Corporate Form and Proprietary Costs of Voluntary Disclosure

DONALD MONK*

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ABSTRACT

Multi-segment (diversified) firms have a natural advantage over single-segment (focused) firms with respect to voluntary disclosure policy. Since aggregate disclosures by focused firms are at a finer level of detail than those of diversified firms, the latter have greater ability to react to focused firm information and therefore have a competitive advantage. I provide evidence that focused firms are less likely to provide earnings forecasts, which is consistent with higher proprietary costs of disclosure. However, tests using additional measures of voluntary disclosures (forecast lead time, specificity, and error) are inconclusive. Robustness tests addressing regulatory changes, sample selection biases, and endogenous firm decisions of disclosure and diversification offer additional insights into the literature on voluntary disclosure.

*Monk is a Ph.D. Candidate from Tulane University and can be reached via e-mail at dmonk@tulane.edu.

1. Introduction

When a multi-segment ("diversified") firm discloses information to the public at the aggregate level it is, by definition, disclosing less fine information than a single-segment ("focused") firm. For example, Microsoft reported five business segments (plus one Eliminations segment) in its 2008 10-K filing with aggregate sales of $60.4 billion. Google reported just one business segment with total sales of $21.8 billion on its 2008 10-K. Of Microsoft's five segments, four of them operate in the same three-digit Standard Industrial Company (SIC) code (737) as Google's single segment. If Microsoft voluntarily discloses a forecast of an aggregate performance measure such as earnings per share, its competitors would have to make assumptions as to how those earnings are allocated by segment. On the other hand, if Google voluntarily discloses such a measure, its competitors are able to assign the forecasted performance with more precision and adjust their competitive structure accordingly. The example points to a potentially lower cost of disclosure for Microsoft due to its diversified status. This study addresses the more general question of whether differences in voluntary disclosure between diversified and focused firms are related to proprietary costs after controlling for other determinants of voluntary disclosure.

Much of the voluntary disclosure literature stems from the full disclosure theories of Milgrom (1981) and Grossman and Hart (1980). These models are based on the premise that sellers with private information who choose not to disclose will receive a discounted price, as buyers treat withheld information as less favorable. In this scenario, it is in the seller's best interest to reveal all private information in order to get the best price. Diamond and Verrecchia (1991), Barry and Brown (1985), and Merton (1987) extend this idea to the context of disclosure by showing that a commitment to higher levels of disclosure provides a benefit of a lower cost of capital by decreasing information asymmetry, reducing estimation risk, or increasing investor following, respectively.[1]

Verrecchia (1983) develops a model in which concerns of revealing proprietary information rationally limit voluntary disclosure despite its apparent benefit. In his model, withheld information cannot be treated unequivocally as less favorable due to management's tradeoff between the benefit of a lower cost of capital and the cost of higher competitive pressure. Unlike in the full disclosure models, traders must consider proprietary costs as a reason for withholding the information. Thus, they cannot discount firm value until full disclosure is optimum. Instead, a threshold level of disclosure is obtained. A firm with higher proprietary costs will enjoy a lower discount from withholding information. Extending this argument to diversification, if focused firms have higher proprietary costs as indicated in the Microsoft/Google example above, traders will react less negatively to withheld information from focused firms than from diversified firms, all else equal. Knowing that they will not be discounted as severely for withholding information, focused firms have more discretion to limit their disclosures.

I test whether focused firms adhere to a voluntary disclosure policy that is consistent with higher proprietary costs of disclosure than for diversified firms. First, I study the determinants of the firm's decision to issue a forecast with a focus on how corporate form affects this decision and how proprietary costs interact with corporate form. Then conditional on issuing a forecast, I use additional measures of the level of forecast information to determine if the relationships between corporate form

[1]Surveys by Healy and Palepu (2001) [empirical] and Verrecchia (2001) [analytical] provide a thorough background of the literature with further discussion of topics too vast to cover in detail here. Also, reviews of those surveys by Core (2001) and Dye (2001), respectively, offer useful counterpoints.

and proprietary costs that are present in the decision to issue a forecasts still exist. Specifically, I answer the following questions: Do focused firms (i) issue forecasts less often, (ii) issue forecasts later in the forecast window, (iii) provide forecasts with lower specificity, and (iv) provide less accurate forecasts? Although many of the aforementioned theoretical arguments and tests could be applied in the context of mandatory disclosures, I focus on voluntary disclosures because they offer a clear opportunity for a firm to either reveal or withhold private information. According to Baginski, Conrad, and Hassell (1993), using management forecasts "has the distinct advantage that the level of forecast precision is not directly regulated" which provides managers with some discretion on how they disclose their information.

Using the FirstCall Historical Database of Company Issued Guidance and necessary Compustat data for fiscal years 1994–2008, I show that focused firms are less likely than diversified firms to issue an earnings forecast, which is consistent with higher proprietary costs of disclosure for focused firms than for diversified firms. This result is contrary to research providing support for a negative association between corporate diversification and disclosure, such as Bens and Monahan (2004). Furthermore, the result presented here is the first to the author's knowledge to be derived using FirstCall voluntary disclosure measures and diversification status.[2] Over 30% of diversified firms issue a forecast in a fiscal year while less than 22% of focused firms do so. After controlling for other factors known to affect voluntary disclosure (e.g., growth opportunities, fear of litigation, earnings volatility, and recent performance), I find that diversified firms are still more likely to issue a forecast than a focused firm.

Most studies of voluntary disclosures simply use a proxy for proprietary costs to

[2] In analyzing R&D voluntary disclosures, Jones (2007) shows that the number of segments is not significantly related to disclosure. Hope and Thomas (2008) also show that the number of line-of-business segments does not have explanatory power using measures of voluntary geographic disclosures as dependent variables.

control for its effects, but the intuitive link between proprietary costs and diversification provides another test mechanism. I consider numerous proxies for proprietary costs, such as the Herfindahl Index, market-to-book ratio, the speed of adjustment to abnormal profit, and research and development expenses, to compare my results with those of extant literature. Additionally, I construct two measures of proprietary costs using the distribution of sales across business segments of the firm: weighted-average Herfindahl Index and weighted-average market share. Since diversified firms are composed of pieces of different industries with different proprietary costs, these measures are likely to be better indicators of the exposure that a firm has to competitive pressures. Coupling proprietary cost measures with proxies for firm diversification status provides additional understanding of the relationships between voluntary disclosure and corporate form that has yet to be presented in the literature.

Despite using various proxies for proprietary costs, the results consistently show that diversified firms are more likely to issue guidance. The results also show that higher proprietary costs are associated with a lower likelihood of providing guidance. Interestingly, most of the measures of proprietary costs are not highly correlated, and in one case, even when a variable is just the segment sales-weighted average of another.

After analyzing the propensity to issue a forecast, I turn my attention to the timing and content of the forecasts. If focused firms have higher proprietary costs of disclosure, they may delay their forecasts so that competitors do not have as much time to adjust their investment policy accordingly. Moreover, information voluntarily disclosed by focused firms may be more vague. For those firms issuing a forecast, I test whether focused firms, relative to diversified firms, provide forecasts with less lead time, with less specificity, or with greater error from actual earnings when announced.

Results for forecast lead time, specificity, and error do not support the proprietary cost hypotheses associated with diversification. The lack of supporting results after conditioning on a forecast provides weak evidence that once firms decide to provide a forecast, its content is matched to existing forecasts. I address the endogenous choice of providing a forecast and a number of other empirical issues in additional tests.

Since voluntary disclosure is argued to lower information asymmetry, I also use the diversification discount valuation framework to study whether firms that disclose have higher values than those that do not. Additionally, if diversified firms have higher information asymmetry due to their more opaque form and voluntary disclosure lowers it, diversified firms may have a greater incentive to disclose if they can reap gains from the disclosure. In addition to using control variables for information asymmetry in earlier tests to control for such effects, I run additional tests to see if the valuation impact of disclosure is consistent with the information asymmetry argument.

To test the valuation effects of disclosure, I study its relationship to excess value, which is the relative value of a diversified firm to its imputed value using data from focused competitors. Bens and Monahan (2004) lend some credence to the existence of such a relationship by showing that diversified firms score lower than focused firms in the AIMR (Association for Investment Management and Research) disclosure rankings, and their lower ranking is associated with a lower relative value for diversified firms relative to focused firms. My data allow me to update Bens and Monahan's work with more recent data, new empirical methods, and with actual disclosures rather than outsider rankings of disclosure. Tests using forecast lead time and error, two of four measures of disclosure that I use, show that increased disclosure is associated with higher excess value, but only forecast error is significant when interacted with diversification status and firm fixed effects are considered. Overall, the evidence for particular valuation effects of disclosure for diversified firms is only weakly supported in my tests.[3]

Due to two substantial regulatory changes, I separately analyze time periods in which different rules were in place. First, one of the stated intentions of the regulatory change from Financial Accounting Standards Board (1976) (hereafter SFAS No. 14) to Financial Accounting Standards Board (1997) (hereafter SFAS No. 131) was to increase the transparency of diversified firms. Berger and Hann (2003, 2007) and Botosan and Stanford (2005) study mandatory disclosure differences between diversified and focused firms surrounding this rule change. Berger and Hann (2007) report that diversified firms hid segments in ways consistent with agency cost explanations, but Botosan and Stanford (2005) find that proprietary cost measures were more prominent in the event. Second, in late 2000 upon the adoption of Regulation Fair Disclosure (Securities and Exchange Commission (2000); hereafter Reg FD), management was prohibited from selectively providing material information to outsiders without releasing the information to the public. Reg FD was accompanied by a marked changes in forecasts provided to the public (Ajinkya, Bhojraj, and Sengupta (2005)).

To incorporate these regulatory changes into my tests, I use an indicator for the period before either of these rules was adopted, the period after SFAS No. 131 but before Reg FD, and the period after Reg FD. During the period when just SFAS No. 131 was effective, firms were more likely to issue a forecast. Results for the diversification indicator are inconclusive, but results for the interaction of multi-segment status

[3]This result is further complicated by the interpretation of forecast error as a measure of disclosure. The primary issue is that it is an ex-post measure of how accurate management was in predicting actual earnings. Increasing the time between forecast and actual earnings (forecast lead time, which is itself a measure of disclosure) increases the likelihood that confounding factors effect forecast accuracy.

with proprietary costs are largely consistent with a positive association with forecast issuance. Reg FD alone does not affect the results after controlling for SFAS No. 131, but firms with higher proprietary costs in the post-Reg FD period are associated with a *lower* propensity to issue a forecast.

My primary tests are subject to a few econometric concerns that I address using various methods. To verify that I am not being pessimistic with respect to the base sample that I use to determine the universe of firms, I change the base sample from Compustat to the FirstCall Consensus database, which contains analyst estimates of firms as chosen by FirstCall. Results using this adapted sample fully support the finding that diversified firms are more likely to issue a forecast. To better control for selection bias of inclusion into the FirstCall Company Issued Guidance database, I intend to employ a Heckman two-stage approach and/or a matching approach in the future.

Another econometric concern is the endogeneity that has been shown in the decision to diversify. Campa and Kedia (2002) and Villalonga (2004) show that the decision to diversify is endogenous, and this endogeneity can drastically change results based on measures of corporate form. To ameliorate these concerns I use a two-stage framework that invokes instruments for diversification status in the first stage and then uses a predicted value for diversification status in the second stage. The result that a diversified firm is more likely to provide guidance is nullified after the consideration of the endogeneity of the diversification decision. However, further consideration of the instruments used is necessary.

The remainder of the paper proceeds as follows. Section 2 reviews relevant literature on voluntary disclosure and corporate form and provides further rationale for my study. Section 3 continues with a description of the data used in my empirical analysis. In Section 4, I present the tests and results that I use to determine if differences in management guidance between diversified and focused firms exist. Empirical issues are also addressed. Section 5 concludes.

2. Literature Review and Motivation

In the following section I motivate tests of voluntary disclosure differences between single-segment (focused) firms and multi-segment (diversified) firms. Disclosure provides management with the means to reveal their private information if they so choose. In the context of takeover bids, Grossman and Hart (1980) show that a seller with private information about the quality of the item will reveal his information in equilibrium, resulting in full disclosure. Similar analytical results can be found in Milgrom (1981).

This section details how proprietary costs associated with voluntary disclosure may inhibit full disclosure and provides some evidence that such costs do indeed limit disclosure. With the support of the literature in conglomerate diversification and voluntary disclosure, I argue that focused firms have a lower proprietary cost of disclosure and therefore disclose more than diversified firms. I provide hypotheses to test for different proprietary cost impacts of voluntary disclosure based on corporate form. Also, I consider potential alternatives to the proprietary cost hypotheses.

A. Proprietary Cost Hypothesis

Early explanations for non-disclosure hinged on the assumption in the full disclosure models that the information could be conveyed with more benefit than cost. Later models show that the benefits of lowering information asymmetry and potentially lowering the cost of capital via disclosure could be offset by costs of the disclosure. In the informational setting where a value maximizing manager with private information chooses whether to reveal his information, models by Verrecchia (1983) and

Bhattacharya and Ritter (1983) yield the full disclosure result for low-cost information, but their models provide for a threshold level of disclosure when such information production is costly.[4]

Verrecchia (1983) pinpoints proprietary costs as a mechanism to model the trade-offs of disclosure. In his model, firms choose to disclose information based on an expected reaction by traders to the disclosure or non-disclosure. If the expected detriment is more than the benefits, the disclosure should not rationally occur. His model predicts a negative association between *product market competition* and disclosure. In the presence of proprietary costs, traders are unable to assess whether the lack of disclosure is good news or bad news, and the full disclosure premise is no longer valid. Other analytical studies addressing proprietary costs make it clear that the type of competition could be an important factor. For example, Darrough and Stoughton (1990) study a potential entrant as the form of competition, and their model predicts that this sort of competition encourages disclosure, therefore predicting a positive association between *threat of entry* and disclosure.[5]

While there is a substantial analytical literature studying the importance of the proprietary costs of disclosure, empirical evidence is limited. In a review of the empirical disclosure literature, Healy and Palepu (2001) state that "there is little direct evidence on the proprietary cost hypothesis." Verrecchia (1983) predicts that

[4] Diamond (1985) provides an explanation for investor demand of such information. A basic premise of much of accounting literature and of the full disclosure literature in particular is that managers possess private information and investors know this fact. In practice, this assumption seems believable, although surely there are cases in which management knows little or no information. Myers and Majluf (1984) offers a well known example of a financial model assuming that agents have superior information. On the other hand, Axelson (2007) develops a security design model in which bidders have superior information to management.

[5] Dye (2001) demonstrates how a market characterized by perfect competition can also lead to a partial disclosure result. He also states that perfect competition is not necessary to increase efficiency if disclosures help to improve pricing that improves capital allocation. He dubs this the "feedback" effect of disclosure.

disclosure and proprietary costs should have a negative relationship, and there seems to be some support for this prediction. Bamber and Cheon (1998) find that higher product market competition is related to a lower probability of a firm offering a forecast in a venue with more "visibility." This negative relationship extends to the specificity of the forecast. Moreover, Brockman, Khurana, and Martin (2008) report a negative relationship between a measure of how far management's forecast missed actual earnings-per-share and market-to-book, which they use to proxy for proprietary costs (as do Bamber and Cheon (1998)).

Focused firms that voluntarily disclose private information are revealing a finer level of detail than diversified firms that reveal aggregate information. For example, providing a forecast of earnings per share for a focused firm will allow competitors to assess how that particular business is performing and make adjustments to investment accordingly. Diversified firms, on the other hand, can provide an earnings forecast for the consolidated firm without revealing how individual components of the business are performing.[6] This potential informational advantage for the diversified firm could raise the costs of disclosure for a focused firm and motivate the focused firm to refrain from providing guidance or to provide guidance with lower specificity to obfuscate its news. I offer proprietary cost hypotheses below in alternate form:

Hypothesis 1. *Focused firms are less likely to provide an earnings forecast.*

Hypothesis 2. *Conditional on issuing an earnings forecast,*

(a) Focused firms offer the forecast later in the forecast window than diversified firms;

[6] Hutton, Miller, and Skinner (2003) show that firms provide supplementary statements concurrently with earnings forecasts approximately two-thirds of the time in their sample; the distribution of statements is almost equal between "good" and "bad" news; and the market only reacts to "good" news forecasts when accompanied by supporting verifiable statements. These results are based on aggregate statements only and do not incorporate the intricacies of diversified versus focused disclosure.

(b) *Focused firms offer lower earnings forecast specificity than diversified firms;*

(c) *Focused firms provide forecasts with greater differences from actual earnings than diversified firms.*

Hypotheses 1 and 2 only consider the relationship between diversification and voluntary disclosure, but an explicit treatment of the competitive environment will provide further understanding. If the explanatory variable that measures corporate diversification is simply a noisy proxy for proprietary costs of disclosure in tests of voluntary disclosures, the inclusion of variables that are more direct proxies for proprietary costs should affect the explanatory power of the diversification variable. However, the diversification variable should still capture proprietary cost differences that are not captured in standard measures. Specifically, diversified firms should be more likely to disclose.

B. Evidence from Mandatory Disclosures

Public firms have been required to disclose certain segment information since the passage of SFAS No. 14 with a considerable update to the rule adopted in 1996 as SFAS No. 131. The latter rule explicitly addresses competitive harm that may result from the increase in filing requirements for firms with multiple segments. Most of the arguments taken from comments to FASB on the implementation of the rule are concerned with the competitive harm to public diversified companies that are required to provide segment-level information versus private firms that do not have to disclose such information. The Board includes some provisions intended to ameliorate the competitive harm between public and private diversified firms, but nothing directly addresses the competitive harm to focused firms that must disclose more than is required of segments of diversified firms that I hypothesize. In fact, SFAS No. 131 paragraph 111 provides an indication that the competitive pressures faced by segments of diversified firms and focused firms may be equal:

> The Board concluded that it was not necessary to provide an exemption for single-product or single-service segments because enterprises that produce a single product or service that are required to issue general purpose financial statements have that same exposure to competitive harm.

The evidence on the proprietary costs of mandatory disclosure and diversification is not as limited as the voluntary disclosure side due in part to the rule change mentioned in the paragraph above. SFAS No. 131 has the stated intention to increase transparency by changing the reporting basis from one of industry allocation of segments to one of operating segments, among other changes. Berger and Hann (2003) provide evidence supporting an increase in transparency due to the rule change: the number of reported segments increased and the newly reported information was not previously incorporated into market expectations or analysts' predictions. Even with the advent of the new rule, filings on segments of diversified firms are not as revealing as those of a firm with just one segment. Required items for segment reporting are limited to a few items from the income statement used to create a measure of profit or loss. Focused firms must report consolidated firm filings (via SEC forms 10-K or 10-Q) including such items as research and development and risk factors that can be used to assess the growth potential of their singular business. Botosan and Stanford (2005) show that in the previous regime firms hid profitable segments in less competitive industries, which is consistent with competitive pressures impacting mandatory disclosure. Finally, Berger and Hann (2007) use the same rule change and find that agency costs rather than proprietary costs appear to influence management's filing disclosures.

Other research on mandatory disclosures does not utilize the rule change. Rather, it focuses on aggregation choice in the presence of competitive pressures. Hayes and Lundholm (1996) analyze the decision to aggregate business segments by analyzing the incentives of the firm to reveal or hide disclosures in the presence of a competitor. They find that a firm faced with a rival has the incentive to aggregate segments that have disparate results and disaggregate segments when their results are similar, lest the rival discovers the more profitable business to cannibalize. Harris (1998) compares SIC codes taken from filings and matches against SIC codes reported in Compustat as a segment to show that firms tend to aggregate segments in less competitive industries, although she admits that she finds this result in mandatory disclosures while many of the models used to motivate her story are for voluntary disclosure.

