance at the one, five, and ten percent levels, respectively. When expectations are made, p-values are one-tailed. Standard errors are clustered by firm. Variables are defined in the appendix.

CHAPTER 7

CONCLUSION

Theoretical and empirical research on the disclosure-cost of capital relation explicitly or implicitly assumes homogeneity in forecast motivations. I argue that not all motivations are likely to yield the informative and truthful forecasts underlying the theorized reductions in cost of equity capital. I classify forecast motivations into three categories: (1) compliance with exchange rules, which includes disclose or abstain forecasts and corrections, (2) opportunism to benefit managerial self-interests, which includes forecasts around insider purchases, insider sales, and option grants, and (3) opportunism to benefit aligned managerial/existing shareholder interests, which includes forecasts around repurchases, issuances, and stock mergers as well as forecasts to manage expectations, reduce litigation risk, and deter potential entrants. I find that, for firms that forecast, management forecast policies consisting of high percentages of forecasts motivated by compliance with exchange rules, managerial self-interests, and aligned managerial/existing shareholder incentives are associated with higher levels of cost of equity capital. In addition, I find that, relative to firms that do not forecast, cost of capital is lower when forecast policies consist of high percentages of forecasts motivated by cost of capital reduction; however, cost of capital is *not* lower when policies consist of high percentages of forecasts motivated by non-cost-of-capital reasons.

Management expects to benefit from each of the non-cost-of-capital motivations by avoiding regulatory penalties, personally benefiting, or providing benefits to the firm. However, I document a cost associated with forecast policies not motivated by cost of capital reduction. This finding identifies a trade-off for managers to consider in creating forecast policy.

My findings also bolster support for the prior literature's finding of a negative relation between voluntary disclosure policy quality and the cost of equity. I base my measure of the quality of management forecast policies on whether the underlying motivation is consistent with the reduction of information asymmetry/information risk. This approach imposes significant structure on the cross-sectional relation between management forecast policy and cost of capital. Not only must managers provide forecasts to reduce cost of capital, they must do so for the right reasons. Evidence linking *variation* in underlying features of forecast policies to the *magnitude* of the cost of capital effects provides strong support for the disclosure/cost of capital relation because it shows that the relation holds up to more demanding tests. This evidence also suggests that underlying forecast policy motivation is an important dimension of forecast policy quality in terms of the cost of capital impact.

REFERENCES

Aboody, D., and R. Kasznik. 2000. CEO stock option awards and the timing of corporate voluntary disclosures. *Journal of Accounting and Economics* 29: 73-100.

Ali, A., K. Wei, and Y. Zhou. 2010. Insider trading and option grant timing in response to fire sales (and purchases) of stocks by mutual funds. *Journal of Accounting Research* 49: 595-632.

Amihud, Y., and H. Mendleson. 1986. Asset pricing and the bid-ask spread. *Journal of Financial Economics* 17: 223-249.

Anantharaman, D., and Y. Zhang. 2011. Cover me: Managers' responses to changes in analyst coverage in the post-Regulation FD period. *The Accounting Review* 86: 1851-1885.

Baginski, S.P., J. M. Hassell, and M. D. Kimbrough. 2002. The effect of legal environment on voluntary disclosure: Evidence from management earnings forecasts issued in U.S. and Canadian markets. *The Accounting Review* 77: 25-50.

Baginski, S.P., and L.A. Hinson. 2016. Cost of capital free-riders. *The Accounting Review*, forthcoming.

Baginski, S.P., and K.C. Rakow. 2012. Management earnings forecast disclosure policy and the cost of equity capital. *Review of Accounting Studies* 17: 279-321.

Balakrishnan, K., M. Billings, B. Kelly, and A. Ljungqvist. 2014. Shaping liquidity: On the causal effects of voluntary disclosure. *The Journal of Finance* 69: 2237-2278.

Barry, C., and S. Brown. 1985. Differential information and security market equilibrium. *Journal of Financial and Quantitative Analysis* 20: 407-422.

Barth, M., Y. Konchitchki, and W. Landsman. 2013. Cost of capital and earnings transparency. *Journal of Accounting and Economics* 55: 206-224.

