ANALYST COVERAGE ATTRIBUTES AND BENCHMARK BEATING STRATEGIES

by

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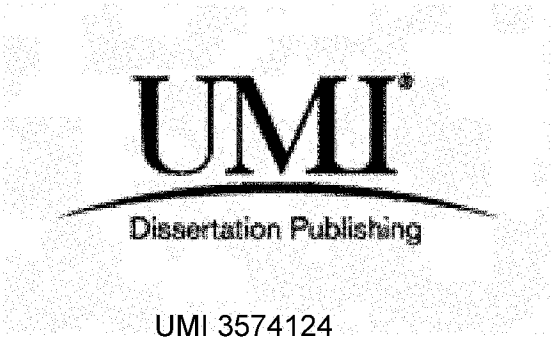

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DEDICATION

To Dad and Mom for your unwavering support, patience and understanding – you inspire me to do my best and persevere through challenges. To Anne for being my personal coach and pep-talking me through the most demanding periods of the doctoral program. To Farhang for your endurance as my sounding board and for burning the midnight oil with me. And, to Owen, always.

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ABSTRACT

Numerous studies document the importance firms place on beating earnings expectations and the array of strategies (i.e., income-increasing real and accruals earnings management and downwards earnings expectations management) they use to accomplish this objective. My study sheds light on the role of analysts in firms' choice of benchmark beating strategies by examining how three analyst coverage attributes (i.e., the extent of coverage, analyst affiliation and analyst experience) relate to the degree to which these strategies are implemented. Specifically, my findings show that the likelihood and level of real earnings management decreases with greater coverage and analyst experience and increases with analyst affiliation. My results also indicate that the concurrent use of real earnings management with accruals management decreases with greater coverage and greater analyst experience, and increases with analyst affiliation. Furthermore, the negative relation between coverage and real earnings management is strongest among firms with high levels of income-increasing discretionary accruals. Finally, the concurrent use of real earnings management with expectations management decreases when firms are covered more extensively and by more experienced analysts. Overall, these results suggest that analysts significantly influence managerial decisions to manage earnings and expectations.

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INTRODUCTION

Numerous studies document the importance firms place on beating earnings expectations and the array of strategies (i.e., income-increasing real and accruals earnings management and downwards earnings expectations management) they use to accomplish this objective. However, the relation between analyst coverage and the degree to which these strategies are implemented is not fully understood. This study examines three analyst coverage attributes that may be associated with the degree and composition of benchmark beating strategies employed by firms: the extent of coverage, analysts' incentives and analysts' abilities. Extending prior research that examines the effect of analyst coverage on accruals management and forecast management, I ask whether these analyst coverage attributes are related to firms' use of income-increasing real earnings management and its concurrent use with accruals management and/or downward forecast guidance to meet analysts' earnings expectations.

There is a rich literature on the choices managers make to meet analysts' earnings expectations when true performance otherwise falls short. Much of the existing research on earnings management concentrates on firm discretion over accounting accruals (e.g., Healy, 1985; Kasznik, 1999; Beatty, Ke and Petroni, 2002; Dhaliwal, Gleason and Mills, 2004). Recently, academics have begun to

examine the use of real earnings management tools more closely (e.g., Bartov, 1993; Hribar, Jenkins and Johnson, 2006; Petrovits, 2006; Roychowdhury, 2006). Consistent with evidence on the substitutability of accruals management and real management (Zang, 2007), a survey by Graham, Harvey and Rajgapol (2005) finds managers are more inclined to take real economic actions than accounting actions to meet earnings targets. Since the passage of the Sarbanes-Oxley Act in 2002, firms' use of real earnings management has increased relative to discretionary accruals, and their propensity to guide analysts' expectations has decreased, suggesting a shift in the portfolio of mechanisms used to achieve earnings targets (Bartov and Cohen, 2009). Collectively, the growing evidence of real earnings management suggests a need to better understand the factors influencing its use and how such factors affect the choice of benchmark beating strategies within the available portfolio.

While extensive research exists on how financial intermediaries, such as auditors and institutional investors, influence firm behavior in meeting earnings expectations (e.g., Becker, Defond, Jiambalvo and Subramanyam, 1998; Bushee, 1998; Gaver and Paterson, 2001), there is less research on how analysts affect such strategies. Although recent research in this area examines the effect of analyst coverage on earnings management, it focuses primarily on discretionary accruals. *Ex ante*, the effect of analyst coverage on firm strategies to meet earnings

benchmarks is unclear because analyst coverage can implicitly impose conflicting pressures on managers. Analyst coverage may have a *monitoring effect* and/or an *inducing effect* on managers' choice of strategies to meet earnings expectations (Yu, 2008). Yu (2008) reports that firms with greater analyst following are less likely to manage discretionary accruals than firms with less analyst following. He also documents that firms covered by analysts with more experience and employed at reputable brokerage houses engage in less discretionary accruals management. Thus he concludes that analysts fill a monitoring role in constraining accruals management. Liu (2008) builds on Yu's (2008) findings and documents that coverage, experience and independence are more strongly associated with forecast guidance than accrual management. His primary findings also support the notion that analysts have a monitoring effect by limiting discretionary accruals. Given differing costs and benefits between accruals and real management, conclusions regarding analysts' influence on accruals management may have limited generalizability or lead to incomplete inferences regarding analysts' influence on other benchmark beating strategies. As discussed above, there are three possible strategies firms may undertake to meet earnings targets: managing accruals, managing analysts' expectations, and managing real earnings. Moreover, analyst coverage can vary in several dimensions that may moderate or exacerbate the firm behavior in question, specifically, the extent of analyst coverage, analysts'

incentives and analysts' ability. Extending prior research, I first examine whether income-increasing *real* earnings management is associated with abnormal analyst coverage, analyst affiliation and analyst experience.

Given prior evidence that accruals and real earnings management are determined jointly, it is necessary to examine them concurrently. Zang (2007) finds less discretionary accounting actions and more real earnings management after firms are exposed to litigation. She argues that because firms are subject to greater scrutiny after litigation, managers switch from accruals management to real management. In an event study on seasoned equity offerings (SEO), Cohen and Zarowin (2010) provide additional evidence that both accruals and real management tools are used together. They also find that Big 8 auditor and auditor tenure are positively related to real earnings management, suggesting that more effective monitoring may motivate firms to manage earnings using techniques that are more difficult to identify. Hence, I next investigate whether the concurrent use of income-increasing real and accruals earnings management differs in analyst coverage attributes.

Finally, I address the concurrent use of earnings management and expectations management to meet earnings benchmarks. Lin, Radhakrishnan and Su (2006) investigate a broad set of tools used by managers to meet analysts' expectations and show that they manage both earnings and analysts' forecasts to

achieve performance targets. Moreover, Liu (2008) examines the contemporaneous use of accruals management with forecast guidance and finds managers prefer forecast guidance when followed by analysts. Taking a different approach to further our understanding of real earnings management, I examine whether the concurrent use of income-increasing real earnings management and downwards expectations management differs in the extent of abnormal coverage, analyst affiliation and analyst experience.