To incorporate the potential impact that mandatory disclosures have on a firm's complete disclosure environment, I separately analyze time periods in which different rules were in place. In addition to the rule change from SFAS No. 14 to SFAS No. 131, I also consider the adoption of Regulation Fair Disclosure (Reg FD) in late 2000. Reg FD prohibited management from selectively providing material information to outsiders without releasing the information to the public, and it was accompanied by a marked increase in the number of forecasts provided to the public as shown in Healy (2007). To incorporate these regulatory changes into my tests, I use indicator variables that allow for analysis of the period before any of these rules was adopted, the period after SFAS No. 131 but before Reg FD, and the period after Reg FD. To the extent that these rule changes increased transparency, diversified firms would be expected to lose some of their proprietary cost advantage and the effects of diversification noted in Hypotheses 1–2 would be diminished.

C. Consideration of Alternatives

C.1. Cost of Capital

In the full disclosure model, managers are endowed with private information and investors know that the manager possesses such information. If this information is disclosed, the information asymmetry between managers and investors diminishes. Diamond and Verrecchia (1991) show that this reduction leads to a lower price impact on the firm's securities that increases demand from large investors and in turn decreases the cost of capital for the firm. Another line of research that produces a negative relationship between disclosure and cost of capital centers around estimation risk. In the models of Coles, Loewenstein, and Suay (1995) and Barry and Brown (1985), firms that offer more information have parameters that are easier to estimate, resulting in lower market betas and lower expected returns (i.e., lower cost of equity capital). By modeling information as a noisy indicator of future cash flows, Lambert, Leuz, and Verrecchia (2007) show that increasing the quality of disclosures creates effects within a CAPM framework that ultimately lead to a lower cost of capital.[7]

The empirical literature examining the notion of a negative relationship between disclosure and cost of capital offers mixed results. Botosan and Plumlee (2002) find support using analysts' ratings of disclosure of annual documents, but they find a positive relationship using the ratings of quarterly reports. Brown and Hillegeist (2007) find more consistent support by showing that annual, quarterly, and investor relations ratings are negatively related to the probability of informed trade measure (PIN), which they argue proxies for information asymmetry. Further, Lang and Lund-

[7] Shin (2006) develops a model incorporating joint determination of asset returns and disclosure with predictions that resemble short-term momentum and long-term reversal in returns, but a reduction in cost of capital is not the driver of the model.

holm (1996) show that many measures often used to proxy for information asymmetry, such as analyst coverage and forecast dispersion, accuracy, and variability, are correlated with disclosure in ways that indicate lower information asymmetry for firms with more disclosure, which is consistent with lower cost of capital.[8] Botosan, Plumlee, and Xie (2004) argue that public information could either be a complement to or a substitute for private information, and when they include public information, the relationship between cost of equity capital and private information is positive. In support of the price impact story of Diamond and Verrecchia (1991), Coller and Yohn (1997) show that information asymmetry as measured by bid-ask spreads is higher for firms providing a forecast than for non-forecasting firms in the period prior to the forecast, but there is no difference in spreads after a forecast. Also they show that spreads over the nine days prior to a forecast are significantly higher than the spreads over the nine days after the management forecast.

Greater disclosure for diversified firms could be a result of an increased incentive to lower their information asymmetry (and their cost of capital) rather than a result of lower proprietary cost. The *transparency hypothesis* offered in Hadlock, Ryngaert, and Thomas (2001) states that diversified firms have higher information asymmetry due to lower transparency in the information available about the segments of the firm relative to pure-play firm information. The empirical evidence on higher information asymmetry in diversified firms generally finds the opposite, however. Using analysts' forecasts as a proxy for information asymmetry, Thomas (2002) shows that diversified firms do not have more information asymmetry than focused firms. He shows "that

[8]While the focus here is on voluntary disclosures that lower information asymmetry, other firm actions that lower information asymmetry have also been shown to be negatively related to cost of capital. For instance, Barth, Konchitchki, and Landsman (2008) find that more transparent earnings, that is, earnings that more closely relate to returns, are associated with a lower cost of capital.

greater diversification is associated with smaller forecast errors and less dispersion among forecasts." Moreover, he finds that diversified firms have higher earnings response coefficients (ERC) indicating that investors impound earnings information into stock prices to a greater extent than for focused firms. However, the results from Thomas (2002) indicating lower information asymmetry for diversified firms flip after controlling for return volatility. Using market microstructure measures of information asymmetry, Clarke, Fee, and Thomas (2004) support the Thomas (2002) findings of lower information asymmetry for diversified firms.[9]

Whether or not diversified firms have a lower cost of capital relative to focused firms has yet to be fully answered. Only a few studies offer tests related to differences in cost of capital or expected returns between diversified and focused firms. Hadlock, Ryngaert, and Thomas (2001) show that relative to focused firms, diversified firms suffer a less negative stock price reaction to seasoned equity offerings than focused firms, which is *inconsistent* with higher levels of information asymmetry for diversified firms. The authors attribute their result to lower adverse selection problems in issuing securities of diversified firms due to lower measurement error from imperfectly correlated segments than from a bucket of focused segments. If the lower measurement error for diversified firms that are selling securities is actually due to a commitment to disclosure above and beyond that of focused firms, increased disclosure could be causing this result. Lamont and Polk (2001) bring lower cost of capital for diversified firms into question by showing that there is no difference in returns between diversified and focused firms, but they do find that discounted diversified firms have higher

[9]Though not a study including all diversified firms, Krishnaswami and Subramaniam (1999) show that firms that engage in a spinoff have higher information asymmetry than a matched control group and gains associated with the spinoff are related to the decrease in information asymmetry for spinoff firms.

realized returns than premium diversified firms.[10]

I address the possibility that diversified firms have a greater incentive to disclose due to differences in information asymmetry rather than proprietary cost differences in two ways. First, in regressions of disclosure on diversification status and proprietary costs, I include variables that control for information asymmetry. Next, I analyze whether firms that provide voluntary disclosure have higher valuations relative to their industry peers and whether this result is related to diversification status. If the latter is true, it is an indication that further analysis is needed to disentangle the determinants of disclosure and how those determinants affect value.

Bens and Monahan (2004) report that disclosure ranking measured using AIMR ratings, which is used as an inverse proxy for information asymmetry, is positively associated with excess value, which is measured as a log ratio of the actual value of a firm to its value imputed from focused firm rivals, for diversified firms, but the relationship does not exist for focused firms. The authors attribute the positive association for diversified firms to the increased monitoring that is present for firms with more revealing disclosure. My empirical structure allows me to update Bens and Monahan's work with more recent data, new empirical methods, and with actual disclosures rather than outsider rankings of disclosure. I test the following hypothesis:

Hypothesis 3. *Higher measures of voluntary disclosures are associated with higher excess value.*

[10] Mitton and Vorkink (2008) find that diversified firms have lower skewness in their returns and this is consistent with investors' preference for skewness risk and with a discount for diversified firms.

C.2. Agency Costs

There is also a strand of literature addressing managers acting in their own interest and adopting a disclosure policy accordingly. Berger and Hann (2007) provide empirical support for an agency cost story that managers of diversified firms seek to mask inefficient behavior among their segments by aggregating segments with poor performance. Using proxies for disclosure, Aboody and Kasznik (2000) find evidence that is consistent with firms adapting their voluntary disclosures in favor of CEO option payoffs. Brockman, Martin, and Puckett (2008) lend more support to this argument by showing that firms release information intended to increase management's stock option payoff by releasing positive disclosure before intended exercise of options and by releasing negative information before intended holding of vested options. In a similar agency cost story, insider transactions are shown to be clustered after voluntary disclosures that result in higher payoffs for the insiders in Noe (1999). Bernhardt and Campello (2007) provide evidence that managers "talk down" the consensus analyst estimate of earnings. While this practice fools investors in that they treat the changes in analysts' estimates as unbiased, the earnings "surpise" is not substantial enough to raise the stock price above its losses from talking down the consensus before the earnings announcement. Finally, Brockman, Khurana, and Martin (2008) show that managers "talk down" the price of the firm's stock using voluntary disclosures prior to repurchasing shares, and the bias in management forecasts is positively correlated with management's private incentives.[11]

[11]It could be that the adjustment to disclosure by diversified firms is less than for focused firms because investors don't know enough details to apportion the news to the segments that make up the business. If this is the case, the good news/bad news studies will have more focused firms in them, and in turn, those samples will be smaller and younger than excluded firms. Also, dividing the sample based on "substantial news" (>1% or <-1% move in price) amplifies the aforementioned effect.

Many studies on corporate form point to potential agency costs differences between diversified and focused firms. At the level of the CEO, Shleifer and Vishny (1989) model an empire building CEO who overinvests in projects to carve out more rents for herself. Jensen (1986) details another form of overinvestment borne of greater access to free cash flows in the diversified corporate form. Rajan, Servaes, and Zingales (2000) develop a model in which incomplete contracting on investment choice drives self-interested divisional managers to invest in projects that are defensive rather than those that are most efficient for the firm. Scharfstein and Stein (2000) show how rent-seeking managers provide another avenue for a value loss for corporate diversification as managers take on projects that increase their bargaining power rather than increasing firm value. Lamont (1997), Lamont and Polk (2002), and Ahn and Denis (2004) provide empirical support for overinvestment by diversified firms. If managers are behaving in the manner described in these studies, agency costs will be higher in all cases for diversified firms. As such, they will be considered "lemons" in the marketplace, and any attempt to mitigate agency costs using disclosure will be moot in equilibrium. Since the mechanism by which voluntary disclosures could be used to mitigate this aspect of differences in corporate form, I do not include agency cost considerations in my tests.

3. Sample and Variable Construction

The primary data that I use to test the hypotheses are derived from the intersection of the FirstCall Company Issued Guidance (CIG) database and segment- and firm-level data from Compustat. A download from CIG with announcement years from 1990–2009 yields 111,908 observations of management forecasts.[12] There are only 67 forecasts from 1990–1993, so I remove forecasts announced in those years. Since announcements pertaining to fiscal year 2009 have yet to be fully incorporated into the database as of this draft, I also remove forecasts provided during firm fiscal years after 2008. After choosing forecasts of earnings per share on common stock in U.S. dollars that possess an eight-digit CUSIP and a FirstCall code that is necessary to qualify the specificity of the forecasts, the database has 97,975 observations. Similar to Anilowski, Feng, and Skinner (2007), I remove forecasts that are more than 90 days *after* or more than two years and 90 days *before* the subject fiscal period end of the forecast. Finally, I remove a few remaining duplicates in CIG for a resulting database with 94,600 observations (46,184 annual forecasts and 48,416 quarterly forecasts) spanning fiscal years as of the announcement of 1994–2008 as shown in Table 1.

To derive measures of corporate diversification and to weight variables according to segment distribution, I use the segment-level data from Compustat. SFAS No. 14 created the legal requirement for firms to file segment-level information with implementation and data entries beginning in earnest in the fiscal year of 1978. Restatements of segment or firm information are removed so the database contains

[12] Chuk, Matsumoto, and Miller (2009) note some problems with the CIG database. First, they show that hand-collected guidance from Lexis-Nexis is often not present in CIG. Though this will bias my results for the choice of guidance issuance, other tests on the level of information provided in the forecasts are more reliable. Also, they show that non-EPS measures and more complicated calculations of guidance (e.g., 10% increase in earnings) are not as complete. I use only EPS forecasts. Additional tests will be provided to ameliorate data selection issues.

information that was available to investors at the time of filing rather than adjusted numbers and filings revealed later.[13] I remove financial firms and utilities from the sample as these industries are regulated differently from others, which could affect the interpretation of proprietary costs and diversification.

SFAS No. 131 requires an adjustment to the data on both sides of the rule change for comparability. I perform the procedure described in Hund, Monk, and Tice (2010) to account for the segment reporting changes. The new rule requires firms to report segments based on operating structure rather than industry composition. As a result, firms reported more segments, but many of these segments are in the same 4-digit SIC code (see Sanzhar (2006) for details on these pseudoconglomerates.) The procedure I use aggregates sales for segments in the same 4-digit SIC code thereby making the data after SFAS No. 131 more comparable to those before it. I also remove segments with sales equal to zero or with missing values, since many of these are "corporate" segments put in place to allow firms (under the new rule) to allocate assets to the corporate entity rather than business-line segments.[14]

Finally I merge the forecasts and segments data with Compustat firm-level data required to perform additional screens for the segment-level data and to calculate other variables used throughout the study as controls. I remove those firms not reporting segment sales that sum to within 1% of reported total sales. This firm-level screen is taken from Berger and Ofek (1995) and is in agreement with the empirical diversification literature to allow for comparability. Other firm-level variables will be described in the sections below as needed. Short descriptions of all variables are in Appendix A. The resultant database has 65,074 forecast-level observations (29,141

[13]To the extent that managers knowingly provide incorrect forecasts and then manipulate filings to meet the incorrect forecasts, using non-restated data could bias my results.

[14]Due to the subjective nature of asset allocation under the new rule, I only use segment sales data in my analysis.

annual forecasts and 35,933 quarterly forecasts) as shown in Table 2.

A. Management Forecasts

Using the FirstCall Company Issued Guidance data described above I create management forecast variables for my tests. To get a better sense of how often the firm offers voluntarily disclosures, I calculate the number of forecasts provided in fiscal year t, including updates but not duplicating forecasts given on the same day, notated by $NForecast_t$. Botosan and Plumlee (2002) find substantial differences between disclosure rankings based on annual and quarterly reports. Therefore, I produce separate results for annual and quarterly data where appropriate. I also create a dummy variable ($Forecast$) to indicate whether management issued a forecast. $Forecast$ equals 1 for each CIG observation that has a matching firm-year observation from Compustat, and it equals zero for Compustat firm-years that do not have a matching observation in CIG.

To allow for deeper analysis of the disclosure policy of firms, I create variables based on more than just the sheer number of management forecasts. First, I calculate the number of days between the announcement date and the fiscal period end, denoted by *Lead*. Note that this variable is negative for those forecasts that are provided after the fiscal period end but before the actual earnings are announced. In order to capture the information available to investors at the time of the announcement and to reduce erroneous data points, I remove announcements that are more than 90 days after or more than 820 days (two years plus 90 days) before the subject fiscal period end. I chose 90 days after the fiscal period end so as not to interfere with results from the next quarter. I chose two years plus 90 days before the fiscal period end after looking at the distribution of forecasts and noting a few outliers that were thousands of days before the fiscal period end and are probably data entry errors. Second, I create a variable to denote the specificity of forecasts, *Spec*, using the definitions from Baginski, Conrad, and Hassell (1993) and a numbering scheme that is increasing in specificity as indicated in Appendix B. Fig. 1 shows that the number of forecasts per year peaked in 2004 and that the proportion of "range" forecasts has increased over time.

The final forecast measure is the ex-post accuracy of the management forecast. *Error* is calculated as the difference between the management forecast and actual earnings. Ajinkya, Bhojraj, and Sengupta (2005) and Brockman, Khurana, and Martin (2008), among others, use this variable as a measure of management "bias" in situations of monitoring and repurchasing shares, respectively. In the present context the measure will be useful in determining if the bias from other research is related to the effects of proprietary costs and diversification. However, this measure is imperfect because for point and open-interval forecast, I simply subtract actual EPS number from the EPS forecast, whereas for range forecasts, I use the mid-point of the range forecast as in Baginski, Conrad, and Hassell (1993).

Table 2 shows descriptive statistics for the primary forecast variables split into two panels based on the periodicity of the forecasts. Interestingly, the number of forecasts per year is similar between annual and quarterly forecasts, with an average of 4.55 annual forecasts and 4.62 quarterly forecasts per firm per year. A notable increase in *Lead* is evident in both panels in the earlier years of the sample indicating that firms increased the time between their forecasts and the fiscal period end. Average values for *Error* reveal that management forecasts of EPS are greater than what is ultimately revealed, which is consistent with a bias toward positive information in voluntary forecasts as shown in Rogers and Stocken (2005). The results for *Lead* and *Error* by periodicity are also presented in Fig. 2.

To allow for some comparison between the forecast sample after the screens necessary to perform my tests and the full forecast sample, I present descriptive statistics for the forecast variables for the full sample in Table 1 and for the screened sample in Table 2. Most of the statistics are similar between the two samples.

B. Measures of Diversification Status and Valuation

Using the Compustat segment data I create two measures of diversification. The first and most commonly used is the diversification indicator variable ($Multi_t$) that equals 1 if a firm reports multiple segments by four-digit SIC code in fiscal year t. Otherwise, the indicator equals 0. To provide additional depth to the analysis, I also create entropy ($Entropy_t$) as described in Jacquemin and Berry (1979) as a continuous measure of diversification. The entropy measure of diversification for firm i is determined at fiscal year t by

$$Entropy_{i,\ t} = \sum_{s=1}^{n} P_{s,\ i,\ t} \ln \frac{1}{P_{s,\ i,\ t}} \tag{1}$$

where n is the number of four-digit SIC code segments and $P_{s,\ i,\ t}$ is the proportion of sales from segment s of firm i at t. Entropy equals 0 for firms reporting a single business segment, and it is greater than 0 for firms reporting multiple business segments. Importantly, entropy changes as the distribution of sales across segments changes, even if the number of segments is held constant, which allows for an analysis of the impact of the degree of diversification on disclosure decisions.

I use the excess value measure to assess valuation differences between diversified and focused firms. Excess value (EV) is calculated using a log ratio of reported total capital (market value of equity plus book value of debt) to the imputed value for the firm. The imputed value is computed by multiplying the median ratio of total capital to sales for focused firms in a segment's industry by the segment's reported sales and then summing over the number of segments in the firm.[15]

C. Proprietary Costs

Several measures are needed for reliable proxies for the proprietary costs that firms are exposed to from voluntary disclosures. As noted in early literature cited in Section 2, the type of competition can and does have an impact on voluntary disclosure equilibrium outcomes. The difference between product market competition and the threat of entry has been shown to be enough to change the effect of competition on voluntary disclosures. The variability of proxies for proprietary costs across industries, firms, and segments can be drastically different. I separate the measures according to their variability: industry-, firm-, or segment-level.

C.1. Industry-Level Measures

Following Botosan and Stanford (2005) and Harris (1998), for each three-digit firm-level SIC code I construct the four-firm concentration ratio ($Conc4Firm$) and the Herfindahl Index (HI). The former equals the sum of the proportion of annual sales in a three-digit SIC code industry of the top four producers by sales, whereas the latter

[15] I do not use the asset- or EBIT-multiplier approach for excess value. I forego the former because the allocation of assets to segments is problematic after the passing of SFAS No. 131, and the latter because EBIT is often missing in the segment data. Appendix B provides greater detail on the formula used to calculate excess value.

is the sum of the squared proportions of sales coming from all firms in a three-digit SIC code industry.[16] As these measures increase, competition decreases.

As the last industry-level measure, I use the speed of profit adjustment. Harris (1998) notes that this measures provides an indicator of the persistence of abnormal profits away from the industry mean. The value for speed of adjustment, $SpeedAdj$, is the coefficient β_{2j} of Eq. 2, which is executed separately for each industry j. As with $Conc4Firm$ and HI, a higher value for $SpeedAdj$ implies less competition.[17]

$$X_{ijt} = \beta_{0j} + \beta_{1j}(D_n X_{ijt-1}) + \beta_{2j}(D_p X_{ijt-1}) + \varepsilon_{ijt} \tag{2}$$

where

- X is the difference between the ROA of firm i and the mean ROA of its three-digit SIC industry j;
- D_n is a dummy indicating negative X;
- D_p is a dummy indicating positive X.