Bartov, E., D. Givoly, and C. Hayn. 2002. The rewards to meeting or beating earnings expectations. *Journal of Accounting and Economics* 33: 173-204.

Beyer, A., D. Cohen, T. Lys, and B. Walther. 2010. The financial reporting environment: Review of the recent literature. *Journal of Accounting and Economics* 50: 296-343.

Botosan, C. 1997. Disclosure level and the cost of equity capital. *The Accounting Review* 72: 323-349.

Botosan, C., and M. Plumlee. 2005. Assessing alternative proxies for the expected risk premium. *The Accounting Review* 80: 21-53.

Botosan, C., M. Plumlee, and H. Wen. 2011. The relation between expected returns, realized returns, and firm risk characteristics. *Contemporary Accounting Research*, 28: 1085–1122.

Brockman, P., I. Khurana, and X. Martin. 2008. Voluntary disclosures around share repurchases. *Journal of Financial Economics* 89: 175-191.

Campbell, J. 1991. A variance decomposition for stock returns. *The Economic Journal* 101: 157-179.

Caskey, J., J. Hughes, and J. Liu. 2015. Strategic informed trades, diversification, and expected returns. *The Accounting Review* 90: 1811-1837.

Cheng, Q., T. Luo, and H. Yue. 2013. Managerial incentives and management forecast precision. *The Accounting Review* 88: 1575-1602.

Clinch, G. 2013. Disclosure quality, diversification, and the cost of capital. *Australian Journal of Management* 38: 475-489.

Coles, J., U. Loewenstein, and J. Suay. 1995. On equilibrium pricing under parameter uncertainty. *Journal of Financial and Quantitative Analysis* 30: 347-364.

Coller, M., and T. Yohn. 1997. Management forecasts and information asymmetry: An examination of bid-ask spreads. *Journal of Accounting Research* 35: 181-191.

Cotter, J., I. Tuna, and P. Wysocki. 2006. Expectations management and beatable targets: how do analysts react to explicit earnings guidance? *Contemporary Accounting Research* 23: 593-624.

Dhaliwal, D., L. Krull, and O.Z. Li. 2007. Did the 2003 Tax Act reduce the cost of equity capital? *Journal of Accounting and Economics* 43: 121-150.

Dhaliwal, D., O.Z. Li, A. Tsang, and Y. Yang. 2011. Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The Accounting Review* 86: 59-100.

Diamond, D., and R. Verrecchia. 1991. Disclosure, liquidity and the cost of equity capital. *The Journal of Finance* 46: 1325-1360.

Easley, D., and M. O'Hara. 2004. Information and the cost of capital. *The Journal of Finance* 59: 1553-1583.

Easton, P. 2006. Use of forecasts of earnings to estimate and compare cost of capital across regimes. *Journal of Business, Finance, and Accounting* 33: 374-394.

Easton, P. 2009. Estimating the cost of capital implied by market prices and accounting data. *Foundations and Trends in Accounting* 2: 241-364.

Easton, P., and S. Monahan. 2005. An evaluation of accounting-based measures of expected returns. *The Accounting Review* 80: 501-538.

Easton, P., and G. Sommers. 2007. Effects of analysts' optimism on estimates of the expected rate of return implied by earnings forecasts. *Journal of Accounting Research* 45: 983-1015.

Easton, P., G. Taylor, P. Shroff, and T. Sougiannis. 2002. Using forecasts of earnings to simultaneously estimate growth and the rate of return on equity investment. *Journal of Accounting Research* 40: 657-676.

Erickson, M., and S. Wang. 1999. Earnings management by acquiring firms in stock for stock mergers. *Journal of Accounting and Economics* 27: 149-176.

Fama, E., and K. French. 1993. Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics* 33: 3-56.

Francis, J., R. LaFond, P. Olsson, and K. Schipper. 2004. Costs of equity and earnings attributes. *The Accounting Review* 79: 967-1010.

Francis, J., R. LaFond, P. Olsson, and K. Schipper. 2005. The market pricing of accruals quality. *Journal of Accounting and Economics* 39: 295-327.

Francis, J., D. J. Nanda, and P. Olsson. 2008. Voluntary disclosure, earnings quality, and cost of capital. *Journal of Accounting Research* 46: 53-100.