In my empirical analysis, I model the effect of the three analyst coverage attributes on earnings expectations beating strategies, after controlling for firm characteristics that may be associated with both analyst coverage and the firms' choice of benchmark beating. Using a broad sample of 13,038 firms from 1988 to 2010, I find three main results.

First, firms with analyst coverage engage in less income-increasing real earnings management than firms without analyst coverage. Furthermore, I find the likelihood of income-increasing real management is lower for firms with greater abnormal coverage and more experienced analysts, and higher for firms covered by affiliated analysts. Interestingly, managers are more likely to engage in forecast guidance when their firms are covered by more analysts and are less likely to do so when covered by affiliated analysts. Given the underwriting business relationship between an affiliated analyst's brokerage house and the covered firm, it is perhaps

unsurprising that managers are reluctant to guide expectations downward as this affects not only analysts' forecasts but also the ability to issue equity at the highest possible price. Supplementary analysis suggests that abnormal coverage and experience (affiliation) are associated with decreased (increased) probabilities and levels of real earnings management. Economically, my findings suggest that, all else equal, one unit of change in coverage and one unit of change in experience are associated with less than a 1 percent decrease in the likelihood of managing real activities, while coverage by non-independent analysts corresponds with a 2 percent increased probability of real earnings management.

Second, I examine the concurrent use of managing real activities and discretionary accruals. Overall, I show that the likelihood of managing real activities in conjunction with discretionary accruals decreases in abnormal coverage and analyst experience, and increases in analyst affiliation. Moreover, I find the negative relation between analyst coverage and income-increasing real earnings management to be most pronounced among firms with the highest levels of discretionary accruals, which is consistent with prior research suggesting that real and accruals management may be substitute strategies.

Lastly, I investigate the concurrent use of income-increasing real management and downwards forecast guidance. I document that, relative to firms not guiding forecasts, firms that manage expectations are more likely to engage in

income-increasing real management when covered by more experienced analysts and by affiliated analysts. On the whole, my finding shows that concurrently managing real operations and earnings expectations decreases in the extent of coverage and analyst experience, and increases in analyst affiliation.

One major challenge presented by my research question is the inherent endogeneity of analyst coverage. To address this concern, I implement an instrumental variable, firm inclusion in the S&P500 index, which is correlated with analyst coverage but unlikely to be correlated with earnings expectations beating. Using a two-stage residual inclusion approach to account for endogeneity (Imbens and Wooldridge, 2007), my primary findings on the extent of coverage and analyst experience are robust. I obtain similar results when using a standard two-stage least squares approach to control for the endogenous relation between analyst coverage and firms' choice of benchmark beating strategies. My results are also robust to several other sensitivity tests, including the effects of being audited by a Big 8 auditor and the regulatory reforms established by Global Settlement.

Overall, this study provides a further understanding of the role of analysts in financial reporting. First, I show that the likelihood of income-increasing real earnings management is affected by analyst coverage attributes. Second, I extend our understanding of the portfolio of reporting strategies, comprised of real

management, accruals management and forecast guidance, and the effect of analyst coverage on the concurrent use of these strategies.

The remainder of this paper is organized as follows: Chapter 1 discusses related prior research and develops the hypotheses. Chapter 2 describes the research design and sample selection procedure. Chapter 3 explains the empirical results and Chapter 4 discusses other considerations. A summary of my findings is discussed in the Conclusion.

CHAPTER 1

Background and Hypothesis Development

1.1. Analyst Coverage

As intermediaries between managers and current and potential stakeholders, financial analysts' primary responsibilities include collecting, processing and disseminating information about firms.[1] An important element of this information distribution is analysts' performance forecasts, which incorporate their analyses of firm fundamentals as well as their expectations about firms' prospects. There is an interesting conflict in the effect of analysts on firm reporting choices: they may have a *monitoring effect* and/or an *inducing effect* on managers' meet/beat strategies (Yu, 2008).

As financially trained professionals, analysts have the aptitude to understand complex business operations as well as accounting information. Although it may not be an explicit responsibility, they are naturally suited to an implicit monitoring role in which they track firms and firm performance, and report the mechanisms through which the firm performed successfully. Theory suggests that external monitoring may limit earnings management, and financial analysts in

[1] The objective function of securities analysts has not yet been established by extant research, however academics and professionals have ascertained their *explicit* responsibilities. Fernandez (2001) discusses the roles and duties of research analysts from the perspective of a professional association. Ramnath, Rock and Shane (2008) provide an overview of the function of analysts from an academic perspective.

particular may fill such a role (Jensen and Meckling, 1976; Healy and Palepu, 2001). Given this additional scrutiny and potentially greater likelihood of being penalized, managers may be less inclined to manage earnings in the presence of analysts. Empirical research indicates that analysts indeed have a significant impact on reducing certain earnings management behavior (Liu, 2008; Yu, 2008; Cohen and Zarowin, 2010). Furthermore, due to a stock return premium to meeting or beating earnings expectations (Barth, Elliott and Finn, 1999; Bartov, Givoly and Hayn, 2002; Koh, Matsumoto and Rajgopal, 2008; Bhojraj, Hribar, Picconi and McInnis, 2009), any monitoring role by analysts which limits income-increasing earnings management may instead motivate firms to guide analysts' forecasts downward making them easier to beat.

On the other hand, analyst coverage may have an inducing effect on managers if managers feel compelled to beat earnings benchmarks, leading to more income-increasing earnings management and/or forecast guidance. The motivation to meet analysts' benchmarks stems from equity market incentives and the impact that analysts' have on capital markets. Established analysts may command enough investors' attention to spur significant movements in a firm's stock price based on their reports on the firm and on whether the firm is able to meet analysts' expectations. As such, the inducing effect predicts more earnings management in the presence of analyst coverage.

1.2. Analyst Coverage Attributes and Earnings Expectations Beating

There is a long-standing literature in accounting research dedicated to understanding the choices managers make to meet earnings benchmarks, which include managing earnings and analysts' expectations. Most attention in the earnings management literature is given separately to managing accruals (e.g., Healy, 1985; Kasznik, 1999; Beatty et al., 2002; Dhaliwal et al., 2004) and managing operational activities (e.g., Bartov, 1993; Hribar et al., 2006; Petrovits, 2006; Roychowdhury, 2006). Building on prior work, recent research examines the association between financial analysts on earnings management, and focuses primarily on discretionary accruals management. Using a sample from 1988 to 2002, Yu (2008) reports that firms with analyst coverage have lower tendencies to manage earnings, measured by discretionary accruals, than firms without analyst coverage. In fact, he documents the greater the coverage, the lower the level of discretionary accruals, which provides some support for the monitoring role of analyst coverage on earnings management. Furthermore, he finds that more skilled analysts (measured by firm-specific experience, general career experience and employment by top brokerage houses) are negatively associated with discretionary accruals. In a related paper, Liu (2008) extends Yu's (2008) research by examining forecast guidance techniques in addition to discretionary accruals to achieve earnings expectations. Examining a subsample of firms that meet or beat analysts'

forecasts from 1988 to 2006, Liu documents that analyst following, analyst experience and analyst independence are more strongly associated with downward forecast guidance than with upward earnings management. As a result, he concludes that under more effective monitoring, firms prefer to manage forecasts downward rather than manage discretionary accruals upward.