C.2. Firm-Level Measures

The equity market-to-book ratio (MB) has been used in the disclosure literature as a measure of growth opportunities and more loosely as a proxy for proprietary

[16] Ali, Klasa, and Yeung (2009) provide evidence that industry concentration measures using Compustat can be biased. Their study cites the lack of private firms in the Compustat database as a weakness. However, in the context of testing differences in voluntary public disclosures that are ultimately verifiable due to mandatory filings, using only public firms should have less of an impact on inference.

[17] Berger and Hann (2007) use segment abnormal profitability to proxy for management's desire to withhold segment information from potential entrants. As stated in their paper, such measures for the entire sample of segments are difficult to obtain and to verify. Their sample is limited to firms changing corporate form around a rule change. As such, they could hand-collect the necessary data more easily.

costs. Firms with high growth opportunities may have a lower incentive to disclose as argued in Bamber and Cheon (1998), but this relationship could be in the opposite direction if a firm desires to deter entry by signalling that a particular industry has lower opportunities. Perhaps this ambiguous relationship is demonstrated in their findings that the lagged value of MB is negatively associated with the level of investor proactivity of the release venue, but when used as an explanatory variable for forecast specificity the ratio is no longer significant. Further, Ajinkya, Bhojraj, and Sengupta (2005) include lagged MB in similar regressions of management forecasts issuance, but in most cases their tests show that the coefficient for it is not significantly different than zero. From the diversification perspective, there is a vast literature showing that focused firms are valued at a premium to diversified firms using relative MB, although there is not a consensus on the reason for this valuation difference.[18] I calculate MB_t as the log of the ratio of the market value of equity at calendar year end t to the book value of equity.

Other firm-level variables offer more direct proxies for proprietary costs. Research and development expense (RD), calculated as the yearly R&D expense over assets, is argued to be positively related to proprietary costs in Wang (2007). RD is not a typical control variable in the diversification literature, although the result in Seru (2007) showing that conglomerates stifle innovation lends some support to a correlation between R&D and diversification. Also, I include three-digit SIC industry percent rank of profit margin ($PMargin$) and market share ($MShare$) as in Nichols (2009), although I winsorize $PMargin$ at 1%.

[18]See Martin and Sayrak (2003) for a review of this literature.

C.3. Firm-Level Measures Using Segment-Level Information

Since a diversified firm is composed of multiple segments from potentially multiple industries, I construct some firm-level variables that are based on segment-level information. For each measure, I treat the segment as a separate entity within an industry and calculate market share information accordingly. By treating each segment as a separate competitor in the industry market, these measures offer a more complete picture of what a particular industry participant is facing. Specifically, I use segment sales and their accompanying industry designation to create a segment-sales weighted average market share ($MShareSeg$) and Herfindahl Index ($HIwtd$). To calculate the latter measure I multiply the proportion of firm sales in a particular three-digit segment industry by a Herfindahl Index created using sales values from all segments within a three-digit SIC code industry and then sum over the number of segments in the firm as shown in Eq. 3 and Eq. 4.

$$HIseg_j = \sum_{i=1}^{m} (\frac{s_i}{S_j})^2 \tag{3}$$

$$HIwtd_f = \sum_{k=1}^{n} (\frac{s_k}{S_f}) * HIseg_j, \tag{4}$$

where

m = number of segments in three-digit industry j,

s = segment sales,

S = sales from all segments (in industry j or firm f),

n = number of segments in firm f.

Table 3 provides some support for separate consideration of the proprietary cost measures. Although many of the correlation coefficients between the measures are significantly different than zero, only four have an absolute value greater than 0.5. *SpeedAdj*, *MB*, and *PMargin* have very little relationship with any of the other measures. Since *MB* has been used in the disclosure literature to proxy for other economic effects such as growth opportunities, it will remain in my analyses. Among the remaining proprietary cost proxies, I will provide information that includes industry-level, firm-level, and segment-based calculations to include multiple measures where appropriate.

D. Other Variables

I address two common controls first. **Firm size** can be argued to have either a positive or negative association with disclosure. On one hand, larger firms will have the real resources to produce the information more easily (Diamond (1985)). On the other hand, more information is generally available publicly for larger firms, perhaps substituting for some of the information that management would otherwise release (Brockman, Khurana, and Martin (2008)). Harris (1998) argues that firm size is also a proxy for the number of segments reported due to filing requirements based on a 10% threshold to list a segment separately. To control for these possible effects I use the variable *Size*, measured as the log of total assets. Brown and Hillegeist (2007) also note the importance of **recent performance** in a firm's decision to issue guidance. To capture recent performance I use return on equity, *ROE*. Using excess firm returns over the CRSP value-weighted index during the three months ending before the issuance of the management forecast yields similar results.

Earnings volatility has been used as a measure of the potential for large movements in management forecasts and susceptibility to litigation. Managers from firms with higher earnings volatility may have a tougher time forecasting earnings and may be more likely to get the forecast wrong. Not only is this measure applicable in the study of voluntary disclosures, but also it has been shown to be an important determinant in studies of corporate diversification. Diversified firms are shown in Dimitrov and Tice (2006) and Hund, Monk, and Tice (2010) to have significantly lower volatility in firm performance measures such as ROE, ROA, and $EBIT$. I calculate earnings volatility, $EarnVol$, as the standard deviation of the previous 12 quarters of earnings before the period including the forecast winsorized at 1%.

To address **information asymmetry**, which is one of the primary theoretical determinants of disclosures, I use the a few measures taken from extant literature. First, I use residual stock return standard deviation, $Volatility$, as calculated in Krishnaswami and Subramaniam (1999). $Volatility$ is the standard deviation of the market-adjusted daily stock returns over the 36 months preceding the forecast announcement. I take two other measures of information asymmetry from analyst information as provided in FirstCall: $NumEst$ and $Dispersion$. $NumEst$ is the number of analyst estimates of annual earnings per share preceding the date of the management forecast, while $Dispersion$ is the standard deviation of all active analyst forecast as of that same date winsorized at 1%.

There is considerable theory and empirical evidence in the disclosure literature showing that firms disclose **good news** more readily than bad news.[19] Following extant research, I construct an indicator variable for negative earnings, $NegEarn$, to control for this effect. However, there is a counterargument to the preference for good news disclosures. Management's legal obligation to reveal material private information can bias their disclosures toward "bad news" as management attempts to prevent

[19] For example, see Dye (1990), Dye. and Sridhar (1995), Gennotte and Trueman (1996), and Miller (2002).

suits after a precipitous fall in stock price as in Baginski, Hassell, and Kimbrough (2002) and Schrand and Walther (1998). The **legal environment**, specifically the probability of litigation surrounding negligent guidance, has been shown to be a factor when issuing guidance, for the frequency of the guidance, and for its specificity. Congress enacted the Private Securities Litigation Reform Act of 1995 as a means to address this fear of litigation, although recent results by Rogers and Stocken (2005), Kothari, Shu, and Wysocki (2009), and Cao, Wasley, and Wu (2007) show that firms are more likely and quicker to reveal bad news than good news.

Although there is to my knowledge no research showing a difference between diversified and focused firms with respect to litigation risks, some research argues that inefficient investment by diversified firms causes those firms to have worse performance on average than their peers. Worse performance could cause more lawsuits as investors tend to sue more often after bad information is released than after good information is released. On the other hand, dispersed segments could allow diversified firms to smooth performance perhaps lowering the probability of a lawsuit (and making diversified firms more likely to issue guidance). Therefore, the impact of litigation risks is not clear in the context of diversification and disclosure. I use the negative earnings growth indicator variable ($NegEarnG$) from Bamber and Cheon (1998) and Brockman, Khurana, and Martin (2008) to proxy for litigation exposure. $NegEarnG$ equals 1 if the firm has negative earnings growth over the year, and it equals 0 otherwise. Additionally, I include a broader indicator for industries prone to litigation. Using segment-level data, I calculate $LitInd$ as the proportion of firm total sales coming from segments in the following four-digit SIC code industries: 2833–2836 and 8731–8734 (biotechnology); 3570–3577 and 7370–7374 (computers); 3600–3674 (electronics); and 5200–5961 (retail).

One assumption of the full disclosure model is that all investors interpret management's disclosure or non-disclosure in the same manner. Theoretical models manipulating this assumption, such as in Dye (1998), result in some investors gaining more from the information release than others. Brockman, Khurana, and Martin (2008) address the empirical implications of the models by controlling for differences in **investor sophistication**. Although the focus of their paper is not different investor groups, they find a result consistent with investor sophistication impacting voluntary disclosure. Bamber and Cheon (1998) use a measure of non-affiliated blockholders to proxy for litigation exposure, but the same measure could be a proxy for investor sophistication. Evidence in Ajinkya, Bhojraj, and Sengupta (2005) showing that greater institutional ownership increases disclosure lends support to these arguments. However, this measure is confounded by the liquidity impacts of disclosure and how those impacts may be favored more by one set of investors over another.[20]

[20] I intend to include an investor sophistication variable in my controls at a later date.

4. Empirical Tests and Results

In the following section, I merge arguments taken from the Motivation section with the data described in the previous section to implement empirical tests. All of the tests are designed to work together to provide rigor to an analysis of proprietary cost differences between diversified and focused firms that determine whether a firm provides voluntary disclosures, and if so, how revealing that disclosure is.

A. Univariate and Bivariate Tests

The summary statistics in Table 4 show that there are significant differences between firms that provide managements forecasts and those that do not. Diversified firms comprise 26.8% of forecasting firms, but only 19.1% of nonforecasting firms. This relationship holds for the *Entropy* measure as well. All of the proprietary measures except for $HIwtd$ are significantly different for forecasting firms, and the direction of the difference indicates that firms facing less competition tend to forecast. The results for MB, which is often used as a proprietary cost proxy, indicate that forecasting firms have significantly higher MB. If higher MB is interpreted as higher proprietary costs (due to higher growth opportunities), this particular result appears to be inconsistent with the other measures of proprietary costs. Since MB proxies for so many effects, this is not surprising. As with extant literature on voluntary disclosures, forecasting firms tend to be larger, less likely to have negative earnings, have better recent performance, come from industries with high litigation exposure, have greater analyst following, and have less dispersion among the analyst forecasts of their firm.

Additional measures of voluntary disclosure decisions provide mixed results on the question of whether diversified firms disclose "more" information than focused firms. Although the information in Fig. 3 shows that the characteristics of all forecasts do not consistently vary by corporate form, perhaps with the exception of *Lead*, more detailed analysis provides additional insight. Table 5 shows for both quarterly and annual forecasts, diversified firms provide forecasts more frequently. While diversified firms provide 7.9 quarterly forecasts on average over a fiscal year, focused firms provide only 6.7. This difference in $NForecast$ between diversified and focused firms is significant at the 1% level. Other forecast-based measures provide limited support for diversified firms providing "more" information to investors via voluntary disclosure. *Lead*, which is the number of days before the fiscal period end that is the subject of the forecast, for quarterly forecasts by focused firms is about two days less than for diversified firms, and the difference is significant at the 1% level. However, for *Lead* of annual forecasts there is no significant difference between focused and diversified firms. The specificity of the forecast, *Spec*, is slightly higher for focused firms, indicating that focused firms provide quarterly forecasts that are slightly more specific than forecasts by diversified firms. No such difference is present for annual forecasts. Finally, for quarterly forecasts $Error$ is significantly higher for focused firms than for diversified firms at the 1% level. Fig. 3 summarizes the findings on characteristics of forecasts by corporate form.

The evidence in Table 5 also shows that diversified and focused firms are different across many different dimensions in addition to their differences in disclosure. Specifically, higher proprietary costs for focused firms could be a crucial factor in the lower levels of disclosure for focused firms as argued in Hypothesis 1. The proprietary cost measures associated with market share and concentration (HI, *HIwtd*, and $MShareSeg$) indicate that diversified firms operate in industries that are more concentrated. It has been shown that concentration measures are positively correlated with voluntary disclosures. Research and development costs (RD) are greater for focused firms, and higher research and development has been shown to be negatively correlated with voluntary disclosures in Jones (2007), among others.

B. Multivariate Tests

The summary statistics provide some evidence for a relationship between corporate form and disclosure, but without more rigorous testing, arguments other than the proprietary cost story that I offer could be used to explain this relationship. In the section to follow, I will more rigorously test the hypotheses put forth in the Motivation section. I divide the tests into those pertaining to the decision to provide a forecast and those that are conditional on providing a forecast. In this way, I can determine if the effect I am testing manifests as part of the decision to issue a forecast, in the characteristics of the forecast, or both.

B.1. Forecast Issuance

I first analyze whether diversified firms are more or less likely than focused firms to issue a forecast as stated in Hypothesis 1 and whether the effect of diversification changes with the competitive environment. I test the propensity of providing a management forecast conditioned on proxies for corporate form and other factors known to affect forecast issuance, such as growth opportunities, firm size, earnings volatility, and litigation environment (see Rogers and Stocken (2005) and Matsumoto (2002)). The dependent variable is the dummy variable $Forecast_t$ that equals 1 if a firm provides a forecast in fiscal year t and is 0 otherwise. Due to the binary nature of the dependent variable, the most appropriate empirical tests utilize binary response models, specifically a probit or logit model. I use a logit model because it is more useful in tests with endogenous binary explanatory variables, which I will address later.[21] The tests of forecast issuance take the form:

$$Pr(Forecast_t) = \beta_0 + \beta_1 Form_{t-1} + \mathbf{x_{t-1}}\boldsymbol{\beta} + \varepsilon_t, \tag{5}$$

where $Form$ is either the multi-segment dummy variable $Multi$ or the entropy measure of diversification $Entropy$, and $\mathbf{x_{t-1}}$ is a vector containing control variables. All control variables are measured at a time before the guidance was announced.

Table 6 provides results that are consistent with Hypotheses 1 for various iterations of Equation 5 using $Multi$ as a measure of diversification. All of the models show that the diversified corporate form is associated with a greater propensity to issue a forecast. In the first column of results, the positive and significant (at the 1% level) coefficient of 0.286 for $Multi_{t-1}$ translates to a 7% marginal effect for a diversified firm. The other columns present the results with various proprietary cost proxies. The label at the top of each column indicates the proprietary cost (PC) measure used. MB is not significant in any of the models. However, all of the other PCs are significant at the 1% level and the sign of the coefficient indicates that an increase in proprietary costs is correlated with a decrease in the propensity to issue a forecast. For example, the positive coefficient for HI in the second column of results indicates that higher industry concentration, which proxies for lower proprietary costs, is positively related to the propensity to issue a forecast. The negative coeffi-

[21] See Wooldridge (2002) for more on the difficulties of using a probit model with binary endogenous explanatory variables.

cient for RD, a positively correlated proxy for proprietary costs, indicates that higher RD is correlated with a lower probability of issuing a forecast. These results provide support for the proprietary cost hypothesis.

The results in Table 6 are consistent across models with respect to the control variables. The coefficients for $Size$ are positive and significant at the 1% level, indicating that larger firms are associated with higher odds of issuing a forecast, perhaps because size is a proxy for diversification as in Harris (1998). The negative coefficients for $NegEarn$ are also contrary to arguments that firms with negative earnings attempt to avoid litigation resulting from poor performance by being more transparent via disclosures. However, $LitInd$ is positive and significant in almost all cases, and the inclusion of $LitInd$ makes the interpretation of $NegEarn$ different with respect to litigation exposure. Consistent with earlier studies, recent firm performance, as proxied by ROE, is positive and significant at or above the 5% level in all models.

Table 7 shows that using $Entropy$ as the diversification proxy produces very similar results to those found using $Multi$. The results for the control variables are almost identical to the results using $Multi$ as the diversification indicator.

B.2. Forecast Characteristics

Next, I focus on Hypothesis 2, which is conditional on the occurrence of a forecast. This hypothesis provides further opportunity to study the characteristics of disclosure. Firms have considerable latitude in the level of voluntary disclosure they provide even if they have decided to definitely issue a forecast. I study the timing, specificity, and accuracy of forecasts with attention to how these attributes of a forecast are affected by proprietary costs differences between multi-segment and single-segment firms.

Following a similar framework to Eq. 5, I use *Lead*, *Spec*, and *Error* as forecast-level dependent variables as shown respectively in the equations below:

$$Lead_t = \alpha + \beta_0 Form_{t-1} + \mathbf{x1_{t-1}}\boldsymbol{\beta} + \varepsilon_t \tag{6}$$

$$Spec_t = \alpha + \beta_0 Form_{t-1} + \mathbf{x2_{t-1}}\boldsymbol{\beta} + \varepsilon_t \tag{7}$$

$$Error_t = \alpha + \beta_0 Form_{t-1} + \mathbf{x3_{t-1}}\boldsymbol{\beta} + \varepsilon_t \tag{8}$$

where $Form$ is either the diversification dummy variable $Multi$ or the entropy measure of diversification *Entropy*. The control variables in the vector $\mathbf{x1_{t-1}}$ and $\mathbf{x3_{t-1}}$ are the same as in Eq. 5. Following Ajinkya, Bhojraj, and Sengupta (2005), I include *Lead* as an additional control variable for $\mathbf{x2_{t-1}}$. All control variables are measured at a time before the guidance was announced. In each case, I also provide test results after adjusting the dependent variable by the three-digit SIC code mean industry value.

There are differences from earlier tests with respect to the data set used and empirical methodology as well. For these tests I use forecast-level data rather than firm-level data, and tests are divided by periodicity (annual or quarterly). Other studies take the approach of removing periodicity as a concern by focusing on either annual or quarterly forecasts. This delineation is especially important when looking at variables such as *Lead*, which is obviously different for annual and quarterly forecasts. Since these dependent variables are not discrete response models, different empirical methods are required. Ordinary least squares (OLS) is a reliable technique for Eq. 6 and Eq. 8. OLS also eases the use of advanced empirical methods such as firm fixed effects and instrumental variables, especially in the case of endogenous binary explanatory variables. An ordered probit is the best methodology for Eq. 7, which has a dependent variable that equals 1, 2, 3, or 4.

The does not appear to be a consistent result for Eq. 6 with $Multi$ as the form of diversification as presented in Table 8. There is some indication that for annual forecasts, $Multi$ is negatively associated with $Lead$, which refutes the notion that diversified firms provide "more" information by providing it earlier as in Hypothesis 2(a). One could argue that diversified firm results require more time to forecast because those firms have more complex structures. However, other control variables are intended to account for these differences. Firms with higher MB, higher $Volatility$, and higher $Dispersion$ tend to provide more lead time on their forecasts, while firms with more analyst coverage provide less time. Results for annual forecasts are similar to those for quarterly forecasts though some significance levels are higher for quarterly forecasts. The findings for these control variables are consistent with firms providing more information to the market when the firm is harder to value or more is expected of the firm.

After industry adjustment of $Lead$, the results change considerably, though not in any way to support Hypothesis 2(a). Table 9 shows for annual forecasts that only the coefficient for $Dispersion$ is consistently significant. Results for quarterly forecasts indicate that firms with higher MB and firms operating in litigation prone industries tend to provide forecast with greater lead time. Firms that are larger, have negative recent earnings, or have greater analyst coverage provide less lead time.

Using the specificity of the forecast ($Spec$) also produces mixed results, but there are some significance levels worth noting in the variables of interest. Table 10 provides fairly consistent evidence that diversified firms provide forecasts with lower specificity, which is contrary to diversified firms providing "more" information as in Hypothesis 2(b). The coefficient for $PMargin$ is positive and significant at the 1%

level, which is consistent with proprietary costs of disclosure hypothesis. However, the coefficients for $HIwtd$ and $MShareSeg$ in the annual forecasts panel indicate an opposite result. Firms with higher MB provide forecasts that are more specific on average, but larger firms and those with greater $Volatility$ are less specific in their forecasts. Also contrary to the previous results using $Lead$ as the dependent variable, $NumEst$ is positive and significant, indicating that firms with greater analyst following tend to provide more specific forecasts.