Frankel, R., and X. Li. 2004. Characteristics of a firm's information environment and the information asymmetry between insiders and outsiders. *Journal of Accounting and Economics* 37: 229-259.

Frankel, R., M. McNichols, and G.P. Wilson. 1995. Discretionary disclosure and external financing. *The Accounting Review* 70: 135-150.

Ge, R. and C. Lennox. 2011. Do acquirers disclose good news or withhold bad news when they finance their acquisitions using equity? *Review of Accounting Studies* 16: 183-217.

Gong, G., H. Louis, and A. Sun. 2008. Earnings management and firm performance following open-market repurchases. *The Journal of Finance* 63: 947-986.

Guay, W., S. Kothari, and S. Shu. 2011. Properties of implied cost of capital using analyst forecasts. *Australian Journal of Management* 36: 125-149.

Handa, P., and S. Linn. 1993. Arbitrage pricing with estimation risk. *Journal of Financial Economics* 33: 81-100.

Hayn, C. 1995. The information content of losses. *Journal of Accounting and Economics* 20: 125-153.

He, J., T. Liu, J. Netter, and T. Shu. 2015. Lower the basket for easy shots? Expectation management before takeovers. *SSRN eLibrary*.

Healy, P., A. Hutton, and K. Palepu. 1999. Stock performance and intermediation changes surrounding sustained increases in disclosure. *Contemporary Accounting Research* 16: 485-520.

Heron, R., and E. Lie. 2007. Does backdating explain the stock price pattern around executive stock option grants? *Journal of Financial Economics* 83: 271-295.

Hou, K., M. Van Dijk, and Y. Zhang. 2012. The implied cost of capital: A new approach. *Journal of Accounting and Economics* 53: 504-526.

Hughes, J., Liu, J., and Liu, J. 2007. Information, diversification, and cost of capital. *The Accounting Review* 82: 705-30.

Kasznik, R., and B. Lev. 1995. To warn or not to warn: Management disclosures in the face of an earnings surprise. *The Accounting Review* 70: 113-134.

Kothari, S. P., X. Li, and J. Short. 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: 1639–1670.

Kross, W., B. Ro, and I. Suk. 2011. Consistency in meeting or beating earnings expectations and management earnings forecasts. *Journal of Accounting and Economics* 51: 37-57.

Lambert, R., C. Leuz, and R. Verrecchia. 2007. Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research* 45: 385-420.

Lambert, R., C. Leuz, and R. Verrecchia. 2012. Information asymmetry, information precision, and the cost of capital. *Review of Finance* 16: 1-29.

Lang, M., and R. Lundholm. 1996. Corporate disclosure policy and analyst behavior. *The Accounting Review* 71: 467-492.

Lang, M., and R. Lundholm. 2000. Voluntary disclosure and equity offerings: Reducing information asymmetry or hyping the stock? *Contemporary Accounting Research* 17: 623-662.

Larocque, S. 2013. Analysts' earnings forecast errors and cost of equity capital estimates. *Review of Accounting Studies* 18: 135-166.

Leuz, C., and C. Schrand. 2009. Disclosure and the cost of capital: Evidence from firms' responses to the Enron shock. *SSRN eLibrary*.

Leuz, C., and R. Verrecchia. 2000. The economic consequences of increased disclosure. *Journal of Accounting Research* 38: 91-124.

Li, X. 2010. The impacts of product market competition on the quantity and quality of voluntary disclosures. *Review of Accounting Studies* 15: 663-711.

Li, E., C. Wasley, and J. Zimmerman. 2015. The disclose or abstain incentive to issue management guidance. *Journal of Law, Finance, and Accounting*, forthcoming.

Lie, E. 2005. Operating performance following open market share repurchase announcements. *Journal of Accounting and Economics* 39: 411-436.

Lintner, J. 1965. The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *The Review of Economics and Statistics* 47: 13-37.

Matsumoto, D. 2002. Management's incentives to avoid negative earnings surprises. *The Accounting Review* 77: 483-514.

Mendenhall, W., and T. Sincich. 2003. *A Second Course in Statistics: Regression Analysis 6th Edition*. Upper Saddle River, NJ: Pearson Education.