Real Earnings Management

One limitation of prior related studies is that they overlook firm discretion in real operating decisions to achieve earnings benchmarks, which may lead to incomplete inferences regarding the trade-offs between earnings management and forecast guidance to beat performance targets. There is extensive research indicating that managing real business operations is a prevalent practice and that, in recent years, firms have shifted from managing accruals to real management (Graham et al., 2005; Roychowdhury, 2006; Bartov and Cohen,2009; Cohen and Zarowin, 2010). To address this gap in the literature, I first consider the effect of analyst following on real earnings management.

Extent of Coverage. Financial analysts are trained to understand and disseminate financial data and may have a monitoring effect or an inducing effect on managers' reporting strategies. The monitoring and inducing effects may vary in analyst coverage attributes: the extent of coverage, analyst incentive and analyst

ability. The extent of coverage may have a monitoring effect on firm behavior if more coverage is construed as more external oversight in general. Alternatively, the extent of coverage may have an inducing effect on firms because greater analyst coverage implies greater visibility of forecasts and earnings to investors and other stakeholders, which in turn implies greater equity market concerns for the manager as there is potentially a stronger negative stock market reaction to missing earnings benchmarks (Skinner and Sloan, 2002).

Affiliation. An analyst's incentives may be proxied by the affiliation of his employer with the covered firm. Affiliation may have a monitoring effect if affiliated analysts have an information advantage relative to their nonaffiliated counterparts. Allen and Faulhaber (1989) suggest that security analysts from investment banks involved in underwriting equity issuances can gain access to superior information during the due diligence process, allowing them to form more accurate forecasts. Also, it is possible that affiliated analysts have a monitoring effect that is driven by reputation and career concerns in the presence of unaffiliated analysts. The forecast accuracy of affiliated analysts improves by approximately 20 percent when unaffiliated analysts follow the same firms, compared to when they do not (Gu and Xue, 2008). On the other hand, conflicts of interest by affiliated analysts may influence their motivation to diligently scrutinize firms. Empirical research finds affiliated analysts issue more optimistic

recommendations and "beatable" targets than non-affiliated analysts (Dugar and Nathan, 1995; Baik and Yi, 2007; Malmendier and Shanthikumar, 2007). In fact, anecdotal evidence from the financial press corroborate this, reporting that some investment banks that publish securities research pressure their analysts to curry favor with firms they follow, in an effort to secure other lucrative business such as underwriting equity offerings (McLean and Elkind, 2003; Fowler, 2006).[2] In 2011, the chief executive officer of the American International Group (AIG) publicly announced that in his selection of underwriters in an upcoming stock offering, he would consider those who have a "clear understanding of...why AIG is a stock that investors should own" (Ng, 2011), hinting that positive research would be rewarded. Consequently, research analysts may feel compelled to report favorably on affiliated firms even when such firms engage in egregious earnings management and/or forecast guidance (Lin and McNichols, 1998; Dechow, Hutton and Sloan, 1997; Michaely and Womack, 1999).

[2] For example, while most Wall Street analysts issued enthusiastic recommendations on Enron during the 1990s, John Olson was verbally skeptical of the firm and maintained a neutral rating on the company. Olson, a security analyst at Merrill Lynch at the time, left the firm under pressure a few months after colleagues complained that his unfavorable assessment of Enron was costing Merrill millions of dollars in underwriting deals that were granted to investments banks with "buy" recommendations on Enron stock. Soon after Olson's departure, Merrill's recommendation on Enron was upgraded, followed by Enron awarding Merrill with at least $45 million in investment banking deals. Later, the New York State Attorney General's office conducted an investigation into the potential conflicts of interest arising between the bank's objective to win more underwriting business and the integrity of its analysts' research, and ultimately fined Merrill for compromising the independence of its analysts.

Experience. A recent well-publicized event in the business press highlights the ability of research analysts to predict bad news despite managers' claims to the contrary. In 2008, Richard Bove, a research analyst who has been in the securities industry since 1965, released a report entitled "Who Is Next?" which lists banks he judged to be in the "danger zone" of high distress risk, measured by balance sheet-based ratios.[3] The report earned him a lawsuit by one of the scrutinized institutions, BankAtlantic, who accused him of defamation and negligence. Although the case was eventually settled without penalty for either party, Bove left his firm, the investment bank Ladenburg Thalmann, amidst disagreements related to the legal proceedings and was also personally burdened with approximately $800,000 in legal fees. It is worthwhile to note that in 2010 BankAtlantic was found guilty in a securities-fraud litigation for misrepresenting to analysts and investors the riskiness and performance of its loan portfolio from 2006 to 2007 in order to inflate its stock price. This anecdote suggests that sophisticated analysts, proxied by experience, can detect aberrant firm activities.

In contrast, empirical research provides mixed findings on the relation between analyst experience and firms' earnings management behavior. On one

[3] The financial analysis in "Who Is Next?" (Bove, 2008) is based on two measures of distress risk. The first metric is the ratio of nonperforming assets to loans, where nonperforming assets include nonperforming loans, foreclosed assets and loans more than 90 days past due. He interprets a ratio greater than five percent as a "danger" zone for distress. The second measure is the ratio of nonperforming assets to equity, where an institution with a ratio greater than 40 percent is considered distressed.

hand, analyst experience may have a monitoring effect when analysts develop more aptitude in their profession through repetition or "learning by doing", continuous interaction with the same firm or through industry specialization. Mikhail, Walther and Willis (1997) find analysts' forecast errors decline as their firm-specific experience increases, suggesting that accuracy increases with experience. Furthering this point, Bushee (1998) studies firms attempting to meet previous year's earnings and finds firms are likely to reduce research and development expenditures to avoid earnings decreases when they have lower institutional ownership. This is consistent with the notion that sophisticated external scrutiny may hinder real earnings management. On the other hand, however, it is also possible that analyst experience has an inducing effect on managers if investors find experienced analysts more credible than less experienced ones and thereby assigning more significance to their evaluations. If so, managers may be motivated to engage in more real earnings management when they are followed by more experienced analysts.

Because it is not clear which of the conflicting forces dominates and because prior research has not addressed this, the association between analyst coverage attributes and real earnings management is an open empirical question. Consequently, my first hypothesis (stated in alternative form) is nondirectional:

H1a: The income-increasing real earnings management activity of firms is associated analyst following.

H1b: Among firms with analyst following, the extent of analyst coverage, analyst affiliation and analyst experience is associated with income-increasing real earnings management.

Real and Accruals Earnings Management

Given evidence that real and accruals management are substitute strategies, inferences about earnings management when only discretionary accruals are considered may be incomplete. Zang (2007) builds a model which predicts that real management and accruals management decisions are jointly made. Empirically, she documents less discretionary accounting actions and more real earnings management after firms are exposed to litigation. She argues that because firms are subject to greater scrutiny after litigation, they switch from accruals management to real management (a substitution effect). Extensive evidence suggests that when firms are subject to more scrutiny arising from regulatory changes (e.g., the Sarbanes-Oxley Act of 2002), managers prefer real management techniques over discretionary accruals (Cohen, Dey and Lys, 2008; Bartov and Cohen, 2009). Alternatively, it is possible that managers rely on real activities management when

they exhaust the ability to manage earnings through accounting choices (Barton and Simko, 2002). A natural prediction following these expectations is that for firms with analyst coverage, the components of earnings management may shift away from discretionary accruals to real management.