Here again, industry adjustment of the dependent variable $Spec$ removes the significance from almost every variable of interest as shown in Table 11. Moreover, there is substantial inconsistency between annual and quarterly forecasts. For example, $Size$ is positive and significant in each of the models in the annual forecast panel, but it is negative and significant in the quarterly forecast panel.

The final test of Hypothesis 2 incorporates the difference between the management forecast and the actual value once it is realized, $Error$. By design, $Error$ is subject to concerns of expectation versus realization, but it has been used often to proxy for the effectiveness of management forecasts and for the dubiousness of those forecasts. The results for Eq. 8 using $Multi$ as the diversification measure presented in Table 12 offer basically no support for Hypothesis 2(c). $Multi$ is not significantly different from zero in any model presented, and the proprietary cost measures yield no support for the hypotheses. Both MB and $Size$ are negative and significant at the 1% level in every model. As with some of the results above, the findings for these control variables are consistent with firms providing more information to the market when the firm is harder to value or more is expected of the firm. Table 13 presents very similar results using industry-adjusted $Error$ as the dependent variable.

Although there are some outcomes that support the relevant hypotheses, the overall results from Eqs. 6–8 offer little confidence that the affirmative results are reliable in general. Econometric issues discussed later will possibly change the outcome of these tests.

B.3. Valuation Effects

The final tests that I perform are related to the potential benefits of voluntary disclosure. Firms that successfully lower the level of information asymmetry surrounding their firm should enjoy higher valuations. Moreover, diversified firms that are considered more opaque may benefit more from such disclosures than their less opaque focused peers. In the context of diversification, differences in valuation are typically studied using the excess value measure.[22] More specifically, I test Hypothesis 3 using the following equation:

$$EV_t = \alpha + \beta_0 Multi_t + \beta_1 Disc_t + \beta_1 MultiXDisc_t + \mathbf{x4_t}\boldsymbol{\beta} + \varepsilon_t, \tag{9}$$

where $Disc$ is a disclosure level equal to firm-level percentile rank of the number of forecasts provided ($NForecast$), $Lead$, $Spec$, or $Error$ for fiscal year t. Typical control variables for regressions involving excess value are included in $\mathbf{x4_t}$.

As is evident in Table 14, the results for these tests depend on which measure of disclosure and what type of model is used. I use ordinary least squares for all of the models, but for each measure of disclosure, I present results controlling for year fixed effects in one column and firm fixed effects in another column.[23] All of the models using year fixed effects indicate that diversified firms tend to have lower valuations

[22] See Appendix B for more details on the calculation of excess value.

[23] The power of the model when fixed effects are used is low since firms do not change form that often and the sample has been limited by the need for forecasting variables, which makes the possibility that a firm changes corporate form even less likely.

than their focused peers (i.e., a diversification discount), but this result is no longer present after controlling for firm fixed effects. Four of eight models indicate that firms with higher levels of disclosure tend to have higher valuations, which does not provide sufficient evidence to confirm or reject Hypothesis 3. Overall, it appears that any benefits of disclosure for valuation are not enhanced for diversified firms.

C. Empirical Issues and Robustness Tests

C.1. Regulatory Robustness

There are two regulatory changes that occurred over the period of this study that have been shown to affect diversification and disclosure. For financial statements for periods beginning after December 15, 1997, SFAS No. 131 requires public companies to meet new segment reporting regulations. Regulation Fair Disclosure, effective as of October 23, 2000, was accompanied by marked changes in forecasts provided to the public (Healy (2007)). I study the effects of these rule changes using indicator variables. Brown, Hillegeist, and Lo (2005) follow this technique for the implications of Reg FD on the determinants of disclosures. To the extent that these rule changes increased transparency, diversified firms would be expected to lose some of their proprietary cost advantage, and the effects of diversification and proprietary costs noted in Hypothesis 1 would be diminished.[24]

Table 15 shows that the previous results from Table 6 in support of Hypothesis 1 are no longer present after explicit consideration of regulatory changes. The indicator $SFAS131$ is positive and significant in all of the models indicating that all firms are

[24]The Private Securities Litigation Reform Act of 1995 expanded the safe-harbor protection to firms for disclosing forward-looking information, but the implementation of this Act did not occur until late in 1995 and therefore should not drastically impact the results of my sample.

more likely to disclose after SFAS No. 131.[25] Contrary to the hypothesis that an increase in transparency would diminish the proprietary cost benefit of disclosure enjoyed by diversified firms, the interaction between diversified status and $SFAS131$ is positive and significant at the 5% level. Perhaps more interestingly, after Reg FD firms with higher proprietary costs are more likely to voluntarily disclose than beforehand. This brings into question the idea that all firms increased disclosure after Reg FD; it appears as though firms with high proprietary costs, who were possibly relaying information in a more private way, were forced to reveal their disclosures to the public.[26]

C.2. Sample Selection

Although a number of recent academic studies use the FirstCall CIG database for guidance forecasts, there are some sample selection concerns with the firms covered. Lansford, Lev, and Tucker (2010) provide an appendix to their work showing that firms providing "soft" guidance information are less likely to be covered in the CIG. Moreover, Chuk, Matsumoto, and Miller (2009) provide evidence that firms providing guidance with greater *Lead* or lower *Spec*, among other characteristics, tend to be missing from the CIG database. For this to be a factor in the results presented here, the omissions from the CIG would have to be systematically related to diversification status or proprietary costs. It is clear from Table 4 that the firms that are forecasting are different from those that are not.

In an attempt to allay these concerns for the results on forecast decision, I change

[25] This result is confounded by a noted increase in the diligence of FirstCall to collect forecast information beginning in 1998, which exactly coincides with the new segment disclosure regulation.

[26] Brown, Hillegeist, and Lo (2005) find that interaction terms of the determinants of voluntary disclosure and a dummy for Reg FD are generally insignificant.

how I determine the sample that did not issue a guidance forecast. Namely, I use the firms present in the FirstCall Consensus analyst estimates database rather than the Compustat universe to determine whether firms provide guidance. The results shown in Table 16 are almost identical to those presented in Table 6. While this does provide some increased level of confidence that the selection of a firm to be covered by the FirstCall Company Issued Guidance database does not drive the results, a more robust test in the form of a Heckman selection model will be run in the future.

C.3. Diversification Decision

To address the endogeneity of the diversification decision and the problem of statistical inferences in the presence of such endogeneity I employ a two-stage process similar to Ajinkya, Bhojraj, and Sengupta (2005) and Brockman, Khurana, and Martin (2008). In the former article, the authors run a simultaneous equations framework to model the association between disclosure and institutional ownership. Perhaps more applicable in the current context, the latter article uses instruments to create a predicted value for the probability of a stock repurchase that is then used in a second-stage regression of disclosure on (the predicted) repurchase.

The decision to diversify has been shown to be a factor in analyzing the effects of diversification status. Campa and Kedia (2002) and Villalonga (2004) provide evidence that the results of earlier studies using diversification indicators as exogenous measures are erased or even reversed when variables correlated with the decision to diversify and the dependent variable in those studies are included in the empirical framework. Although the analysis above appears to support Hypothesis 1 that diversified firms are more likely to issue a forecast, endogeneity of the diversification decision could result in biased estimates and erroneous inferences.

The econometric method used to control for endogeneity depends on the type of regression and the form of the endogenous regressor. Accounting for endogenous regressors in a probit model is fairly straightforward if the endogenous variable is continuous. However, for an endogenous discrete variable, such as $Multi$, other methods must be employed. In this case, I use a probit regression of the endogenous variable on instrumental variables and the exogenous explanatory variables to predict a value for the endogenous variable. Then, the predicted value can be inserted into a logit regression in the same way as my previous tests for Eq. 5.

To instrument for the diversification decision, I use three measures that have been supported in the literature. Campa and Kedia (2002) note that there are many reasons why a particular industry may be more attractive to a particular corporate form. In particular, they mention industry regulation as a potential factor. I use their measures to capture this potential effect. $PSDIV$ is the fraction of sales within an industry that come from diversified firms after omitting the sales from the subject firm. Industry is measured at the two-digit level in Campa and Kedia (2002), but I use the three-digit and the four-digit level to allow for comparison with other measures. Also, I use a sales-weighted average of the measures, which affects the values for multiple-segment firms. These measures are constructed to be positively associated with industry attractiveness for diversified firms. Following Dimitrov and Tice (2006), I also include minority interest as shown on the balance sheet (MIB) as an instrument for the decision to diversify. MIB is a dummy variable that equals one if the firm has non-zero minority interest on its balance sheet. This indicates that the firm owns a majority of another firm and therefore has an interest in that firm.

Table 17 shows that accounting for the endogeneity of the diversification does indeed change results. For every model, the previous result that diversified firms are more likely to provide a forecast is nullified or, in one case, reversed. This could be reflection of the inappropriateness of the instruments chosen. The best instrument is highly correlated with the endogenous variable, but not correlated with the error term in the reduced form equation. In this case, variables that were previously used as instruments for diversification may be correlated with an omitted variable among the determinants of forecast issuance.

C.4. FirstCall Coverage Selection

In progress.

C.5. Simultaneous Determination of Forecast Characteristics

In progress...

5. Conclusion

In disclosing information to the public that is not mandatory, a diversified firm has a choice: provide segment-level details or provide aggregate information. Focused firms do not enjoy this option. A focused firm disclosure can be more accurately allocated to a particular business or industry allowing competitors to react more readily. This situation creates the potential for additional proprietary costs suffered by focused firms that are not incurred by diversified firms. If the proprietary cost of voluntary disclosures hypothesis posited in Verrecchia (1983) holds, focused firms could refrain from voluntary disclosures without the fear of incurring a market discount, resulting in fewer voluntary disclosures for focused firms.

Using voluntary disclosures from the FirstCall Company Issued Guidance database, I show that focused firms are less likely than diversified firms to issue a forecast. Even after controlling for other variables that are known to affect the issuance of a forecast (e.g., recent performance, size, analyst coverage), a focused firm is less likely to issue a forecast than a diversified firm. This result also holds for a sample of firms taken from the universe of firms covered in the FirstCall Consensus database rather than the entire Compustat universe. However, these results are contingent upon the econometric method I use. After accounting for the endogeneity of the diversification decision, this result no longer holds.[27]

Most measures of proprietary costs affect the likelihood of providing guidance in the expected direction, but the inclusion of those measures does not remove the significance of the corporate form indicator. Firm market-to-book equity, which is a common measure of proprietary costs, is not significant in regressions of the deter-

[27] My future plans include additional tests and additional control variables that may reverse the lack of a result after considering this endogeneity.

minants of issuing guidance. Firms operating in more concentrated industries are more likely to provide guidance, while firms with more investment in research and development are less likely to disclose.

When firms decide to provide guidance they have additional discretion over what level of detail to provide to the public. The same proprietary cost difference that may be driving focused firms to limit the instances of their voluntary disclosures could also result in less informative disclosures from focused firms as a way to obfuscate their news. In the results presented, I show that this does not seem to be the case. Tests analyzing the time between earnings forecast and earnings announcement, the specificity of the earnings-per-share (EPS) estimate provided, and the difference between forecasted and actual EPS do not yield a consistent result. Moreover, the sign and significance of many of the control variables are different from the results analyzing the issuance of a forecast.

Here again, the econometric method could be an important factor. Those firms choosing to provide a forecast are obviously different from those that do not (as seen in earlier tests). This endogeneity must be addressed. Additionally, after a decision to issue a forecast is made, the characteristics of that forecast are simultaneously determined. My tests do not control for these problems yet, which could definitely change my results.

This study provides ample indication that further study of the voluntary (and mandatory) disclosure environment is warranted. Regulation that is written to consider the competitive disadvantage of a diversified firm disclosing segment information should also consider the fact that focused firms are always revealing their "segment" information in full.

Appendix A. Variable Descriptions

Variable	Definition
Forecast	Dummy variable equal to 1 if the firm offered guidance and 0 otherwise
NForecast	Number of forecasts provided by a firm per fiscal year
Lead	Average elapsed days from guidance announcement to fiscal period end
Spec	The specificity of the guidance: 1 is qualitative; 2 is open-ended; 3 is range; and 4 is point
Error	Difference between the forecast and actual earnings per share, normalized by the most recent end-of-quarter share price, multiplied by 100, and winsorized at 1%
Multi	Dummy variable equal to 1 if firm has multiple segments and 0 otherwise
Entropy	A measure of firm diversification based on the dispersion of sales across segments
Conc4Firm	Proportion of sales in a three-digit SIC code industry coming from the top four producers by sales
HI	Firm-level sales-based Herfindahl Index at the 3-digit SIC code level
SpeedAdj	Speed of abnormal profit adjustment as calculated in Eq. 2
EarnVol	Standard deviation of 12 quarters of earnings measured at the end of the fiscal period before the management forecast date winsorized at 1%
MB	Log of the equity market to book ratio
MShare	Firm three-digit SIC code industry sales market share as a percentile rank
PMargin	Firm three-digit SIC code industry profit margin (EBIT/Sales) winsorized at 1% as a percentile rank
RD	Research and development yearly expense over total assets
HIwtd	Weighted average firm Herfindahl Index using segment sales at the 3-digit SIC code level
MShareSeg	Within-firm sales-weighted three-digit segment SIC code industry sales market share as a percent rank, scaled to 0–100
Volatility	Standard deviation of monthly market-adjusted returns over the 36 months before the management forecast
Size	Log of total yearly assets

(Continues on the next page.)

(Variable descriptions continued)

Variable	Definition
$NegEarn$	Dummy variable equal to 1 if earnings for a given period are negative
$NegEarnG$	Dummy variable equal to 1 if earnings growth (the difference in earnings) is negative
ROE	Return on equity, calculated as earnings over book equity, winsorized at 2%
$LitInd$	Dummy equal to 1 if the firm is in an industry that is prone to litigation: SIC=2833–2836, 8731–8734, 3570–3577, 7370–7374, 3600–3674, and 5200–5961
$NumEst$	Number of analyst with active estimates before the release of the management forecast
$Dispersion$	Standard deviation of active estimates before the release of the management forecast winsorized at 1%
$RegFD$	Dummy variable equal to 1 if the management forecast date is after October 23, 2000
$SFAS131$	Dummy variable equal to 1 if the subject fiscal period end of the forecast is after December 15, 1998
$PSDIV$	For each firm and three-digit SIC code industry, the sales-weighted average proportion of sales coming from diversified firms excluding the subject firm
$MinInt$	Minority interest dummy indicating whether the firm has ...

Appendix B. Additional Variable Definitions

Specificity Definition

SPECIFICITY	VALUE	RULE
Point	4	Number estimate given with no qualifications such as "greater than," "less than," "no more than," or "at least."
Range	3	Provides both ends of estimate interval, usually with "between"
Open-interval	2	Number estimate given with some indication that the forecast is unbounded at one end
Qualitative	1	All remaining forecasts

Excess Value Definition

To calculate excess value (EV) I use the following formulas (Berger and Ofek, 1995, page 60):

$$I(V) = \sum_{i=1}^{n} AI_i * (Ind_i(\frac{V}{AI})_{mf})$$

$$EV = \ln(V/I(V))$$

where

$I(V)$	=	imputed value,
V	=	firm total capital (market value of equity at the end of the calendar year t plus book value of debt at the end of the firm fiscal year t),
AI	=	accounting item (sales at the end of the firm fiscal year t),
$Ind_i(\frac{V}{AI})_{mf}$	=	ratio of total capital to an accounting item for the median focused firm in the same industry as segment i,
n	=	the number of segments in segment i's firm at the end of the firm fiscal year t.

The matched segment median value comes from the finest SIC code level (2-, 3-, or 4-digit) with at least five focused firms.

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Table 1: Forecasts Descriptive Statistics—FirstCall Sample

The following table provides summary statistics for annual and quarterly earnings per share forecasts for the entire FirstCall Company Issued Guidelines database tabulated by the fiscal year at the time of the forecast. The data represent forecasts of earnings per share for U.S. common stock in U.S. dollars. Each column heading has the statistic measured above the variable name. *Forecast* represents the total number of forecasts. *Firms* is the total of unique firms based on 8-digit CUSIP. *NForecast* is the number of forecasts per firm. *Lead* is the number of days between the forecast and the actual earnings announcement. *Spec* is the specificity of the forecast as defined in Appendix A. *Error* is the difference between the forecasted earnings per share and the actual earnings per share normalized by the most-recent-quarter share price of the firm, multiplied by 100, and winsorized at 1%.

	Panel A: Annual Forecasts						Panel B: Quarterly Forecasts					
Fiscal Year	Count *Forecast*	Count *Firms*	Mean *NForecast*	Mean *Lead*	Mean *Spec*	Mean *Error*	Count *Forecast*	Count *Firms*	Mean *NForecast*	Mean *Lead*	Mean *Spec*	Mean *Error*
1994	45	42	1.1	192	3.3	2.40	162	147	1.2	22	3.1	0.76
1995	271	217	1.5	183	3.4	2.36	500	426	1.3	17	3.2	0.52
1996	457	359	1.6	190	3.3	2.30	1,039	813	1.6	18	3.0	0.61
1997	685	509	1.8	188	3.2	2.06	1,517	1,123	1.7	17	3.0	0.76
1998	1,245	776	2.3	213	3.1	1.86	2,425	1,551	2.1	25	2.7	0.60
1999	1,767	1,017	2.6	227	2.8	1.61	2,997	1,757	2.4	29	2.4	0.51
2000	1,776	1,004	2.7	223	2.9	2.27	3,016	1,759	2.5	33	2.7	0.75
2001	3,438	1,452	3.8	227	3.0	2.49	5,432	2,143	4.1	49	2.9	0.77
2002	4,500	1,446	4.7	222	3.1	1.69	5,363	1,837	4.8	53	3.0	0.50
2003	4,987	1,463	5.0	218	3.1	1.37	5,053	1,546	5.9	62	3.1	0.26
2004	5,576	1,546	5.1	221	3.0	0.96	5,052	1,469	5.6	61	3.0	0.17
2005	5,396	1,397	5.3	214	3.1	0.87	4,503	1,280	5.6	56	3.1	0.15
2006	5,617	1,443	5.3	210	3.1	0.66	4,293	1,243	5.3	57	3.1	0.10
2007	5,334	1,358	5.2	209	3.1	0.52	3,766	1,080	5.2	58	3.1	0.14
2008	5,090	1,143	5.9	207	3.1	0.89	3,298	909	5.2	55	3.1	0.11
Total	46,184	15,172	4.72	215.24	3.04	1.19	48,416	19,083	4.46	48.83	2.97	0.36

Table 2: Forecasts Descriptive Statistics—Merged Sample

The following table provides summary statistics for annual and quarterly earnings per share forecasts for the sample meeting screening requirements for the study at hand tabulated by fiscal year at the time of the forecast. The data represent forecasts of earnings per share for U.S. common stock in U.S. dollars. Each column heading has the statistic measured above the variable name. *Forecast* represents the total number of forecasts. *Firms* is the total of unique firms based on 8-digit CUSIP. *NForecast* is the number of forecasts per firm. *Lead* is the number of days between the forecast and the actual earnings announcement. *Spec* is the specificity of the forecast as defined in Appendix A. *Error* is the difference between the forecasted earnings per share and the actual earnings per share normalized by the most-recent-quarter share price of the firm, multiplied by 100, and winsorized at 1%.