Newman, P., and R. Sansing. 1993. Disclosure policies with multiple users. *Journal of Accounting Research* 31: 92-112.

O'Hanlon, J., and A. Steele. 2000. Estimating the equity risk premium using accounting fundamentals. *Journal of Business, Finance, and Accounting* 27: 1051-1084.

Petersen, M. 2009. Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies* 22: 435-480.

Richardson, S., S. Teoh, and P. Wysocki. 2004. The walk-down to beatable analyst forecasts: the role of equity issuance and insider trading incentives. *Contemporary Accounting Research* 21: 885-924.

Rogers, J. 2008. Disclosure quality and management trading incentives. *Journal of Accounting Research* 46: 1265-1296.

Rogers, J., and P. Stocken. 2005. Credibility of management forecasts. *The Accounting Review* 80: 1233-1260.

Sharpe, W. 1964. Capital asset price: A theory of market equilibrium under conditions of risk. *Journal of Finance* 19: 425-442.

Shevlin, T. 2013. Some personal observations on the debate on the link between financial reporting quality and the cost of equity capital. *Australian Journal of Management* 38: 447-473.

Skinner, D. 1994. Why firms voluntarily disclose bad news. *Journal of Accounting Research* 32: 38-60.

Tan, S., and L. Koonce. 2011. Investors' reactions to retractions and corrections of management earnings forecasts. *Accounting, Organizations, and Society* 36: 382-397.

Taylor, D., and R. Verrecchia. 2015. Delegated trade and the pricing of public and private information. *Journal of Accounting and Economics*, forthcoming.

Vuolteenaho, T. 2002. What drives firm-level stock returns? *Journal of Finance* 57: 233-264.

Wang, C. 2015. Measurement errors of expected returns proxies and the implied cost of capital. *SSRN eLibrary*.

APPENDIX

APPENDIX A
Detailed Variable Descriptions

Management Forecast Motivations	
AlignedOpp	Forecasts opportunistically motivated to benefit aligned managerial/existing shareholder interests, i.e., forecasts classified as *Deter*, *ExpMgmt*, *Issue*, *Litig*, *Merger*, or *Repurch.*
CoC	Forecasts not classified as *Correct*, *Deter*, *DOA*, *ExpMgmt*, *InsidePurch*, *InsideSale*, *Issue*, *Litig*, *Merger*, *OptionGrant*, or *Repurch.*
Correct	Forecasts that are not the first forecast for the firm-fiscal period end and are more than 2 cents and 1% different than the prior forecast for the fiscal period end.
Deter	Bad news forecasts of firms in an industry with low PP&E, low R&D expenditures, low CapEx, and small product market size. I calculated weighted average PP&E, R&D, and CapEx (weighted by market share, i.e., firm sales/industry sales) as well as industry product market size (the natural log of aggregate industry sales) for each four-digit SIC industry sector and ranked the industries smallest to largest on the four variables. Firms whose sum of the four ranks fell in the bottom quintile are firms with threats from entrants.
DOA	Forecasts in the 30 days before insider trading not otherwise classified as opportunistic insider purchases or sales.
ExpMgmt	Bad news forecasts (MF < AF) that are pessimistic relative to actual earnings (MF < Actual).
InsidePurch	Bad news forecasts in the 30 days before insider purchases, abnormally imprecise (*Precision* 50% lower than the firm's average *Precision*) good