However, it is also possible that real earnings management does not increase in the presence of analyst coverage. From a manager's perspective, real activities management is more difficult to carry out than accruals management, as it requires more in-depth understanding of a firm's operations (Graham et al., 2005) and may also require more time to implement. In addition, real management has a larger negative impact on future firm performance than accruals management in an SEO setting, suggesting that real actions may be relatively more economically costly than discretionary accruals (Cohen and Zarowin, 2010). This leads me to examine the effect of analyst coverage attributes on income-increasing real activities management concurrently with income-increasing accruals management and my second hypothesis (stated in alternative form) is:

H2: The extent of analyst coverage, analyst affiliation and analysts experience is associated with the concurrent use of income-increasing real and accruals earnings management.

Real Earnings Management and Expectations Management

It is important to recognize that earnings management, by real activities or discretionary accruals, is not the only strategy firms can implement to meet or beat earnings benchmarks. Approximately 81 percent of chief financial officers participating in Graham et al.'s (2005) survey acknowledge guiding analysts' forecasts to some extent. Moreover, they also admit to managing earnings through real operational activities and accounting choices. Findings from several studies suggest that managers use multiple strategies to meet earnings expectations, namely, real management, accruals management, as well as forecast guidance and that the preference for (or prevalence of) certain methods is affected by regulation (Matsumoto, 2002; Lin et al., 2006; Koh et al., 2008).[4] While Liu (2008) takes a step in examining the trade-off between accruals management and expectations management in the presence of analyst coverage, he omits real management from his study. Thus, differing from and building upon prior research, I take another approach to complete the picture. In my last analysis, I investigate the effect of analyst coverage attributes on the decision to manage operational activities and

[4] Prior research identifies ways in which managers can beat earnings benchmarks, other than managing earnings and/or expectations. For example, McVay (2006) finds managers to strategically classify core expenses to special items, which does not alter net earnings, but does increase core earnings. Similarly, Barua et al. (2010) document evidence that firms classify operating expenses to income-decreasing discontinued operations to overstate core earnings. Alternatively, managers can report and adjust pro forma earnings to meet pro forma earnings benchmarks by opportunistically excluding recurring expenses, such as research and development, depreciation and stock-based compensation (Black and Christensen, 2009). This study focuses on earnings management and expectations management because survey evidence suggests that these are the most prevalent opportunistic strategies managers undertake to meet earnings benchmarks (Graham et al., 2005).

guide analysts' forecasts. If the monitoring effect dominates, then I expect real management to meet earnings benchmarks decreases, accompanied by an increase in expectations guidance. If the inducing effect dominates, then I expect real management and/or expectations management to increase. Given the opposing pressures of the monitoring and inducing effects, my hypothesis regarding the relation between analyst coverage attributes and the concurrent use of real earnings management with forecast guidance (stated in alternative form) is nondirectional:

H3: The extent of analyst coverage, analyst affiliation and analyst experience is associated with the concurrent use of income-increasing real earnings management and downward expectations management.

CHAPTER 2

Data and Methodology

2.1. Data

I obtain the data used in this study from several sources. To measure real earnings management and discretionary accruals, I require and obtain quarterly financial information for all firms in the Compustat database from January 1988 to May 2010. The sample begins in 1988 because this is the first year that the Statement of Cash Flows is required.[5] I exclude firm-quarters that are missing financial information necessary for analysis. I also exclude firms in regulated industries (transportation, communications, utilities, finance, insurance and real estate) because these firms have dissimilar financial characteristics from other firms in the sample. This selection procedure yields 260,955 firm-quarters and 13,038 distinct firms in non-regulated industries with all financial data needed for analysis (referred to as the "COMPUSTAT" sample hereafter).

To measure managers' walk-down of analysts' expectations, I examine the downward change in analysts' forecasts rather than company-issued guidelines. This is a reasonable proxy since analysts incorporate managers' guidance into their

[5] SFAS No. 95, issued by the Financial Accounting Standards Board in November 1987, mandates firms to prepare statements of cash flows, effective July 15, 1988.

own expectations (Baik and Jiang, 2006; Cotter, Tuna and Wysocki, 2006; Feng and McVay, 2010; Kross, Ro and Suk, 2011). Moreover, company-issued press releases and conference calls are not the only channels through which managers can actively influence expectations. For example, with the rising popularity of the Internet during the 1990's and 2000's, managers can disseminate information through websites, blogs, and social networking sites. Blankespoor, Miller and White (2010) document the growing use of innovative technology, such as Twitter, as complements to traditional information dispersion. Thus, I obtain analysts' quarterly earnings per share (EPS) forecasts from the stock split-unadjusted Detail history file on the Institutional Brokers' Estimate System (I/B/E/S) database. Following prior research, I retain only firm-quarters for which there are at least two forecasts that are at least 20 trading days apart. I need two forecasts for each reporting period to measure forecast revisions and they must be at least 20 trading days apart to allow time for new information gathered during the period to be incorporated into the forecasts. To ensure that the forecasts are timely, I require the first forecast to be made at least one day after the earnings announcement for the prior quarter. To avoid forecasts that may be contaminated by information "leakage," I require the last forecast to be made at least three days before the earnings announcement for the current quarter. The intersection of firm-quarters

with analyst coverage and the required financial data yields 83,612 firm-quarters and 6,326 distinct firms (referred to as the "IBES" sample hereafter).[6]

Given my research objective to study the earnings expectations beating strategies chosen by managers to meet earnings benchmarks, I further restrict the sample to include firm-quarters with non-negative earnings surprises, where an earnings surprise is defined as the difference between the reported EPS and the expected EPS. The last EPS forecast for the firm-quarter is taken as the expected EPS. In total, there are 45,967 firm-quarters and 5,335 distinct firms with non-negative earnings surprises, i.e., meet or beat analysts' earnings expectations (referred to as the "MBE" sample hereafter). In a subset of the MBE sample, there are 31,242 firm-quarters and 4,474 firms that just meet or beat expectations (referred to as the "JMBE" sample hereafter). Observations are included in the JMBE sample if the earnings surprise for the firm-quarter is zero to five cents.[7]

The sample selection procedure to obtain the samples is outlined in Table 1.

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[6] Analyst data collected from I/B/E/S is sporadic in the earlier years and may be unreliable. In robustness tests, I re-estimate the regressions excluding data from years 1988-1992 and 1988-1993 and obtain qualitatively unchanged results.

[7] Measuring earnings surprise from a zero to five cent range differs from the conventional design choice of a zero to one cent range. Investors are becoming increasingly doubtful of earnings surprises between zero and one cent (Keung, Lin and Shih, 2010), which may prompt managers to meet or beat earnings benchmarks by greater margins. Results from the JMBE sample are not materially affected by narrowing the earnings surprise interval. Additional tests are also conducted on the sample when the earnings surprise is limited to ranges from zero to one, two, three or four cents, with qualitatively similar findings.