	Panel A: Annual Forecasts						Panel B: Quarterly Forecasts					
Fiscal Year	Count *Forecast*	Count *Firms*	Mean *NForecast*	Mean *Lead*	Mean *Spec*	Mean *Error*	Count *Forecast*	Count *Firms*	Mean *NForecast*	Mean *Lead*	Mean *Spec*	Mean *Error*
1994	34	32	1.1	177	3.3	2.26	120	114	1.1	23	3.0	0.52
1995	187	154	1.5	177	3.3	2.24	401	338	1.4	18	3.2	0.49
1996	344	276	1.5	186	3.3	2.27	850	660	1.6	19	3.0	0.64
1997	491	369	1.7	182	3.2	1.90	1,193	873	1.8	19	3.0	0.70
1998	797	509	2.2	211	3.1	1.99	1,741	1,103	2.2	25	2.8	0.54
1999	1,080	638	2.5	220	2.8	1.65	2,040	1,182	2.5	30	2.4	0.56
2000	1,105	629	2.8	222	2.9	2.27	2,104	1,204	2.5	33	2.7	0.74
2001	2,041	931	3.3	223	3.0	2.69	3,897	1,478	4.1	49	2.9	0.80
2002	2,477	845	4.4	218	3.1	1.61	3,707	1,229	4.9	53	3.0	0.48
2003	3,115	934	4.9	215	3.0	1.28	3,850	1,104	6.3	63	3.1	0.24
2004	3,593	1,001	4.9	217	3.0	0.88	3,898	1,090	5.8	61	3.1	0.15
2005	3,484	892	5.3	211	3.1	0.83	3,495	952	5.8	56	3.1	0.17
2006	3,596	926	5.1	205	3.1	0.60	3,235	899	5.4	57	3.1	0.06
2007	3,443	865	5.0	204	3.1	0.45	2,859	769	5.4	60	3.1	0.06
2008	3,354	757	5.6	200	3.1	0.85	2,543	661	5.3	55	3.1	0.09
Total	29141	9758	4.55	210.59	3.05	1.14	35933	13656	4.62	49.66	2.98	0.34

Table 3: Correlation Matrix of Proprietary Cost Measures

This table shows the Pearson correlation coefficients for the firm-level sample created by merging the necessary databases for fiscal years 1994–2008. Variables are described in Appendix A. The lower triangle shows the correlations coefficients using a pairwise method, while the upper triangle shows the coefficients using a list-wise method. For the list-wise method, 28,014 observations were used. Subscripts indicate the fiscal year of measurement. Superscript stars indicate statistically significant correlations at the levels provided in the legend below the table.

	Industry-Level			Firm-Level				Segment-Based	
	Conc4Firm	HI	SpeedAdj	MB	MShare	PMargin	RD	HIwtd	MShareSeg
Conc4Firm		0.851***	-0.203***	-0.155***	-0.033***	-0.002	-0.291***	0.653***	0.326***
HI_t	0.851***		-0.170***	-0.115***	-0.027***	-0.004	-0.212***	0.658***	0.297***
$SpeedAdj_t$	-0.203***	-0.163***		0.141***	0.027***	0.007*	0.188***	-0.197***	-0.135***
MB_t	-0.155***	-0.110***	0.143***		0.032***	0.077***	0.272***	-0.141***	-0.036***
$MShare_t$	-0.023***	-0.019***	0.022***	0.031***		0.395***	-0.179***	-0.022***	0.262***
$PMargin_t$	0.001	-0.003	0.002	0.077***	0.372***		-0.254***	0.005	0.100***
RD_t	-0.244***	-0.175***	0.163***	0.265***	-0.165***	-0.207***		-0.214***	-0.138***
$HIwtd_t$	0.623***	0.666***	-0.153***	-0.129***	-0.018***	0.002	-0.178***		0.557***
$MShareSeg_t$	0.303***	0.361***	-0.082***	-0.030***	0.260***	0.084***	-0.118***	0.602***	

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

Table 4: Forecasting Status Summary Statistics

This table presents statistics for variables of interest by forecasting status for the firm-level sample for the fiscal years 1994–2008. A firm is considered "Nonforecasting" in a particular fiscal year if it is not represented in the FirstCall Company Issued Guidance database. For each of the variables in the first column, the second and third columns contain the mean on the upper row and the standard deviation on the lower row in parentheses. Variables are described in Appendix A. The "Diff." column indicates the difference between Nonforecasting and Forecasting firm means, and asterisks indicate if the difference is significant at the 10% (*), 5% (**), or 1% (***) level. Subscripts indicate the fiscal year of measurement.

	Nonforecasting_t	Forecasting_t		
	Mean (sd)	Mean (sd)	Diff.	N
$Multi_{t-1}$	0.191	0.268	-0.076***	67,798
	(0.393)	(0.443)		
$Entropy_{t-1}$	0.120	0.169	-0.048***	67,798
	(0.286)	(0.328)		
HI_{t-1}	0.151	0.155	-0.004***	67,798
	(0.136)	(0.141)		
$SpeedAdj_{t-1}$	0.528	0.549	-0.022***	67,583
	(0.313)	(0.304)		
$PMargin_{t-1}$	0.485	0.596	-0.110***	62,268
	(0.301)	(0.271)		
RD_{t-1}	0.108	0.074	0.033***	41,137
	(0.296)	(0.095)		
$HIwtd_{t-1}$	0.123	0.123	-0.001	67,798
	(0.131)	(0.131)		
$MShareSeg_{t-1}$	0.030	0.056	-0.026***	67,798
	(0.100)	(0.133)		
MB_{t-1}	0.762	0.906	-0.143***	59,138
	(1.026)	(0.832)		
$EarnVol_t$	0.057	0.033	0.025***	54,089
	(0.132)	(0.077)		
$Volatility_t$	0.167	0.142	0.024***	46,812
	(0.107)	(0.080)		
$Size_{t-1}$	4.537	6.011	-1.474***	67,784
	(2.168)	(1.728)		
$NegEarn_{t-1}$	0.399	0.235	0.164***	67,798
	(0.490)	(0.424)		
$NegEarnG_{t-1}$	0.389	0.367	0.021***	67,798
	(0.487)	(0.482)		
ROE_{t-1}	-0.166	0.017	-0.183***	65,329
	(0.690)	(0.407)		
$LitInd_{t-1}$	0.328	0.390	-0.062***	67,798
	(0.461)	(0.476)		
$NumEst_t$	3.258	6.137	-2.879***	50,262
	(4.253)	(5.743)		
$Dispersion_t$	0.111	0.067	0.043***	34,939
	(0.220)	(0.150)		

Table 5: Summary Statistics by Periodicity and Diversification Status

This table presents statistics for more granular measures of management forecasts using a forecast-level sample for fiscal years 1994–2008. The left panel of the table shows statistics for quarterly earnings forecasts, while the right panel shows statistics for annual earnings forecasts. Variables are described in Appendix A. Each panel is further divided by diversification status. A firm is considered "focused" if it reports only one business segment and "diversified" if it reports more than one business segment. For each variable by periodicity and diversification status, the mean is on the upper row and the standard deviation on the lower row in parentheses. The "Diff." column indicates the difference between Focused and Diversified firm means, and asterisks indicate if the difference is significant at the 10% (*), 5% (**), or 1% (***) level. Subscripts indicate the fiscal year of measurement.

	Quarterly				Annual			
	Focused$_t$	Diversified$_t$			Focused$_t$	Diversified$_t$		
	Mean/(sd)	Mean/(sd)	Diff.	N	Mean/(sd)	Mean/(sd)	Diff.	N
$NForecast_t$	6.676	7.901	-1.225***	35,933	7.325	7.911	-0.586***	29,141
	(5.469)	(6.779)			(4.878)	(5.363)		
$Lead_t$	49.054	51.093	-2.039***	35,933	210.493	210.766	-0.272	29,141
	(64.531)	(62.660)			(135.221)	(134.366)		
$Spec_t$	2.983	2.962	0.022**	35,926	3.052	3.043	0.009	29,139
	(0.786)	(0.739)			(0.632)	(0.562)		
$Error_t$	0.365	0.271	0.094***	31,891	1.158	1.106	0.052	27,084
	(2.337)	(1.900)			(3.297)	(3.077)		
HI_t	0.147	0.184	-0.037***	35,933	0.151	0.200	-0.049***	62,928
	(0.135)	(0.145)			(0.143)	(0.166)		
$SpeedAdj_t$	0.546	0.516	0.031***	35,868	0.574	0.519	0.055***	62,769
	(0.296)	(0.291)			(0.313)	(0.302)		

(Table continues on the next page.)

Table 5: (continued)

	Quarterly				Annual			
	Focused$_t$	Diversified$_t$			Focused$_t$	Diversified$_t$		
	Mean/(sd)	Mean/(sd)	Diff.	N	Mean/(sd)	Mean/(sd)	Diff.	N
$PMargin_t$	0.585	0.587	-0.002	31,858	0.555	0.578	-0.023***	57,515
	(0.278)	(0.269)			(0.296)	(0.278)		
RD_t	0.078	0.040	0.038***	25,418	0.101	0.037	0.064***	40,767
	(0.097)	(0.056)			(0.164)	(0.057)		
$HIwtd_t$	0.121	0.159	-0.037***	35,933	0.124	0.162	-0.038***	62,928
	(0.144)	(0.155)			(0.143)	(0.147)		
$MShareSeg_t$	0.055	0.106	-0.050***	35,933	0.049	0.090	-0.041***	62,928
	(0.143)	(0.182)			(0.136)	(0.160)		
MB_t	0.813	0.726	0.087***	33,194	0.879	0.708	0.171***	59,375
	(0.844)	(0.775)			(0.959)	(0.811)		
$EarnVol_t$	0.034	0.024	0.010***	32,618	0.039	0.025	0.014***	52,137
	(0.080)	(0.073)			(0.083)	(0.082)		
$Volatility_t$	0.149	0.121	0.028***	29,772	0.147	0.116	0.031***	48,128
	(0.079)	(0.065)			(0.086)	(0.071)		
$Size_t$	6.161	7.202	-1.040***	35,928	5.627	6.923	-1.296***	62,920
	(1.586)	(1.637)			(1.853)	(1.883)		
$NegEarn_t$	0.284	0.197	0.087***	35,933	0.317	0.187	0.130***	62,928
	(0.451)	(0.398)			(0.465)	(0.390)		
$NegEarnG_t$	0.442	0.428	0.014**	35,933	0.389	0.387	0.002	62,928
	(0.497)	(0.495)			(0.488)	(0.487)		
ROE_t	-0.038	0.030	-0.068***	33,241	-0.105	0.028	-0.133***	59,696
	(0.521)	(0.429)			(0.645)	(0.440)		

(Table continues on the next page.)

Table 5: (continued)

	Quarterly				Annual			
	Focused$_t$	Diversified$_t$			Focused$_t$	Diversified$_t$		
	Mean/(sd)	Mean/(sd)	Diff.	N	Mean/(sd)	Mean/(sd)	Diff.	N
$LitInd_t$	0.530	0.265	0.266***	35,933	0.418	0.200	0.218***	62,928
	(0.499)	(0.395)			(0.493)	(0.343)		
$NumEst_t$	7.399	7.170	0.228***	34,520	5.210	6.327	-1.117***	62,068
	(5.940)	(5.429)			(5.664)	(5.743)		
$Dispersion_t$	0.028	0.029	-0.001	31,080	0.081	0.078	0.003**	46,354
	(0.073)	(0.048)			(0.172)	(0.143)		

Table 6: Forecast Issuance—Multi-segment

This table contains the coefficients from a logistic regression where the binary outcome is whether or not a firm issued a management forecast in a given fiscal year. Data for management forecasts are derived from the FirstCall Company Issued Guidance database for the time period 1994–2008. Each column heading indicates the proprietary cost measure **PC** used in each model. Other variables are described in Appendix A. The parentheses contain z-statistics adjusted for firm clustering.

		HI	SpeedAdj	RD	HIwtd	MShareSeg
$Multi_{t-1}$	0.286***	0.268***	0.277***	0.188***	0.279***	0.285***
	(6.36)	(6.05)	(6.25)	(3.73)	(6.23)	(6.31)
$\mathbf{PC_{t-1}}$		0.774***	0.467***	-1.321***	0.613***	0.914***
		(5.91)	(7.55)	(-3.74)	(3.46)	(3.98)
MB_{t-1}	-0.0183	-0.0140	-0.0494	-0.0508	-0.0107	-0.0245
	(-0.43)	(-0.33)	(-1.20)	(-0.96)	(-0.25)	(-0.58)
$EarnVol_t$	0.550*	0.574*	0.500	0.889**	0.575*	0.565*
	(1.72)	(1.84)	(1.53)	(2.47)	(1.83)	(1.80)
$Volatility_t$	3.282***	3.420***	3.523***	2.845***	3.383***	3.375***
	(2.71)	(2.84)	(2.91)	(2.69)	(2.81)	(2.81)
$Size_{t-1}$	0.164***	0.161***	0.189***	0.131***	0.163***	0.142***
	(5.17)	(5.01)	(6.16)	(4.79)	(5.02)	(3.99)
$NegEarn_{t-1}$	-0.532***	-0.517***	-0.544***	-0.525***	-0.518***	-0.525***
	(-7.12)	(-6.99)	(-7.23)	(-5.44)	(-6.95)	(-7.03)
$NegEarnG_{t-1}$	0.155***	0.153***	0.146***	0.156***	0.156***	0.158***
	(2.78)	(2.77)	(2.61)	(2.58)	(2.79)	(2.80)
ROE_{t-1}	0.374***	0.375***	0.381***	0.215**	0.375***	0.375***
	(4.18)	(4.24)	(4.21)	(2.37)	(4.21)	(4.20)
$LitInd_{t-1}$	0.266***	0.303***	0.242***	0.0659	0.290***	0.285***
	(5.73)	(5.68)	(5.31)	(1.47)	(5.49)	(5.57)
$NumEst_t$	0.0185**	0.0204**	0.0181**	0.0405***	0.0196**	0.0207**
	(2.33)	(2.50)	(2.30)	(4.54)	(2.38)	(2.48)
$Dispersion_t$	-1.452***	-1.429***	-1.454***	-0.968***	-1.437***	-1.423***
	(-6.23)	(-6.23)	(-6.37)	(-5.15)	(-6.25)	(-6.26)
Constant	-1.655***	-1.798***	-2.043***	-1.214***	-1.760***	-1.601***
	(-3.88)	(-4.27)	(-4.90)	(-3.20)	(-4.21)	(-3.66)
N	22544	22544	22472	14596	22544	22544
Pseudo R^2	0.0457	0.0474	0.0493	0.0556	0.0466	0.0476
Log likelihood	-14894.3	-14867.9	-14790.9	-9553.0	-14880.0	-14863.9

z statistics in parentheses
* $p < .10$, ** $p < .05$, *** $p < .01$

Table 7: Forecast Issuance—Entropy

This table contains the coefficients from a logistic regression where the binary outcome is whether or not a firm issued a management forecast in a given fiscal year. Data for management forecasts are derived from the FirstCall Company Issued Guidance database for the time period 1994–2008. Each column heading indicates the proprietary cost measure **PC** used in each model. Other variables are described in Appendix A. The parentheses contain z-statistics adjusted for firm clustering.

		HI	SpeedAdj	RD	HIwtd	MShareSeg
$Entropy_{t-1}$	0.287***	0.259***	0.275***	0.166**	0.283***	0.293***
	(3.50)	(3.19)	(3.40)	(1.96)	(3.47)	(3.56)
$\mathbf{PC_{t-1}}$		0.788***	0.471***	-1.350***	0.641***	0.928***
		(6.13)	(7.66)	(-3.79)	(3.60)	(4.03)
MB_{t-1}	-0.0225	-0.0178	-0.0538	-0.0517	-0.0145	-0.0288
	(-0.53)	(-0.42)	(-1.29)	(-0.98)	(-0.34)	(-0.68)
$EarnVol_t$	0.547*	0.573*	0.497	0.892**	0.574*	0.562*
	(1.71)	(1.83)	(1.51)	(2.48)	(1.82)	(1.79)
$Volatility_t$	3.312***	3.447***	3.554***	2.862***	3.416***	3.407***
	(2.74)	(2.86)	(2.94)	(2.70)	(2.84)	(2.84)
$Size_{t-1}$	0.168***	0.165***	0.193***	0.135***	0.166***	0.145***
	(5.01)	(4.89)	(5.94)	(4.69)	(4.85)	(3.87)
$NegEarn_{t-1}$	-0.534***	-0.519***	-0.547***	-0.525***	-0.520***	-0.527***
	(-7.11)	(-6.98)	(-7.22)	(-5.43)	(-6.94)	(-7.02)
$NegEarnG_{t-1}$	0.154***	0.153***	0.145***	0.155**	0.155***	0.157***
	(2.77)	(2.76)	(2.61)	(2.56)	(2.78)	(2.80)
ROE_{t-1}	0.375***	0.375***	0.382***	0.213**	0.376***	0.376***
	(4.19)	(4.25)	(4.22)	(2.36)	(4.22)	(4.21)
$LitInd_{t-1}$	0.252***	0.290***	0.228***	0.0541	0.279***	0.272***
	(5.29)	(5.33)	(4.85)	(1.23)	(5.11)	(5.18)
$NumEst_t$	0.0180**	0.0199**	0.0177**	0.0400***	0.0192**	0.0203**
	(2.20)	(2.38)	(2.17)	(4.39)	(2.26)	(2.36)
$Dispersion_t$	-1.462***	-1.438***	-1.464***	-0.974***	-1.446***	-1.432***
	(-6.27)	(-6.26)	(-6.41)	(-5.19)	(-6.29)	(-6.30)
Constant	-1.643***	-1.791***	-2.035***	-1.205***	-1.753***	-1.588***
	(-3.80)	(-4.19)	(-4.81)	(-3.13)	(-4.13)	(-3.58)
N	22544	22544	22472	14596	22544	22544
Pseudo R^2	0.0446	0.0463	0.0482	0.0551	0.0456	0.0466
Log likelihood	-14911.2	-14883.9	-14806.9	-9558.1	-14895.5	-14879.7

z statistics in parentheses
* $p < .10$, ** $p < .05$, *** $p < .01$

Table 8: Forecast Lead—Multi-segment

The following table presents results from an ordinary least squares regression of the lead time of a forecast (*Lead*) on the multi-segment indicator (*Multi*) and other control variables for the period 1994–2008. Other variables are described in Appendix A. Data for management forecasts are derived from the FirstCall Company Issued Guidance database. Each super-column heading indicates the periodicity of the forecasts and each column heading indicates the proprietary cost measure **PC** used in each model. All models include firm fixed effects. Standard errors are clustered by firm with t-statistics in parentheses.