	news forecasts in the 30 days before insider purchases, or good news forecasts in the 30 days after insider purchases.
InsideSale	Good news forecasts in the 30 days before insider sales, abnormally imprecise (*Precision* 50% lower than the firm's average *Precision*) bad news forecasts in the 30 days before insider sales, or bad news forecasts in the 30 days after insider sales.
Issue	Good news forecasts in the 30 days before equity issuances or bad news forecasts in the 30 days after equity issuances.
Litig	Bad news forecasts in the last three weeks of the period by firms that belong to high litigation risk industries. High litigation risk industries include Bio-technology (SIC 2833 to 2836), Computer Hardware (SIC 3570 to 3577), Electronics (SIC 3600 to 3674), Retailing (SIC 5200 to 5961), and Computer Software (SIC 7371 to 7379) (Rogers and Stocken 2005).
ManagerialOpp	Forecasts opportunistically motivated to benefit managerial self-interests, i.e., forecasts classified as *InsidePurch*, *InsideSale*, or *OptionGrant.*
Merger	Good news forecasts in the 30 days before a stock merger or bad news forecasts in the 30 days after a stock merger.
Other	Forecasts classified as *Correct*, *Deter*, *DOA*, *ExpMgmt*, *InsidePurch*, *InsideSale*, *Issue*, *Litig*, *Merger*, *OptionGrant*, or *Repurch*.
OptionGrant	Bad news forecasts in the 30 days before option grants or good news forecasts in the 30 days after option grants.
Repurch	Bad news forecasts in the 30 days before the start of a repurchase program or good news forecasts in the 30 days after the end of a repurchase program.
RuleCompliance	Forecasts issued to comply with exchange rules, i.e., forecasts classified as *Correct* or *DOA.*
pctMotivation	The number of forecasts issued by firm *i* during year *t* classified as *Motivation* divided by the total number of forecasts issued by firm *i* during year *t*, where *Motivation* is *AlignedOpp*, *CoC*, *Correct*, *ExpMgmt*, *InsideSale*, *ManagerialOpp*, or

	RuleCompliance.
pctMotivation5	The number of forecasts issued by firm *i* over five years classified as *Motivation* divided by the total number of forecasts issued by firm *i* during the five years where *Motivation* is *AlignedOpp*, *CoC*, *ManagerialOpp*, or *RuleCompliance* (five-year periods ending in 2008 and 2013).
Management Forecast Variables	
News	The management forecast estimate minus the mean analyst forecast in the 90 days prior to the management forecast release, scaled by the share price two trading days prior to the release.
Precision	*Width* * -1
Width	For range management forecasts, *Width* equals the difference between the upper and lower bound estimates, divided by the absolute value of the mid-point. For point management forecasts, *Width* equals 0.
Cost of Capital Variables	
CoC_RR	12-month buy and hold return for firm *i* in year *t+1*.
D	An indicator variable in the O'Hanlon and Steele (2000) as adapted by Easton (2006) model equal to 1 when *pctMotivation* or *pctMotivation5* is greater than its median and 0 otherwise.
EPS_t/BPS_{t-1}	The dependent variable in the O'Hanlon and Steele (2000) as adapted by Easton (2006) model. EPS_t is earnings per share for firm *i* in year *t* and BPS_{t-1} is book value per share for firm *i* at the end of year *t-1*.
$(P_t - BPS_t)/BPS_{t-1}$	The independent variable in the O'Hanlon and Steele (2000) as adapted by Easton (2006) model. P_t is the share price for firm *i* at the end of year *t* and BPS_t and BPS_{t-1} are book value per share for firm *i* at the end of years *t* and *t-1*, respectively.
Control Variables	
Analysts	The log of 1 plus the number of analysts forecasting EPS for firm *i* during year *t*. In regressions, *Analysts* equals 1 for above median values and 0 otherwise.
AvgNews	The mean *News* in the management forecasts

	issued by firm *i* during year *t*. In regressions, *AvgNews* equals 1 for above median values and 0 otherwise.
Beta	Market beta for firm *i* estimated using the market model over the 60 months ended in year *t* with a minimum of 30 out of 60 monthly returns and a market index equal to the value weighted market return. In regressions, *Beta* equals 1 for above median values and 0 otherwise.
MB	The log of the ratio of market value of equity to book value of equity for firm *i* at the end of year *t*. In regressions, *MB* equals 1 for above median values and 0 otherwise.
MVE	The log of the market value of equity for firm *i* at the end of year *t*. In regressions, *MVE* equals 1 for above median values and 0 otherwise.
ROE	Firm *i*'s earnings before extraordinary items during year *t* divided by firm *i*'s book value of equity at the end of year *t*. In regressions, *ROE* equals 1 for above median values and 0 otherwise.
StdEarn	The log of 1 plus the standard deviation of quarterly earnings before extraordinary items estimated over the five year period ending in year *t* with a minimum of 8 quarters of data, divided by total assets. In regressions, *StdEarn* equals 1 for above median values and 0 otherwise.