2.2. Measuring Earnings Management

Real Earnings Management

To capture real earnings management, I use three measures proposed by Roychowdhury (2006): abnormal level of cash flow from operations, abnormal production costs and abnormal discretionary expenses. These measures are derived from the model in Dechow, Kothari and Watts (1998) to obtain normal levels of cash flow from operations, production costs, and discretionary expenses. Abnormal levels are defined as deviations from normal levels.

Managers can manipulate sales to increase revenues for the period by offering price discounts or lenient credit terms. However, cash inflows from these transactions are lower than normal sales due to the price reductions or payments on credit. The resulting earnings increase is likely to be unsustainable in the next period, as sales return to normal levels. To quantify this activity, I measure abnormal cash flow from operations (CFO), where normal CFO is first estimated quarterly by two-digit SIC industries by the following model:

$$\frac{CFO_{iq}}{Assets_{iq-1}} = \gamma_1 \frac{1}{Assets_{iq-1}} + \gamma_2 \frac{REV_{iq}}{Assets_{iq-1}} + \gamma_3 \frac{\Delta REV_{iq}}{Assets_{iq-1}} + \varepsilon_{iq}$$

(Eq. 1.1)

Abnormal CFO is then computed as the difference between the reported CFO for firm i in quarter q and the estimated normal level of CFO.

Another way managers can actively boost earnings is by overproducing goods in excess of demand. By doing so fixed overhead costs can be spread over more units, and assuming the decline in fixed cost is not outweighed by any increase in marginal cost, this yields a net reduction in total cost per unit. Lower total costs will be reflected in cost of goods sold, thereby improving earnings. To measure abnormal production costs (PROD), I first estimate the normal level of production costs quarterly by two-digit SIC industry codes on the following model:

$$\frac{PROD_{iq}}{Assets_{iq-1}} = \gamma_1 \frac{1}{Assets_{iq-1}} + \gamma_2 \frac{REV_{iq}}{Assets_{iq-1}} + \gamma_3 \frac{\Delta REV_{iq}}{Assets_{iq-1}} + \varepsilon_{iq}$$

(Eq. 1.2)

where production costs are the sum of cost of goods sold and change in inventory of firm i in quarter q. I take the difference between the reported PROD and the estimated normal level of PROD as abnormal PROD for firm i in quarter q.

Other than boosting sales to increase current period income, managers can also reduce discretionary expenses for activities such as marketing, product research and development, and personnel salaries. Roychowdhury (2006) defines total discretionary expenses as the sum of advertising expenses, research and development expenses (R&D), and selling, general and administrative expenses (SGA). However, advertising expenses and R&D expenses are not reported by Compustat on a quarterly basis, while SGA expenses are. Therefore, I use SGA as

the proxy for discretionary expenses. The normal level of SGA is estimated quarterly by two-digit SIC code on the following model:

$$\frac{SGA_{iq}}{Assets_{iq-1}} = \gamma_1 \frac{1}{Assets_{iq-1}} + \gamma_2 \frac{REV_{iq}}{Assets_{iq-1}} + \gamma_3 \frac{\Delta REV_{iq}}{Assets_{iq-1}} + \varepsilon_{iq}$$

(Eq. 1.3)

Abnormal SGA for firm i in quarter q is computed as the difference between the reported SGA and the estimated normal level of SGA.

Similar to prior research, I aggregate the three measures described above to obtain two comprehensive metrics of real earnings management (Zang, 2007; Bartov and Cohen, 2009; Cohen and Zarowin, 2010). The first measure, REM1, is obtained by multiplying abnormal SGA expenses (from Eq. 1.3) by negative one and adding the product to abnormal production costs (from Eq. 1.2). The second measure, REM2, is obtained by multiplying abnormal cash flows from operations (from Eq. 1.1) and abnormal SGA expenses (from Eq. 1.3) by negative one and adding them together. The values of REM1 and REM2 are both interpreted as the extent to which a firm engages in real earnings management (i.e., higher values are taken as evidence of more real activities management). I define income-increasing real earnings management (REM) as the reporting strategy of firms to manage real transactions to meet analysts' earnings expectations. REM is an indicator variable that equals one if values for either real management metrics (REM1 or REM2) of

firm i during quarter q is greater than the IBES sample median, and equals zero otherwise.

Accrual Earnings Management

I use discretionary accruals as a proxy for accruals earnings management. While there are several models of discretionary accruals in the literature, I rely on the cross-sectional modified Jones model (Dechow, Sloan and Sweeney, 1995) because research indicates this model outperforms the alternatives with respect to specification and power (Kothari, 2001). Other than the modified Jones model (Dechow et al., 1995), a few commonly used models of discretionary accruals include the Jones model (1991) and the performance-matched model (Kothari, Leone and Wasley, 2005). The performance-matched model (2005) advances the Jones (1991) and modified Jones (1995) models by controlling for the effect of firm performance on discretionary accruals. Since my empirical models control for firm performance, I choose to estimate discretionary accruals by the modified Jones model. The following regression is first run quarterly by two-digit SIC codes to obtain coefficients α_1, α_2, and α_3.

$$\frac{TA_{iq}}{Assets_{iq-1}} = \alpha_1 \frac{1}{Assets_{iq-1}} + \alpha_2 \frac{\Delta REV_{iq}}{Assets_{iq-1}} + \alpha_3 \frac{PPE_{iq}}{Assets_{iq-1}} + \varepsilon_{iq} \qquad \text{(Eq. 2.1)}$$

where i denotes firm and q denotes quarter. Total accruals (TA) is the difference between reported earnings and the cash component of earnings, measured as net income less cash flow from operations; the change in revenue (REV) is the difference between the current quarter's revenues and last quarter's revenues; PPE is the gross property, plant and equipment for firm i in quarter q.

Next, I use the industry-quarter estimates of α_1, α_2, and α_3 from Eq. 2.1 to obtain non-discretionary accruals per firm-quarter observation.

$$NDA_{iq} = \hat{\alpha}_1 \frac{1}{Assets_{iq-1}} + \hat{\alpha}_2 \left(\frac{\Delta REV_{iq}}{Assets_{iq-1}} - \frac{\Delta AR_{iq}}{Assets_{iq-1}} \right) + \hat{\alpha}_3 \frac{PPE_{iq}}{Assets_{iq-1}} \qquad \text{(Eq. 2.2)}$$

Discretionary accruals are then computed as the difference between total accruals and non-discretionary accruals:

$$DA_{iq} = \frac{TA_{iq}}{Assets_{iq-1}} - NDA_{iq} \qquad \text{(Eq. 2.3)}$$

I define income-increasing accruals earnings management (AEM) as the reporting strategy of firms to manage discretionary accruals to meet analysts' earnings expectations. AEM is an indicator variable that equals one if the discretionary accruals (DA) of firm i during quarter q is greater than the IBES sample median, and equals zero otherwise.[8]

[8] In sensitivity tests, which I discuss in detail in Chapter 4, I use discretionary accruals (DA) as an alternative measure of accruals management. Doing so allows me to measure the level of, in

2.3. Measuring Expectations Management

Drawing from prior literature that examines managerial guidance of analysts' forecasts (e.g., Brown and Pinello, 2007), I define expectations management (EXPM) as a downward revision of analysts' earnings per share estimate between the initial forecast and the last forecast of the quarter. A forecast revision for the firm-quarter is the difference between the last forecast and the first forecast of firm *i*'s quarter *q* earnings per share (REVISION). EXPM is a binary variable that equals one if REVISION is negative, indicating that firm *i* guided analysts' expectations downward for the period, and equals zero otherwise.