	Annual Forecasts						Quarterly Forecasts					
		HI	PMargin	RD	HIwtd	MShareSeg		HI	PMargin	RD	HIwtd	MShareSeg
$Multi_{t-1}$	-5.154	-5.188	-5.764	-18.73**	-5.170	-5.119	1.001	0.950	0.521	4.576	1.087	1.043
	(-0.83)	(-0.84)	(-0.87)	(-2.35)	(-0.83)	(-0.83)	(0.31)	(0.30)	(0.15)	(1.14)	(0.33)	(0.33)
$\mathbf{PC_{t-1}}$		6.777	4.108	28.14	1.605	2.747		16.73	7.706*	27.61	-8.546	10.14
		(0.32)	(0.56)	(0.50)	(0.08)	(0.11)		(1.34)	(1.79)	(1.02)	(-0.80)	(0.57)
MB_{t-1}	8.264***	8.264***	9.430***	8.746**	8.262***	8.253***	6.858***	6.849***	6.936***	6.016***	6.902***	6.814***
	(2.66)	(2.66)	(2.81)	(2.40)	(2.66)	(2.66)	(5.33)	(5.32)	(4.88)	(3.96)	(5.38)	(5.23)
$EarnVol_t$	-17.23	-17.27	-26.57	-16.81	-17.22	-17.21	-39.05***	-38.86***	-57.11***	-38.30***	-39.12***	-38.97***
	(-0.79)	(-0.80)	(-1.64)	(-0.74)	(-0.79)	(-0.79)	(-3.05)	(-3.01)	(-2.85)	(-3.31)	(-3.06)	(-3.04)
$Volatility_t$	229.3***	229.5***	219.9***	211.8***	229.5***	229.5***	26.88*	26.92*	24.38	33.30*	26.01*	27.38*
	(6.42)	(6.42)	(5.91)	(4.87)	(6.38)	(6.40)	(1.75)	(1.76)	(1.37)	(1.76)	(1.72)	(1.72)
$Size_{t-1}$	4.767	4.667	3.386	7.451	4.739	4.727	15.57***	15.41***	14.69***	16.87***	15.68***	15.46***
	(1.10)	(1.08)	(0.74)	(1.29)	(1.10)	(1.10)	(8.89)	(8.81)	(7.49)	(7.55)	(8.96)	(8.80)
$NegEarn_{t-1}$	-6.126	-6.132	-2.181	-5.944	-6.137	-6.133	-4.201**	-4.259**	-1.176	-5.240**	-4.122*	-4.218**
	(-1.24)	(-1.24)	(-0.41)	(-1.02)	(-1.24)	(-1.24)	(-1.99)	(-2.01)	(-0.42)	(-2.09)	(-1.94)	(-1.99)
$NegEarnG_{t-1}$	-0.121	-0.0955	0.115	0.201	-0.114	-0.115	-0.193	-0.167	0.376	0.198	-0.251	-0.170
	(-0.06)	(-0.04)	(0.05)	(0.08)	(-0.05)	(-0.05)	(-0.15)	(-0.13)	(0.28)	(0.12)	(-0.19)	(-0.13)
ROE_{t-1}	-4.605	-4.572	-3.680	-4.727	-4.602	-4.600	-4.347	-4.340	-5.013	-4.334	-4.360	-4.333
	(-0.61)	(-0.60)	(-0.43)	(-0.58)	(-0.61)	(-0.61)	(-1.32)	(-1.32)	(-1.06)	(-1.29)	(-1.32)	(-1.32)
$LitInd_{t-1}$	4.728	5.228	4.380	0.106	4.818	4.822	16.98	17.92*	18.18	13.68	16.69	17.10
	(0.25)	(0.27)	(0.22)	(0.01)	(0.25)	(0.25)	(1.61)	(1.71)	(1.51)	(1.37)	(1.58)	(1.62)
$NumEst_t$	-2.366***	-2.370***	-2.548***	-2.428***	-2.366***	-2.367***	-2.842***	-2.845***	-2.959***	-2.755***	-2.840***	-2.844***
	(-3.63)	(-3.64)	(-3.72)	(-3.13)	(-3.63)	(-3.63)	(-10.21)	(-10.18)	(-9.71)	(-8.53)	(-10.22)	(-10.19)
$Dispersion_t$	413.7***	413.5***	415.1***	414.7***	413.6***	413.6***	123.8***	123.4***	117.1***	160.4***	124.0***	123.8***
	(7.51)	(7.50)	(7.06)	(5.61)	(7.50)	(7.50)	(4.41)	(4.40)	(4.13)	(5.86)	(4.41)	(4.41)
Constant	141.7***	141.0***	149.8***	133.3***	141.6***	141.6***	-49.09***	-51.03***	-48.48***	-59.63***	-48.53***	-49.27***
	(4.57)	(4.54)	(4.55)	(3.12)	(4.55)	(4.57)	(-3.85)	(-3.95)	(-3.33)	(-3.50)	(-3.80)	(-3.86)
N	19513	19513	18072	13572	19513	19513	22488	22488	20184	16102	22488	22488
Adj. R^2	0.118	0.118	0.112	0.118	0.118	0.118	0.317	0.317	0.318	0.295	0.317	0.317

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

Table 9: Forecast Lead—Industry Adjusted

The following table presents results from an ordinary least squares regression of the industry adjusted lead time of a forecast (*Lead*) on the multi-segment indicator (*Multi*) and other control variables for the period 1994–2008. Other variables are described in Appendix A. Data for management forecasts are derived from the FirstCall Company Issued Guidance database. Each super-column heading indicates the periodicity of the forecasts and each column heading indicates the proprietary cost measure **PC** used in each model. All models include firm fixed effects. Standard errors are clustered by firm with t-statistics in parentheses.

	Annual Forecasts						Quarterly Forecasts					
		HI	PMargin	RD	HIwtd	MShareSeg		HI	PMargin	RD	HIwtd	MShareSeg
$Multi_{t-1}$	-2.899	-2.919	-4.033	-5.339	-2.785	-3.290	-2.227	-2.172	-2.876	-1.090	-2.047	-2.298
	(-0.57)	(-0.57)	(-0.77)	(-0.76)	(-0.54)	(-0.65)	(-1.00)	(-0.98)	(-1.24)	(-0.42)	(-0.92)	(-1.02)
$\mathbf{PC_{t-1}}$		3.932	3.934	44.92	-11.15	-31.09**		-18.06**	6.103*	-4.192	-17.97	-17.18
		(0.30)	(0.70)	(0.82)	(-0.90)	(-2.16)		(-2.00)	(1.80)	(-0.18)	(-1.50)	(-1.43)
MB_{t-1}	-2.145	-2.145	-1.039	-4.452	-2.131	-2.022	5.565***	5.575***	5.484***	5.080***	5.656***	5.640***
	(-0.90)	(-0.90)	(-0.41)	(-1.53)	(-0.89)	(-0.84)	(4.63)	(4.64)	(4.13)	(3.82)	(4.73)	(4.71)
$EarnVol_t$	-10.48	-10.50	-20.43	-10.81	-10.56	-10.76	-9.057	-9.255	-26.37*	-11.06	-9.209	-9.180
	(-0.56)	(-0.56)	(-1.49)	(-0.53)	(-0.56)	(-0.58)	(-0.79)	(-0.82)	(-1.78)	(-1.02)	(-0.81)	(-0.81)
$Volatility_t$	-32.21	-32.10	-39.45	-42.30	-33.27	-33.84	-0.0938	-0.131	-1.977	1.624	-1.920	-0.942
	(-1.13)	(-1.13)	(-1.31)	(-1.22)	(-1.17)	(-1.19)	(-0.01)	(-0.01)	(-0.15)	(0.12)	(-0.16)	(-0.08)
$Size_{t-1}$	2.992	2.935	4.003	5.080	3.187	3.437	-5.818***	-5.653***	-6.917***	-5.443***	-5.586***	-5.643***
	(0.98)	(0.95)	(1.22)	(1.24)	(1.03)	(1.12)	(-3.95)	(-3.80)	(-4.25)	(-2.82)	(-3.78)	(-3.81)
$NegEarn_{t-1}$	0.198	0.195	3.580	-1.001	0.271	0.272	-4.755***	-4.693***	-2.482	-4.762**	-4.589***	-4.727***
	(0.05)	(0.05)	(0.88)	(-0.22)	(0.07)	(0.07)	(-2.75)	(-2.72)	(-1.19)	(-2.47)	(-2.66)	(-2.73)
$NegEarnG_{t-1}$	-1.443	-1.428	-0.613	-2.398	-1.491	-1.509	0.750	0.722	1.271	0.506	0.628	0.712
	(-0.76)	(-0.76)	(-0.31)	(-1.04)	(-0.79)	(-0.80)	(0.72)	(0.69)	(1.14)	(0.40)	(0.60)	(0.68)
ROE_{t-1}	-0.665	-0.646	2.880	-0.627	-0.684	-0.724	-2.785	-2.794	-3.096	-3.580	-2.812	-2.810
	(-0.09)	(-0.09)	(0.37)	(-0.08)	(-0.10)	(-0.10)	(-0.89)	(-0.90)	(-0.71)	(-1.11)	(-0.90)	(-0.90)
$LitInd_{t-1}$	1.566	1.857	4.526	5.198	0.944	0.503	15.09**	14.07**	16.64**	12.88**	14.48**	14.88**
	(0.12)	(0.14)	(0.31)	(0.37)	(0.07)	(0.04)	(2.17)	(1.99)	(2.08)	(2.15)	(2.08)	(2.14)
$NumEst_t$	0.0149	0.0127	-0.133	0.0828	0.0148	0.0204	-0.378**	-0.376**	-0.472***	-0.465***	-0.375**	-0.375**
	(0.04)	(0.04)	(-0.37)	(0.20)	(0.04)	(0.06)	(-2.48)	(-2.47)	(-2.87)	(-2.70)	(-2.46)	(-2.46)
$Dispersion_t$	46.50***	46.43***	44.62***	50.07***	46.75***	47.09***	12.81	13.24*	12.87	20.56*	13.13	12.94
	(5.43)	(5.42)	(5.00)	(4.49)	(5.43)	(5.46)	(1.61)	(1.66)	(1.54)	(1.66)	(1.64)	(1.62)
Constant	-13.87	-14.27	-24.56	-27.14	-13.25	-13.36	34.96***	37.05***	39.70***	32.61**	36.15***	35.27***
	(-0.58)	(-0.60)	(-0.94)	(-0.80)	(-0.56)	(-0.56)	(3.32)	(3.53)	(3.34)	(2.22)	(3.43)	(3.35)
N	19513	19513	18072	13572	19513	19513	22488	22488	20184	16102	22488	22488
Adj. R^2	0.412	0.412	0.401	0.433	0.412	0.412	0.562	0.563	0.561	0.569	0.563	0.563

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

Table 10: Specificity—Forecast Level

The following table presents results from an ordered probit regression of the specificity of a forecast ($Spec$) on the multi-segment indicator ($Multi$) and other control variables for the period 1994–2008. Other variables are described in Appendix A. Data for management forecasts are derived from the FirstCall Company Issued Guidance database. Each super-column heading indicates the periodicity of the forecasts and each column heading indicates the proprietary cost measure **PC** used in each model. The parentheses contain z-statistics.

	Annual Forecasts						Quarterly Forecasts					
		HI	PMargin	RD	HIwtd	MShareSeg		HI	PMargin	RD	HIwtd	MShareSeg
$Multi_{t-1}$	-0.0234	-0.0231	-0.0254	-0.0727***	-0.0226	-0.0250	-0.0455**	-0.0480***	-0.0516***	-0.0847***	-0.0465**	-0.0459**
	(-1.17)	(-1.15)	(-1.23)	(-2.87)	(-1.13)	(-1.25)	(-2.51)	(-2.65)	(-2.75)	(-3.79)	(-2.56)	(-2.53)
$\mathbf{PC_{t-1}}$		-0.0238	0.129***	-0.200	-0.178***	-0.152***		0.241***	0.0412	-1.078***	0.0652	0.0224
		(-0.42)	(2.82)	(-1.02)	(-3.07)	(-2.91)		(4.04)	(0.99)	(-6.93)	(1.20)	(0.45)
MB_{t-1}	0.0312**	0.0310**	0.0289*	0.0549***	0.0274*	0.0314**	0.0474***	0.0494***	0.0541***	0.0705***	0.0485***	0.0475***
	(2.22)	(2.21)	(1.92)	(3.01)	(1.94)	(2.24)	(4.11)	(4.28)	(4.31)	(4.88)	(4.19)	(4.12)
$EarnVol_t$	1.220***	1.218***	1.444***	1.289***	1.210***	1.213***	-0.0876	-0.0836	0.0737	-0.126	-0.0875	-0.0869
	(8.14)	(8.12)	(8.56)	(8.27)	(8.06)	(8.08)	(-0.69)	(-0.66)	(0.46)	(-0.97)	(-0.69)	(-0.68)
$Volatility_t$	-0.407**	-0.411**	-0.284	-0.244	-0.433**	-0.420**	-0.760***	-0.710***	-0.847***	-0.795***	-0.746***	-0.758***
	(-2.22)	(-2.23)	(-1.46)	(-1.13)	(-2.36)	(-2.29)	(-5.40)	(-5.02)	(-5.61)	(-4.99)	(-5.28)	(-5.38)
$Size_{t-1}$	-0.0347***	-0.0345***	-0.0330***	-0.0242**	-0.0340***	-0.0300***	-0.0219***	-0.0234***	-0.0225***	-0.0338***	-0.0220***	-0.0225***
	(-4.03)	(-4.00)	(-3.69)	(-2.30)	(-3.95)	(-3.42)	(-3.02)	(-3.22)	(-2.96)	(-3.88)	(-3.04)	(-3.05)
$NegEarn_{t-1}$	-0.0509	-0.0514	-0.0439	-0.0177	-0.0564	-0.0541	-0.130***	-0.125***	-0.130***	-0.0497	-0.128***	-0.129***
	(-1.39)	(-1.40)	(-1.10)	(-0.41)	(-1.54)	(-1.48)	(-4.82)	(-4.63)	(-4.18)	(-1.60)	(-4.73)	(-4.79)
$NegEarnG_{t-1}$	-0.0445**	-0.0445**	-0.0214	-0.0331	-0.0458**	-0.0456**	-0.0601***	-0.0606***	-0.0592***	-0.0768***	-0.0597***	-0.0600***
	(-2.17)	(-2.17)	(-1.00)	(-1.33)	(-2.23)	(-2.22)	(-3.43)	(-3.46)	(-3.19)	(-3.70)	(-3.41)	(-3.43)
ROE_{t-1}	0.0412	0.0418	0.0316	0.0837	0.0448	0.0444	-0.0888**	-0.0908***	-0.128***	-0.139***	-0.0896**	-0.0891**
	(0.86)	(0.87)	(0.62)	(1.58)	(0.93)	(0.93)	(-2.53)	(-2.59)	(-3.12)	(-3.70)	(-2.55)	(-2.54)
$LitInd_{t-1}$	0.0176	0.0160	0.000868	0.0154	0.00981	0.0114	0.0597***	0.0688***	0.0631***	0.0759***	0.0615***	0.0601***
	(0.85)	(0.76)	(0.04)	(0.61)	(0.47)	(0.54)	(3.38)	(3.86)	(3.37)	(3.60)	(3.47)	(3.40)
$NumEst_t$	0.00633***	0.00627***	0.00456**	0.00611**	0.00603***	0.00578***	0.0135***	0.0140***	0.0119***	0.0158***	0.0136***	0.0136***
	(2.99)	(2.96)	(2.05)	(2.51)	(2.85)	(2.72)	(7.58)	(7.85)	(6.20)	(7.95)	(7.62)	(7.59)
$Dispersion_t$	-0.302***	-0.301***	-0.282***	-0.462***	-0.300***	-0.306***	-1.413***	-1.410***	-1.445***	-1.172***	-1.411***	-1.411***
	(-3.00)	(-3.00)	(-2.72)	(-3.73)	(-2.99)	(-3.04)	(-9.90)	(-9.88)	(-9.32)	(-6.67)	(-9.89)	(-9.89)
$Lead_t$	-0.000176**	-0.000176**	-0.000105	-0.000149*	-0.000180***	-0.000181***	0.000267**	0.000261**	0.000283**	0.000233	0.000264**	0.000267**
	(-2.56)	(-2.56)	(-1.47)	(-1.81)	(-2.61)	(-2.62)	(2.01)	(1.97)	(2.02)	(1.46)	(1.99)	(2.02)
Cut 1	-2.091***	-2.095***	-1.981***	-2.020***	-2.127***	-2.084***	-1.704***	-1.661***	-1.704***	-1.794***	-1.692***	-1.705***
	(-30.21)	(-29.88)	(-25.91)	(-24.13)	(-30.29)	(-30.09)	(-30.24)	(-28.97)	(-26.68)	(-26.71)	(-29.58)	(-30.23)
Cut 2	-1.752***	-1.757***	-1.640***	-1.696***	-1.788***	-1.746***	-1.365***	-1.322***	-1.357***	-1.484***	-1.353***	-1.366***
	(-25.74)	(-25.46)	(-21.76)	(-20.61)	(-25.88)	(-25.62)	(-24.54)	(-23.34)	(-21.49)	(-22.38)	(-23.94)	(-24.53)
Cut 3	0.752***	0.747***	0.860***	0.861***	0.716***	0.759***	0.693***	0.737***	0.689***	0.609***	0.705***	0.692***
	(11.24)	(11.01)	(11.55)	(10.63)	(10.55)	(11.34)	(12.58)	(13.12)	(11.01)	(9.30)	(12.59)	(12.54)
N	19513	19513	18072	13572	19513	19513	22483	22483	20179	16098	22483	22483
Pseudo R^2	0.00632	0.00632	0.00740	0.00952	0.00665	0.00662	0.0101	0.0105	0.0102	0.0124	0.0102	0.0101

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

Table 11: Specificity—Industry Adjusted

The following table presents results from an ordinary least squares regression of the industry adjusted specificity of a forecast (*Spec*) on the multi-segment indicator (*Multi*) and other control variables for the period 1994–2008. Other variables are described in Appendix A. Data for management forecasts are derived from the FirstCall Company Issued Guidance database. Each super-column heading indicates the periodicity of the forecasts and each column heading indicates the proprietary cost measure **PC** used in each model. All models include firm fixed effects. Standard errors are clustered by firm with t-statistics in parentheses.