2.4. Estimation Models

Several factors associated with firms' choice of benchmark beating strategies, such as firm size, performance, growth, external financing activities and business volatility, are also correlated with analyst following (Bhushan, 1989; Kasznik, 1999; Dechow and Dichev, 2002). To reduce the possibility of a spurious relation between coverage and firms' strategies driven by factors that affect both, I first model the determinants of analyst following. The residuals from regressing analyst coverage on firm characteristics are used as the proxy for the extent of

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addition to the probability of, accruals management. The results are qualitatively similar to my primary findings and do not materially affect the inferences.

coverage in my primary model (Hong, Lim and Stein, 2000; Bowen, Chen and Cheng, 2008; Yu, 2008). The following regression is first estimated:

$$AnalystCoverage_{iq} = \alpha + \beta_1 Size_{iq} + \beta_2 Performance_{iq} + \beta_3 Growth_{iq} + \beta_4 Financing_{iq} + \beta_5 Volatility_{iq} + v_{iq}$$

(Eq. 3)

ANALYSTCOVERAGE is the number of analysts following firm *i* in quarter *q*; SIZE is firm size measured by total market value of firm *i* at the end of quarter *q*; PERFORMANCE is firm performance of firm *i* in quarter *q*, measured by net income scaled by lagged assets; GROWTH is the growth rate of assets of firm *i* at quarter *q*, measured by the change in total assets scaled by lagged assets; FINANCING is the extent of external financing raised by firm *i* in quarter *q*, measured by net cash proceeds from equity and debt financing scaled by total assets; VOLATILITY is the cash flow volatility of firm *i* at quarter *q*, measured by standard deviations of cash flows from operations over the entire sample period scaled by lagged assets of quarter *q-1*. Using the residuals from Eq. 3 as the measure of analyst coverage ensures that the extent of coverage is orthogonal to the explanatory variables in my primary regression.[9] The residuals are interpreted as

[9] Conceptually, the appropriate measure of coverage should be the analyst coverage that firm *i* has above or below normal analyst coverage, which is why I use the residuals from Eq. 3. Empirically, however, my findings are not sensitive to the use of abnormal coverage. I conduct the same tests using the number of analysts following the firm during the quarter, and obtain similar results as those reported.

abnormal coverage unexplained by firm size, performance, growth, financing and volatility.

Next, I model the impact of analyst coverage attributes on firms' choice of benchmark beating strategy. The attributes of interest are the extent of coverage, analyst incentives and analyst ability. Proxies for these attributes are included in my principal model:

$$\begin{aligned}\text{DepVar}_{iq} = {} & \alpha + \beta_1 AbnCoverage_{iq} + \beta_2 Affiliation_{iq} + \beta_3 Experience_{iq} + \\ & \gamma_1 Size_{iq} + \gamma_2 MTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \\ & \gamma_6 Financing_{iq} + \gamma_7 SOX_{iq} + \gamma_8 Bloat_{iq} + \varepsilon_{iq}\end{aligned} \qquad \text{(Eq. 4)}$$

where the dependent variable (DepVar) is the earnings expectation beating strategy of interest, and i denotes firm and q denotes quarter. ABNCOVERAGE is the extent of analyst coverage for firm i during quarter q and is measured by the residual from Eq. 3 for abnormal coverage. AFFILIATION is the number of analysts covering firm i during quarter q whose employer underwrites equity offerings of the covered firm during the fiscal year of quarter q. Using the I/B/E/S Detail Recommendations file and the Broker file, I match analyst identifier codes to employer codes and the full names of their employers. Equity stock issuance data is obtained from the Securities Data Corporation (SDC). SDC identifies the company (companies) involved in underwriting a firm's equity stock issuance and categorizes the company (companies) as "book manager," "co-manager," "lead

manager,", and "joint lead manager". For each firm-year, I hand-match the full names of analysts' employers to SDC's underwriters. If an analyst's employer is identified by SDC as being a "book manager," "co-manager," "lead manager,", or "joint lead manager" involved in underwriting a firm's equity stock issuance, then the analyst is flagged as affiliated for the firm-year.[10] EXPERIENCE measures the aptitude of analysts covering the firm and is defined as the average experience of all analysts covering firm i in quarter q. The experience of each analyst is measured as the total number of quarters the analyst has issued earnings forecasts for firm i as of quarter q.

Existing research documents other factors associated with the incentives and ability of firms to manage earnings or guide forecasts, including firm size, asset growth, cash flow volatility, external financing activities, growth opportunities, firm profitability, overstated assets and regulatory regime (e.g., Barton and Simko, 2002; Cohen et al., 2008; Bartov and Cohen, 2009; Liu, 2008). Firm size (LOGMV), asset growth (GROWTH), cash flow volatility (VOLATILITY) and external financing activities (FINANCING) are measured as before. Growth opportunities are measured by the log of market value of equity to book value of

[10] I also consider alternative measures for AFFILIATION in sensitivity tests. One alternative is an indicator variable that equals one if there are *any* affiliated analysts covering firm i in quarter q and equals zero otherwise. Another option recognizes that the timeframe in which analysts cater to managers can extend from before to after the equity underwriting process. Therefore, the second alternative variable measures the affiliation relationship beginning in the year prior to the offering through the year subsequent to the offering. Both measures yield results similar to those reported.

equity of firm *i* in quarter *q* (LOGMTB).[11] Firm profitability is measured by net income scaled by total assets of firm *i* in quarter *q* (ROA). The balance sheet of a firm may reflect the extent of income-increasing or optimistic accounting choices in previous periods, resulting in overstated assets in the current period. A "bloated" balance sheet may limit the degree of income-increasing accruals management firms can undertake in the current period. I measure BLOAT as the net operating assets of firm *i* at the beginning of quarter *q*. Extensive research indicates that firm reporting choices are influenced by regulatory reforms, one of which is the Sarbanes-Oxley Act of 2002 that had widespread impact on firms. To control for the effects of this regulatory change, I include a binary variable, SOX, which equals one if the firm-quarter-end reporting date is after the effective date of the Sarbanes-Oxley Act, August 29, 2002. In summary, LOGMV, GROWTH, VOLATILITY, FINANCING, LOGMTB, ROA, BLOAT and SOX are included in Eq. 4 to control for firm and regulatory environment characteristics.