	Annual Forecasts						Quarterly Forecasts					
		HI	PMargin	RD	HIwtd	MShareSeg		HI	PMargin	RD	HIwtd	MShareSeg
$Multi_{t-1}$	-0.00640	-0.00592	0.00967	-0.0313	-0.00562	-0.00681	-0.000251	-0.000488	0.00340	-0.00583	-0.000457	0.000136
	(-0.20)	(-0.18)	(0.29)	(-0.76)	(-0.17)	(-0.21)	(-0.01)	(-0.01)	(0.08)	(-0.14)	(-0.01)	(0.00)
$\mathbf{PC_{t-1}}$		-0.0939	0.0592	-0.348	-0.0772	-0.0325		0.0774	0.0834	-0.399	0.0205	0.0939
		(-1.24)	(1.48)	(-0.94)	(-1.13)	(-0.31)		(0.79)	(1.54)	(-1.15)	(0.24)	(0.52)
MB_{t-1}	0.00988	0.00988	0.00287	0.0313	0.00998	0.0100	0.0334*	0.0333*	0.0263	0.0497**	0.0332*	0.0329*
	(0.56)	(0.56)	(0.15)	(1.44)	(0.56)	(0.57)	(1.72)	(1.71)	(1.23)	(2.17)	(1.71)	(1.71)
$EarnVol_t$	-0.0348	-0.0343	0.0922	0.0969	-0.0354	-0.0351	-0.0864	-0.0856	0.00276	-0.0300	-0.0862	-0.0858
	(-0.25)	(-0.25)	(0.79)	(0.78)	(-0.26)	(-0.25)	(-0.39)	(-0.38)	(0.01)	(-0.13)	(-0.39)	(-0.38)
$Volatility_t$	0.270	0.267	0.372*	0.329	0.262	0.268	-0.556***	-0.556***	-0.629***	-0.611***	-0.554***	-0.552***
	(1.34)	(1.33)	(1.82)	(1.35)	(1.30)	(1.33)	(-3.19)	(-3.19)	(-3.13)	(-2.86)	(-3.17)	(-3.19)
$Size_{t-1}$	0.0486**	0.0500**	0.0564**	0.0650**	0.0499**	0.0491**	-0.0394**	-0.0401**	-0.0296	-0.0557**	-0.0397**	-0.0404**
	(2.13)	(2.18)	(2.37)	(2.28)	(2.17)	(2.12)	(-2.06)	(-2.08)	(-1.40)	(-2.28)	(-2.06)	(-2.06)
$NegEarn_{t-1}$	-0.0427	-0.0427	-0.0233	-0.0357	-0.0422	-0.0427	-0.0658**	-0.0661**	-0.0622**	-0.0314	-0.0660**	-0.0660**
	(-1.58)	(-1.58)	(-0.83)	(-1.07)	(-1.56)	(-1.58)	(-2.47)	(-2.48)	(-2.07)	(-0.98)	(-2.47)	(-2.47)
$NegEarnG_{t-1}$	0.0117	0.0113	0.0187	0.0156	0.0114	0.0116	0.00344	0.00355	0.00794	0.00318	0.00357	0.00365
	(0.96)	(0.94)	(1.43)	(1.07)	(0.94)	(0.96)	(0.27)	(0.28)	(0.57)	(0.21)	(0.28)	(0.29)
ROE_{t-1}	0.0116	0.0112	0.0255	0.0270	0.0115	0.0116	-0.00130	-0.00127	-0.0706	-0.00762	-0.00127	-0.00117
	(0.23)	(0.23)	(0.47)	(0.51)	(0.23)	(0.23)	(-0.03)	(-0.03)	(-1.43)	(-0.17)	(-0.03)	(-0.03)
$LitInd_{t-1}$	-0.184**	-0.190**	-0.152*	-0.155**	-0.188**	-0.185**	0.0901	0.0945	0.142	0.0329	0.0908	0.0913
	(-2.32)	(-2.35)	(-1.71)	(-1.97)	(-2.35)	(-2.32)	(0.81)	(0.86)	(1.25)	(0.26)	(0.81)	(0.82)
$NumEst_t$	0.00336	0.00341	0.00373*	0.00374	0.00336	0.00337	0.00306	0.00305	0.00325	0.00539**	0.00306	0.00305
	(1.52)	(1.55)	(1.75)	(1.42)	(1.53)	(1.53)	(1.36)	(1.35)	(1.40)	(2.10)	(1.35)	(1.35)
$Dispersion_t$	-0.0164	-0.0147	0.00222	-0.0852	-0.0147	-0.0158	-0.490***	-0.492***	-0.530***	-0.518**	-0.491***	-0.491***
	(-0.33)	(-0.30)	(0.05)	(-1.56)	(-0.30)	(-0.32)	(-3.06)	(-3.07)	(-3.26)	(-2.56)	(-3.06)	(-3.06)
$Lead_t$	-0.0000189	-0.0000188	-0.0000176	-0.0000256	-0.0000189	-0.0000189	0.0000152	0.0000143	0.0000368	0.000110	0.0000153	0.0000146
	(-0.84)	(-0.84)	(-0.77)	(-0.98)	(-0.84)	(-0.84)	(0.19)	(0.18)	(0.45)	(1.12)	(0.19)	(0.18)
Constant	-0.309*	-0.299*	-0.445***	-0.423**	-0.305*	-0.309*	0.291**	0.282*	0.167	0.412**	0.289**	0.289**
	(-1.90)	(-1.85)	(-2.64)	(-2.03)	(-1.88)	(-1.90)	(1.97)	(1.92)	(1.07)	(2.06)	(1.97)	(1.97)
N	19513	19513	18072	13572	19513	19513	22488	22488	20184	16102	22488	22488
Adj. R^2	0.447	0.447	0.458	0.451	0.447	0.447	0.418	0.418	0.433	0.426	0.418	0.418

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

Table 12: Forecast Error—Multi-segment

The following table presents results from an ordinary least squares regression of the difference between the management forecast and actual earnings per share ($Error$) on the multi-segment indicator ($Multi$) and other control variables for the period 1994–2008. Other variables are described in Appendix A. Data for management forecasts are derived from the FirstCall Company Issued Guidance database. Each super-column heading indicates the periodicity of the forecasts and each column heading indicates the proprietary cost measure **PC** used in each model. All models include firm fixed effects. Standard errors are clustered by firm with t-statistics in parentheses.

	Annual Forecasts						Quarterly Forecasts					
		HI	PMargin	RD	HIwtd	MShareSeg		HI	PMargin	RD	HIwtd	MShareSeg
$Multi_{t-1}$	0.0138	0.0191	0.0369	-0.121	0.0297	-0.00408	-0.0233	-0.0223	0.0551	-0.0724	-0.0176	-0.0259
	(0.07)	(0.10)	(0.22)	(-0.43)	(0.15)	(-0.02)	(-0.29)	(-0.27)	(0.74)	(-0.63)	(-0.22)	(-0.32)
$\mathbf{PC_{t-1}}$		-0.764	0.227	-1.943	-1.387*	-1.466		-0.268	-0.0161	-0.774	-0.546*	-0.894**
		(-1.16)	(0.70)	(-1.07)	(-1.83)	(-1.36)		(-1.04)	(-0.15)	(-0.85)	(-1.84)	(-2.57)
MB_{t-1}	-1.110***	-1.110***	-1.180***	-1.116***	-1.108***	-1.104***	-0.204***	-0.204***	-0.216***	-0.208***	-0.201***	-0.200***
	(-7.65)	(-7.65)	(-7.65)	(-6.34)	(-7.64)	(-7.58)	(-4.40)	(-4.40)	(-4.37)	(-3.38)	(-4.33)	(-4.32)
$EarnVol_t$	2.573	2.576	2.225	1.916	2.561	2.556	0.312	0.309	1.242	0.176	0.307	0.304
	(1.11)	(1.11)	(1.02)	(1.00)	(1.11)	(1.11)	(0.47)	(0.47)	(1.15)	(0.26)	(0.46)	(0.46)
$Volatility_t$	-1.004	-1.019	-1.441	-0.600	-1.135	-1.085	-0.467	-0.467	-0.436	-0.317	-0.526	-0.513
	(-0.80)	(-0.82)	(-1.05)	(-0.43)	(-0.92)	(-0.87)	(-1.00)	(-1.00)	(-0.82)	(-0.54)	(-1.12)	(-1.10)
$Size_{t-1}$	-0.862***	-0.851***	-0.894***	-0.894***	-0.838***	-0.841***	-0.284***	-0.281***	-0.292***	-0.286***	-0.276***	-0.275***
	(-6.98)	(-7.03)	(-7.14)	(-5.63)	(-6.98)	(-7.00)	(-5.80)	(-5.71)	(-6.48)	(-4.43)	(-5.58)	(-5.57)
$NegEarn_{t-1}$	0.0675	0.0694	0.320	-0.0737	0.0785	0.0721	-0.121	-0.120	-0.0213	-0.115	-0.116	-0.119
	(0.27)	(0.28)	(1.17)	(-0.24)	(0.31)	(0.29)	(-1.40)	(-1.39)	(-0.27)	(-1.16)	(-1.34)	(-1.38)
$NegEarnG_{t-1}$	0.281***	0.278***	0.230***	0.263***	0.275***	0.278***	0.0444	0.0440	0.0704**	0.0718	0.0407	0.0420
	(3.77)	(3.71)	(3.11)	(2.78)	(3.68)	(3.72)	(1.25)	(1.24)	(2.30)	(1.62)	(1.15)	(1.18)
ROE_{t-1}	0.365	0.363	0.476	0.0240	0.365	0.364	-0.345	-0.345	0.0901	-0.386	-0.346	-0.347
	(0.94)	(0.94)	(1.10)	(0.06)	(0.95)	(0.94)	(-1.20)	(-1.19)	(0.36)	(-1.26)	(-1.20)	(-1.20)
$LitInd_{t-1}$	0.572	0.512	0.818	0.346	0.492	0.523	-0.335	-0.350	-0.253	-0.307	-0.354	-0.344
	(0.87)	(0.77)	(1.33)	(0.45)	(0.75)	(0.81)	(-1.08)	(-1.13)	(-1.21)	(-0.92)	(-1.13)	(-1.11)
$NumEst_t$	-0.0127	-0.0122	-0.0156	-0.0224	-0.0126	-0.0124	0.00202	0.00206	0.00513	0.00413	0.00212	0.00220
	(-0.83)	(-0.80)	(-0.98)	(-1.37)	(-0.83)	(-0.81)	(0.48)	(0.48)	(1.12)	(0.84)	(0.50)	(0.52)
$Dispersion_t$	0.681	0.690	0.991	0.662	0.705	0.702	1.917**	1.926**	2.196**	2.208*	1.930**	1.924**
	(1.14)	(1.15)	(1.58)	(0.84)	(1.17)	(1.17)	(1.97)	(1.98)	(2.13)	(1.68)	(1.99)	(1.98)
$Lead_t$	0.00275***	0.00275***	0.00278***	0.00263***	0.00275***	0.00275***	0.00274***	0.00274***	0.00297***	0.00278***	0.00273***	0.00274***
	(12.21)	(12.20)	(11.88)	(9.47)	(12.22)	(12.21)	(8.46)	(8.47)	(8.49)	(7.78)	(8.45)	(8.46)
Constant	7.341***	7.418***	7.498***	7.988***	7.416***	7.367***	2.362***	2.391***	2.255***	2.413***	2.392***	2.375***
	(7.56)	(7.59)	(7.35)	(6.25)	(7.70)	(7.62)	(6.31)	(6.41)	(6.51)	(4.90)	(6.41)	(6.39)
N	18425	18425	17073	12870	18425	18425	20627	20627	18510	14801	20627	20627
Adj. R^2	0.485	0.485	0.503	0.461	0.486	0.485	0.358	0.358	0.347	0.330	0.358	0.359

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

Table 13: Forecast Error—Industry Adjusted

The following table presents results from an ordinary least squares regression of the industry adjusted difference between the management forecast and actual earnings per share (*Error*) on the multi-segment indicator (*Multi*) and other control variables for the period 1994–2008. Other variables are described in Appendix A. Data for management forecasts are derived from the FirstCall Company Issued Guidance database. Each super-column heading indicates the periodicity of the forecasts and each column heading indicates the proprietary cost measure **PC** used in each model. All models include firm fixed effects. Standard errors are clustered by firm with *t*-statistics in parentheses.

	Annual Forecasts						Quarterly Forecasts					
		HI	PMargin	RD	HIwtd	MShareSeg		HI	PMargin	RD	HIwtd	MShareSeg
$Multi_{t-1}$	0.134	0.131	0.210	0.205	0.130	0.143	-0.0188	-0.0183	0.0446	-0.0777	-0.0140	-0.0202
	(0.78)	(0.76)	(1.55)	(0.82)	(0.76)	(0.81)	(-0.23)	(-0.23)	(0.58)	(-0.70)	(-0.17)	(-0.25)
$\mathbf{PC_{t-1}}$		0.405	-0.212	-1.554	0.378	0.700		-0.158	-0.00834	-0.350	-0.462**	-0.365
		(0.98)	(-0.84)	(-0.87)	(0.57)	(0.84)		(-0.59)	(-0.09)	(-0.40)	(-2.32)	(-1.21)
MB_{t-1}	-0.697***	-0.697***	-0.709***	-0.845***	-0.698***	-0.700***	-0.136***	-0.136***	-0.146***	-0.160***	-0.134***	-0.135***
	(-5.38)	(-5.38)	(-5.05)	(-5.42)	(-5.37)	(-5.37)	(-3.01)	(-3.01)	(-2.95)	(-2.69)	(-2.95)	(-2.97)
$EarnVol_t$	1.664	1.662	1.470	1.264	1.667	1.671	0.0188	0.0172	1.409	-0.0633	0.0136	0.0157
	(0.99)	(0.99)	(0.91)	(0.87)	(1.00)	(1.00)	(0.03)	(0.02)	(1.25)	(-0.08)	(0.02)	(0.02)
$Volatility_t$	-3.365***	-3.353***	-3.450***	-2.571*	-3.328***	-3.327***	-0.580	-0.580	-0.397	-0.297	-0.627	-0.598
	(-2.97)	(-2.96)	(-2.81)	(-1.96)	(-2.93)	(-2.94)	(-1.26)	(-1.26)	(-0.74)	(-0.51)	(-1.36)	(-1.30)
$Size_{t-1}$	-0.232**	-0.239**	-0.256**	-0.315***	-0.239**	-0.243**	-0.0899*	-0.0883*	-0.0898**	-0.0595	-0.0831	-0.0860*
	(-2.43)	(-2.47)	(-2.51)	(-2.64)	(-2.47)	(-2.50)	(-1.78)	(-1.73)	(-2.06)	(-0.87)	(-1.64)	(-1.69)
$NegEarn_{t-1}$	0.0857	0.0855	0.249	-0.0383	0.0832	0.0840	-0.0977	-0.0971	-0.00384	-0.0845	-0.0934	-0.0971
	(0.40)	(0.40)	(1.13)	(-0.16)	(0.39)	(0.40)	(-1.19)	(-1.18)	(-0.05)	(-0.89)	(-1.13)	(-1.18)
$NegEarnG_{t-1}$	0.141*	0.142*	0.0781	0.216**	0.143*	0.142*	0.0419	0.0417	0.0721**	0.0476	0.0387	0.0410
	(1.86)	(1.88)	(1.04)	(2.15)	(1.88)	(1.87)	(1.17)	(1.17)	(2.39)	(1.07)	(1.09)	(1.15)
ROE_{t-1}	0.0825	0.0843	0.269	-0.0756	0.0830	0.0840	-0.340	-0.340	0.0723	-0.368	-0.340	-0.340
	(0.28)	(0.28)	(0.78)	(-0.24)	(0.28)	(0.28)	(-1.23)	(-1.22)	(0.32)	(-1.25)	(-1.23)	(-1.23)
$LitInd_{t-1}$	0.475	0.506	0.752	0.350	0.497	0.499	-0.190	-0.199	-0.0477	-0.249	-0.205	-0.194
	(0.85)	(0.90)	(1.61)	(0.55)	(0.90)	(0.90)	(-0.64)	(-0.67)	(-0.24)	(-0.78)	(-0.69)	(-0.65)
$NumEst_t$	-0.00932	-0.00957	-0.0117	-0.0203	-0.00931	-0.00943	-0.00156	-0.00153	0.000131	-0.00190	-0.00149	-0.00148
	(-0.75)	(-0.77)	(-0.90)	(-1.49)	(-0.75)	(-0.76)	(-0.41)	(-0.40)	(0.03)	(-0.42)	(-0.39)	(-0.39)
$Dispersion_t$	0.938**	0.931**	1.186***	0.834	0.930**	0.925**	1.618**	1.622**	1.759**	0.918	1.628**	1.621**
	(2.08)	(2.06)	(2.59)	(1.58)	(2.04)	(2.03)	(2.08)	(2.08)	(2.19)	(0.87)	(2.09)	(2.08)
$Lead_t$	0.000450***	0.000450***	0.000385***	0.000452***	0.000450***	0.000450***	0.000225	0.000227	0.000261*	0.000212	0.000221	0.000227*
	(4.29)	(4.29)	(3.68)	(3.63)	(4.29)	(4.29)	(1.63)	(1.64)	(1.83)	(1.27)	(1.60)	(1.65)
Constant	2.614***	2.575***	2.814***	3.565***	2.596***	2.605***	1.014***	1.031***	0.805**	0.947*	1.039***	1.019***
	(3.59)	(3.54)	(3.63)	(3.78)	(3.57)	(3.58)	(2.60)	(2.68)	(2.43)	(1.80)	(2.66)	(2.62)
N	18908	18908	17530	13168	18908	18908	21543	21543	19325	15451	21543	21543
Adj. R^2	0.486	0.486	0.504	0.483	0.486	0.486	0.527	0.527	0.529	0.504	0.528	0.527

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

Table 14: Excess Value on Multi-segment and Disclosure Ranking

The following table presents results from an ordinary least squares regression with the dependent variable of firm excess value as described in Appendix B. Each super-column heading indicates the disclosure measure used in the various models. **$\mathbf{Disc_t}$** indicates the percentile rank of the yearly disclosure measure in the super-column. Individual columns indicate the type of fixed effects included. Other control variables are described in Appendix A. Data for management forecasts are derived from the FirstCall Company Issued Guidance database over the period 1994–2008. Standard errors are clustered by firm with t-statistics in parentheses.

	NForecast		Lead		Spec		Error	
	(Year FE)	(Firm FE)	(Year FE)	(Firm FE)	(Year FE)	(Firm FE)	(Year FE)	(Firm FE)
$Multi_t$	-0.0231**	0.00646	-0.0211**	0.00651	-0.0204**	0.00599	-0.0299***	-0.00214
	(-2.53)	(0.30)	(-2.30)	(0.31)	(-2.29)	(0.28)	(-3.26)	(-0.08)
$\mathbf{Disc_t}$	0.0284	0.000675	0.100***	0.0745***	0.110***	0.0539**	0.00340	-0.0693***
	(1.49)	(0.04)	(6.17)	(4.07)	(3.79)	(2.68)	(0.20)	(-3.19)
$Size_t$	0.0498***	0.0153	0.0485***	0.0142	0.0506***	0.0152	0.0472***	0.00801
	(7.65)	(0.99)	(7.86)	(0.94)	(8.17)	(1.00)	(7.28)	(0.47)
$Invest_t$	0.470***	0.342***	0.464***	0.333***	0.469***	0.345***	0.502***	0.542***
	(9.70)	(5.34)	(9.53)	(5.16)	(9.57)	(5.45)	(7.54)	(6.67)
$EBIT_t$	-0.0237*	-0.0141	-0.0235*	-0.0142	-0.0235*	-0.0146	-0.0159	0.0151
	(-1.95)	(-1.18)	(-1.94)	(-1.21)	(-1.95)	(-1.23)	(-0.91)	(0.58)
$Leverage_t$	-0.193***	0.0138	-0.182***	0.0116	-0.186***	0.0112	-0.215***	0.0385
	(-11.24)	(0.27)	(-9.69)	(0.23)	(-10.28)	(0.22)	(-9.90)	(0.80)
Constant	-0.311***	-0.119	-0.335***	-0.141	-0.351***	-0.140	-0.276***	-0.0534
	(-8.08)	(-1.31)	(-8.56)	(-1.62)	(-10.24)	(-1.49)	(-5.95)	(-0.53)
N	13910	13910	13910	13910	13907	13907	11837	11837
Adj. R^2	0.0445	0.555	0.0473	0.556	0.0469	0.555	0.0392	0.569

t statistics in parentheses

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

Table 15: Forecast Issuance—Regulatory Regimes

This table duplicates the tests in Table 6 with added controls for different regulatory regimes. SFAS131 is a dummy variable indicating the period after SFAS No. 14. RegFD is a dummy variable indicating the period after Reg FD. An "X" between variable names indicates an interaction term. The control variables from Table 6 have been included when identification is possible, but their coefficients are not shown for brevity.