2.5. Descriptive Statistics

Panels A, B, C and D of Table 2 present the descriptive statistics for the COMPUSTAT, IBES, MBE and JMBE samples, respectively. Panel A of Table 2 provides summary statistics of the COMPUSTAT sample, partitioned by analyst

[11] The descriptive statistics, provided in Table 2, the median values of market value and market-to-book ratio are considerably lower than the mean values, which indicate long right tails. Therefore, I used logarithmic forms of these variables in my tests.

coverage. A firm-quarter is included in the "Not on IBES" subsample if there are no analyst earnings forecasts for firm *i* in quarter *q*; otherwise it is included in the "On IBES" subsample. Firms with analyst coverage tend to be significantly larger than firms without coverage, with mean (median) market value of $4,580 million ($713 million), compared to $561 million ($63 million) in market value of firms without coverage. Analysts also tend to follow firms with better performance, as indicated by an average positive return on assets, compared to an average negative ROA for firms without a following. Additionally, covered firms tend to be more stable in growth, with a mean asset growth rate of nearly 6 percent, while uncovered firms are growing more quickly with a mean asset growth rate of 17 percent. It is worthwhile to note that firms with analyst following have lower levels of real earnings management. The aggregate measures for real earnings management, REM1 and REM2, are significantly lower for firms on IBES (mean REM1=-0.058 and REM2=-0.032) than those for firms not on IBES (mean REM1=-0.048 and REM2=-0.022).

Panels B, C and D of Table 2 present descriptive statistics of the IBES, MBE and JMBE samples, respectively, partitioned by level of analyst following. Firms are classified as having a low analyst following if the number of unique analysts issuing forecasts for firm *i* quarter *q* is less than the IBES sample median. Firms with high analyst coverage tend to be significantly larger, more profitable,

and experiencing less growth than firms with low analyst coverage. Importantly, firms with high following also have significantly lower levels of real earnings management in all three subsamples.

Panel A of Table 3 offers preliminary evidence that analysts have a monitoring influence on earnings management strategies. The panel indicates that 56.7 percent of firms followed by analysts manage real activities, which is significantly less than the 63.3 percent of firms not followed by analysts that engage in real management. In addition, 48.7 percent of firms with coverage use discretionary accruals compared to 50.6 percent of firms without coverage doing the same, which is consistent with the negative relation between analyst coverage and accruals management documented in prior studies. Panel B reports the association between the extent of analyst coverage and the frequency of real, accruals and expectations management. Firms with high analyst coverage are consistently associated with significantly less real management as well as less accruals management than firms with low analyst following. Furthermore, greater coverage is related to higher frequency of expectations guidance. This is in line with the idea that when managers are constrained in their earnings management strategy, they may turn to managing expectations.

Next, I examine the univariate relation between affiliation and each benchmark beating strategy. Panel C of Table 3 shows a strong trend across all

subsamples, where affiliated analysts are related to more earnings management (both real and accrual), while associated with less forecast guidance. Finally, Panel D of Table 3 provides early evidence that the level of experience is significantly related to each reporting strategy. Interestingly, higher experience levels are related to more real earnings management than lower experience. This is highly statistically significant in all subsamples. Firms with more experienced analysts tend to engage in significantly less, on average, accruals management than firms with less experienced analysts. Although higher experience also appears to be related to more expectations management, there is no significant difference in the means between the two levels.

Overall, Table 3 shows preliminary support that the presence of and extent of analyst coverage is associated with less frequency of real earnings management as well as accruals management. Greater extent of coverage is also related to more expectations management. Coverage by more affiliated analysts tends to be related to more real management and less forecast guidance. The level of experience is associated with more real operations management. The univariate evidence presented on income-increasing accruals management is consistent with findings from prior studies.

CHAPTER 3

Empirical Results

Consistent with prior literature, I find analyst following to be significantly positively associated with firm size, past firm performance, and growth and significantly negatively associated with financing activities and cash flow volatility. The results of estimating Eq. 3 are reported in Appendix 1. The residuals from this model (ABNCOVERAGE) are used in the subsequent tests as the measure of coverage extent (unless otherwise noted).

3.1. Analysts and Real Earnings Management

To test my first hypothesis, I estimate Eq. 4 with REM as the expectations beating strategy, which represents the decision to manage earnings through real activities. The results from the logistic regression are reported in Table 4. The first column reports the regression results estimated on the COMUPSTAT sample to test hypothesis H1a. The test variable of interest is an indicator variable, ON_IBES, that equals one if the firm-quarter in the COMPUSTAT sample is included in IBES, and equals zero otherwise. The coefficient on ON_IBES is negative and significant (coefficient=-0.1475, p-value<.0001), indicating that having any coverage is associated with lower likelihood of engaging in real management. Even

after controlling for other factors affecting the choice of reporting strategy, these results are consistent with the prima facie findings in Table 3 suggesting that analyst coverage is indeed associated with less income-increasing real earnings management.

The next three columns in Table 4 report the results of regressing REM over the IBES, MBE and JMBE samples, where the test variables of interest are ABNCOVERAGE, AFFILIATION and EXPERIENCE. These columns report the tests for hypothesis H1b. The results are qualitatively similar across the IBES, MBE and JMBE subsamples, so I limit my discussion to JMBE (unless otherwise noted), as these are the firm-quarters most likely to manage real activities. Note that the coefficients and statistical significance on the variables of interest are qualitatively similar across all subsamples. ABNCOVERAGE is negative and highly significant (coefficient=-0.0197, p-value=0.0003), suggesting that firms with more extensive analyst following are less likely to manage earnings upward through real transactions than firms with less coverage. The positive and significant coefficient on AFFILIATION (coefficient=0.1226, p-value<.0001) implies that firms covered by more affiliated analysts are more likely to partake in real earnings management. Thus, managers have a higher propensity to engage in upwards real earnings management when the firm is followed by analysts employed by brokerage houses that also underwrite equity issuances for the firm. Finally, the

negative and significant β_3 (EXPERIENCE coefficient=-0.0197, p-value=0.0002) supports the notion that firms followed by more experienced analysts are less likely to engage in income-increasing real management.

Given prior research on the effect of analysts on accruals management and forecast guidance (Liu, 2008; Yu, 2008), I do not frame formal hypotheses or tests on those benchmark beating strategies. However, for comparability to findings in other studies, I also estimate Eq. 4 on the probability of accruals management (AEM) and expectations management (EXPM). The results are presented in Appendices 2 and 3, respectively, and are largely consistent with earlier research. Appendix 2 presents the relation between analyst attributes and accruals management. Consistent with prior research, I find the probability of income-increasing accruals management is negatively associated with the extent of coverage and positively associated with affiliation. Not surprisingly, coverage by more non-independent analysts is related to greater probability of managing accruals. Experience is significantly positive in the IBES and MBE samples, suggesting an inducing effect by experienced analysts on the propensity to engage in upwards discretionary accruals. Appendix 3 reports the association between analysts and expectations management. Analyst following is significantly positive for all three subsamples, where the magnitude is greatest for the subsample of firms that just meet or beat earnings benchmarks. More coverage is related to greater

likelihood of expectations management, which is consistent with the univariate findings in Table 3. AFFILIATION is significantly negative in all subsamples, implying that coverage by non-independent analysts reduces the propensity to walk-down earnings expectations.