		HI	SpeedAdj	RD	HIwtd	MShareSeg
$Multi_{t-1}$	-0.160	-0.124	-0.175	-0.285**	-0.142	-0.124
	(-1.43)	(-1.12)	(-1.56)	(-1.96)	(-1.23)	(-1.10)
$\mathbf{PC_{t-1}}$		-0.501***	0.280***	0.385	-0.219	-0.00385
		(-3.19)	(2.69)	(1.38)	(-0.86)	(-0.01)
SFAS131	0.944***	0.852**	0.969***	1.010***	0.935***	0.945***
	(2.95)	(2.39)	(3.12)	(3.16)	(2.77)	(3.04)
$MultiXSFAS131$	0.349**	0.321**	0.352**	0.421**	0.345**	0.348**
	(2.22)	(2.04)	(2.29)	(2.08)	(2.19)	(2.25)
RegFD	0.134	0.0197	-0.0104	0.279*	0.00915	0.0618
	(1.12)	(0.13)	(-0.08)	(1.88)	(0.06)	(0.54)
$MultiXRegFD$	0.139	0.102	0.147	0.0377	0.106	0.0890
	(1.24)	(0.90)	(1.38)	(0.26)	(0.95)	(0.80)
SFAS131XPC		0.630	-0.0594	-0.392	0.0205	-0.138
		(1.39)	(-0.52)	(-1.03)	(0.04)	(-0.60)
RegFDXPC		0.784**	0.249***	-1.980***	1.092**	1.696***
		(2.02)	(2.99)	(-4.02)	(2.43)	(6.92)
Constant	-1.885***	-1.845***	-2.153***	-1.699***	-1.881***	-1.781***
	(-5.61)	(-5.23)	(-6.47)	(-5.45)	(-5.69)	(-5.34)
N	22544	22544	22472	14596	22544	22544
Pseudo R^2	0.0818	0.0836	0.0846	0.0946	0.0832	0.0854
Log likelihood	-14329.8	-14301.8	-14241.8	-9158.8	-14308.9	-14274.6

z statistics in parentheses
* $p < .10$, ** $p < .05$, *** $p < .01$

Table 16: Forecast Issuance—FirstCall Consensus Sample

This table duplicates the tests in Table 6 but the sample has been limited to the observations present in the FirstCall Consensus database.

		HI	SpeedAdj	RD	HIwtd	MShareSeg
$Multi_{t-1}$	0.295***	0.277***	0.286***	0.201***	0.289***	0.296***
	(6.52)	(6.21)	(6.41)	(3.97)	(6.41)	(6.48)
$\mathbf{PC_{t-1}}$		0.784***	0.475***	-1.388***	0.644***	0.965***
		(6.16)	(7.45)	(-3.83)	(3.56)	(4.08)
MB_{t-1}	-0.0398	-0.0358	-0.0723*	-0.0796*	-0.0323	-0.0473
	(-0.97)	(-0.87)	(-1.79)	(-1.67)	(-0.78)	(-1.15)
$EarnVol_t$	0.537*	0.568*	0.487	0.944**	0.564*	0.554*
	(1.76)	(1.89)	(1.55)	(2.49)	(1.88)	(1.85)
$Volatility_t$	3.421***	3.561***	3.676***	2.982***	3.529***	3.529***
	(2.69)	(2.82)	(2.89)	(2.70)	(2.80)	(2.80)
$Size_{t-1}$	0.160***	0.156***	0.185***	0.126***	0.158***	0.136***
	(4.90)	(4.73)	(5.87)	(4.52)	(4.73)	(3.70)
$NegEarn_{t-1}$	-0.535***	-0.520***	-0.549***	-0.526***	-0.520***	-0.527***
	(-6.98)	(-6.87)	(-7.13)	(-5.38)	(-6.84)	(-6.90)
$NegEarnG_{t-1}$	0.149***	0.147***	0.140**	0.146**	0.150***	0.151***
	(2.67)	(2.67)	(2.52)	(2.40)	(2.70)	(2.71)
ROE_{t-1}	0.356***	0.356***	0.364***	0.188*	0.357***	0.358***
	(3.74)	(3.77)	(3.77)	(1.91)	(3.76)	(3.74)
$LitInd_{t-1}$	0.273***	0.310***	0.248***	0.0715	0.298***	0.292***
	(5.62)	(5.61)	(5.20)	(1.61)	(5.42)	(5.48)
$NumEst_t$	0.0161**	0.0180**	0.0157**	0.0382***	0.0173**	0.0185**
	(2.10)	(2.29)	(2.06)	(4.47)	(2.17)	(2.29)
$Dispersion_t$	-1.481***	-1.453***	-1.482***	-0.981***	-1.463***	-1.448***
	(-5.96)	(-5.97)	(-6.09)	(-4.76)	(-5.99)	(-5.99)
Constant	-1.591***	-1.734***	-1.986***	-1.131***	-1.700***	-1.532***
	(-3.54)	(-3.90)	(-4.51)	(-2.82)	(-3.85)	(-3.31)
N	22025	22025	21953	14268	22025	22025
Pseudo R^2	0.0426	0.0443	0.0463	0.0519	0.0436	0.0448
Log likelihood	-14609.9	-14583.4	-14505.2	-9369.3	-14594.6	-14576.7

z statistics in parentheses

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

Table 17: Forecast Issuance—Endogeneity of Diversification

This table duplicates the tests in Table 6 with added consideration for the endogeneity of the diversification decision. The second stage results are presented here.

		HI	SpeedAdj	RD	HIwtd	MShareSeg
$\widehat{Multi}_{t-1}$	-0.271	-0.465*	-0.399	-0.0420	-0.198	-0.179
	(-1.07)	(-1.84)	(-1.48)	(-0.12)	(-0.82)	(-0.76)
$\mathbf{PC_{t-1}}$		0.902***	0.478***	-1.309***	0.624***	0.844***
		(6.48)	(8.13)	(-3.55)	(3.24)	(3.59)
MB_{t-1}	-0.0369	-0.0327	-0.0698*	-0.0793	-0.0286	-0.0420
	(-0.86)	(-0.77)	(-1.67)	(-1.44)	(-0.66)	(-0.99)
$EarnVol_t$	0.474	0.509	0.451	0.859**	0.496	0.478
	(1.33)	(1.48)	(1.27)	(2.41)	(1.42)	(1.36)
$Volatility_t$	3.177***	3.333***	3.415***	2.865***	3.279***	3.259***
	(2.82)	(2.97)	(3.03)	(2.93)	(2.93)	(2.91)
$Size_{t-1}$	0.190***	0.201***	0.226***	0.135***	0.181***	0.162***
	(7.10)	(7.43)	(8.80)	(4.05)	(6.31)	(5.46)
$NegEarn_{t-1}$	-0.561***	-0.546***	-0.576***	-0.565***	-0.545***	-0.552***
	(-6.68)	(-6.60)	(-6.76)	(-5.74)	(-6.59)	(-6.66)
$NegEarnG_{t-1}$	0.154***	0.152***	0.146***	0.150**	0.154***	0.156***
	(3.10)	(3.09)	(2.92)	(2.53)	(3.11)	(3.11)
ROE_{t-1}	0.356***	0.355***	0.364***	0.206**	0.359***	0.358***
	(3.81)	(3.86)	(3.83)	(2.16)	(3.84)	(3.84)
$LitInd_{t-1}$	0.183***	0.202***	0.143***	0.00265	0.219***	0.210***
	(4.02)	(4.05)	(3.44)	(0.04)	(4.11)	(4.20)
$NumEst_t$	0.0166**	0.0166**	0.0150**	0.0418***	0.0188**	0.0197***
	(2.42)	(2.40)	(2.29)	(4.54)	(2.50)	(2.64)
$Dispersion_t$	-1.495***	-1.484***	-1.511***	-0.976***	-1.470***	-1.457***
	(-5.49)	(-5.55)	(-5.61)	(-4.75)	(-5.56)	(-5.58)
Constant	-1.589***	-1.778***	-2.007***	-1.115***	-1.683***	-1.528***
	(-4.02)	(-4.56)	(-5.22)	(-3.12)	(-4.32)	(-3.75)
N	19983	19983	19912	13038	19983	19983
Pseudo R^2	0.0429	0.0451	0.0467	0.0562	0.0439	0.0445
Log likelihood	-13227.7	-13197.5	-13128.8	-8529.7	-13214.5	-13205.6

z statistics in parentheses
* $p < .10$, ** $p < .05$, *** $p < .01$

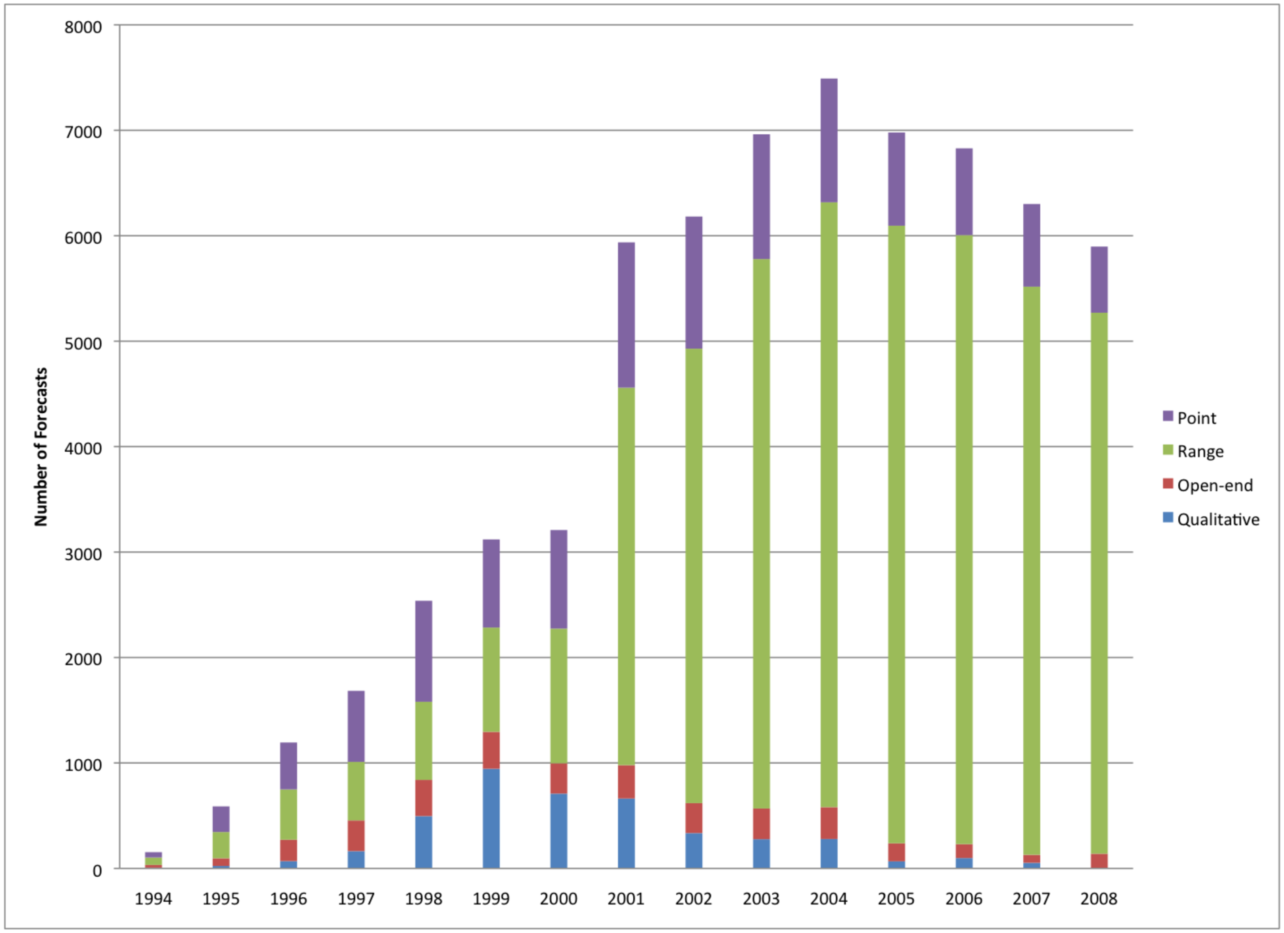

Figure 1: Forecast Specificity over Time

This figure presents the specificity of the forecasts by year according to four categories: point, range, open-end, and qualitative.

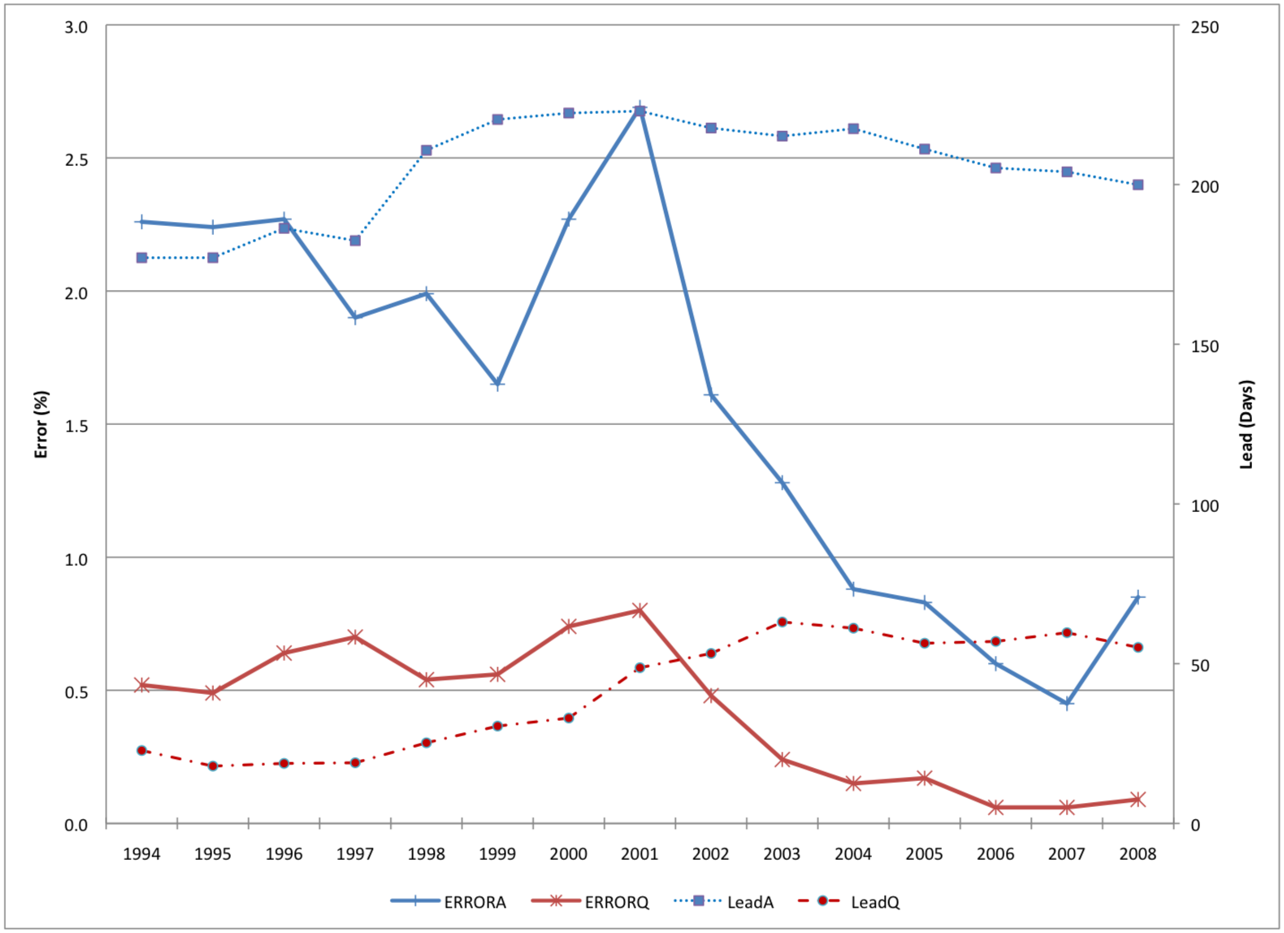

Figure 2: Disclosure Measures over Time

This figure presents the yearly averages for the forecasts used in the sample. *Error* is calculated as the forecasted midpoint of earnings per share minus the actual earnings per share, normalized by the most recent quarter stock price. *Lead* is the number of days from the forecasted earnings per share date until the actual earnings per share date. The letters appended to *Error* and *Lead* indicate the type of forecast: "A" for annual and "Q" for quarterly.

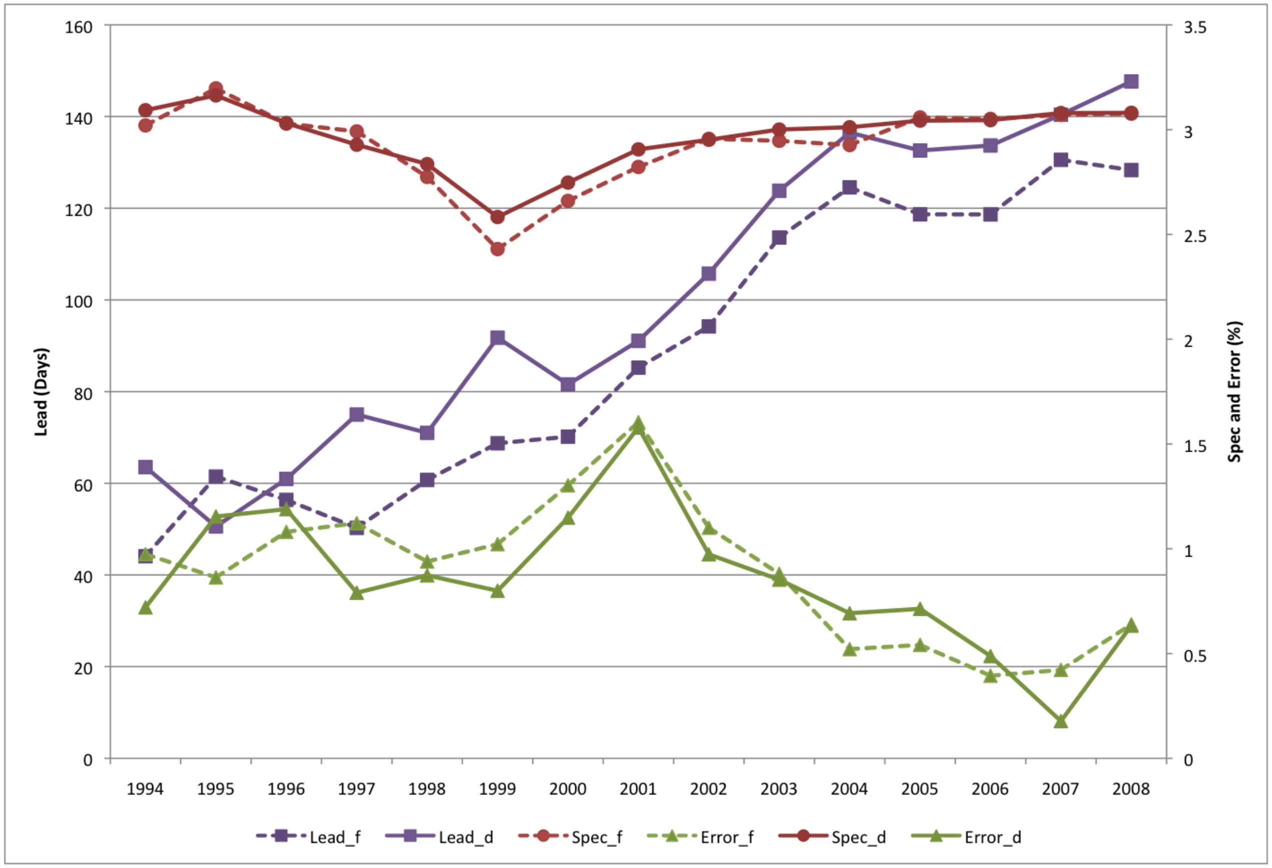

Figure 3: Characteristics of Forecasts by Corporate Form

This figure presents the yearly averages for the forecasts used in the sample by corporate form. In the legend a subscript of "f" and "d" indicates whether the values are for focused firms or diversified firms, respectively. *Lead* is the number of days from the forecasted earnings per share date until the actual earnings per share date. *Spec* is an number from zero to four indicating the specificity of the forecast. *Error* is calculated as the forecasted midpoint of earnings per share minus the actual earnings per share, normalized by the most recent quarter stock price.