3.2. Analysts and Concurrent Real and Accruals Management

To test my second hypothesis (H2), I estimate Eq. 4 as a conditional logistic model. In Panel A of Table 5, I examine the choice of income-increasing real management conditional on accruals management (REM|AEM). Overall, the coefficients on ABNCOVERAGE and EXPERIENCE are negative and highly significant, indicating that a greater analyst following and more experienced analysts are associated with a lower propensity to manage real transactions. AFFILIATION is positive and highly significant, which implies when a firm is covered by more non-independent analysts, it is more likely to engage in income-increasing real management.

For completeness, I also examine the concurrent use of the two earnings management strategies by conditioning on REM. In Panel B of Table 5, the dependent variable is accruals management conditional on real management (AEM|REM). The results in Panel B report statistically insignificant coefficients on ABNCOVERAGE when REM=1, suggesting that larger analyst following does not

significantly reduce the probability of managing accruals once real management is considered as well. AFFILIATION is also consistently positive, implying that affiliated analysts are associated with more accruals management. Interestingly, the relation is statistically significant only in the REM=1 panel, so that firms engaging in real management are more likely to manage accruals also when they are covered by affiliated analysts. EXPERIENCE is consistently positive, which indicates that more experienced analysts are associated with more accruals management. This impact is statistically significant when firms do not also engage in real activities management. Thus, firms that do not manage real transactions have higher propensities to manage accruals when they have a more experienced following.

As a whole, the results in Table 5 suggest that firms may use accruals and real earnings management as substitutes, so that further research should consider these two strategies jointly.

3.3. Analysts and Concurrent Real and Expectations Management

Table 6 reports the results of testing my third hypothesis (H3). I estimate Eq. 4 as a conditional logistic model on the concurrent use of real earnings management and expectations management. In Panel A, I examine the impact of analysts on the likelihood of real management conditional on expectations management (REM|EXPM). Overall, the extent of coverage and experience is

significantly and negatively associated with the likelihood of real earnings management, while affiliation is significantly and positively associated with real management. This is consistent with the monitoring effect of analyst coverage and analyst experience and the inducing effect of affiliated analysts. The magnitudes of the coefficients on AFFILIATION when firms manage forecasts downward (EXPM=1) are consistently larger relative to firms not walking-down expectations. In addition, the magnitudes of the coefficients on EXPERIENCE when firms manage forecasts downward are consistently less negative relative to firms not managing forecasts. Together, this indicates that firms walking-down forecasts are more likely to manage real activities when they are followed by affiliated and experienced analysts. Unsurprisingly, these results are most pronounced in the JMBE subsample, as they are the firm-quarters most likely to engage in income-increasing real management and downwards forecast guidance to meet earnings expectations.

In Panel B of Table 6, I examine the impact of analysts on the likelihood of downwards expectations management conditional on real management (EXPM|REM). Overall, the results are consistent with regressions on unconditional expectations management, where expectations management is positively associated with the extent of coverage and negatively associated with affiliation. Similar to the results in Appendix 3, EXPERIENCE is statistically insignificant. AFFILIATION

is consistently negative and significant only for firms that do not manage real earnings (REM=0). This indicates that affiliated analysts are associated with significantly lower likelihood of managing expectations in firms that are not managing real earnings.

CHAPTER 4

Other Considerations

4.1. Endogeneity of Analyst Coverage

One challenge presented by my research setting is the endogenous relation between analyst coverage and firms' earnings expectations beating strategies. To mitigate endogeneity concerns about analyst coverage, I utilize an instrumental variable in a two-stage residual inclusion (2SRI) model (Imbens and Wooldridge, 2007). The instrumental variable, firm inclusion in the S&P500 index, is likely correlated with analyst coverage (Chang, Dasgupta and Hilary, 2006; Yu, 2008), but not with firms' benchmark beating strategy. The 2SRI approach requires first estimating a regression of endogenous variable, ABNCOVERAGE, on all exogenous factors including the instrumental variable and variables in my primary model (Eq. 4) and excluding ABNCOVERAGE. The first stage estimates the residuals, which are then included as a control variable in the primary model. In the second stage, the benchmark beating strategy is regressed on the variables of interest (ABNCOVERAGE, AFFILIATION, EXPERIENCE), firm characteristics and the residuals estimated from the first stage.

As an additional robustness test, I implement a two-stage least squares (2SLS) procedure to control for the endogeneity of analyst coverage. As in the

2SRI model, I estimate a regression of ABNCOVERAGE on the full set of instrumental and explanatory variables in the first stage. The first stage is used to estimate the predicted value of ABNCOVERAGE, which I denote Pred_ABNCVR. In the second stage, the benchmark beating strategy is regressed on Pred_ABNCVR, AFFILIATION, EXPERIENCE and firm characteristics from Eq. 4.

The results of these estimations are presented in Panels A and B of Table 7. For parsimony, I present the results on only the JMBE sample. These tests indicate that my main finding of real earnings management decreasing in the extent of coverage and analysts experience and increasing in affiliation are robust to controlling for endogeneity.

4.2. Additional forms of scrutiny

Besides scrutiny from financial analysts, firms are also subject to scrutiny from auditors. Prior research finds client firms of reputable auditors are less inclined to manage earnings (Becker et al. 1998). Hence, in additional tests, I re-estimate the regression models and include an indicator variable, BIG8, that equals one if the firm-quarter is audited by a Big 8 accounting firm. A Big 8 auditor includes: Arthur Andersen, Arthur Young & Co., Coopers & Lybrand, Ernst & Whinney, Deloitte Haskins & Sells, Peat Marwick Mitchell, Price Waterhouse and

Touche Ross. The results on the variables of interest in each regression (extent coverage, affiliation, experience) are qualitatively similar to those reported, thus untabulated. Consistent with findings from earlier studies, the coefficient on BIG8 is highly significant and negatively associated with income-increasing real earnings management and accruals management. BIG8 is also negatively associated with real management, conditional on accruals management, although the relation is significant only when the firm manages accruals (AEM=1). Similarly, BIG8 is significant and negatively associated with real management when conditioned on forecast guidance.

4.3. Changes in regulatory environment

Other than the Sarbanes-Oxley Act of 2002, a significant regulatory change that occurred during the sample period is the Global Settlement. On April 28, 2003, the National Association of Securities Dealers (NASD), Securities and Exchange Commission (SEC), New York Stock Exchange (NYSE), and ten investment banks finalized an agreement settling an investigation on alleged conflicts of interest between the investment banking and securities research divisions at the firms. The Global Settlement attempts to ensure independence of securities research by physically separating research analysts from investment bankers and by establishing Chinese walls between these divisions. I re-estimate the regression

models and replace the SOX control variable with GBS, an indicator variable that equals one if the firm-quarter is after April 28, 2003. The results (untabulated) are qualitatively similar to those reported.

4.4. Alternative measure of Real Earnings Management

Some activities may appear to be real earnings management, but are not strategically undertaken to meet earnings benchmarks. For example, firms may reduce discretionary expenses due to cash shortages, rather than to manage earnings. Firms may overproduce goods in anticipation of upcoming sales growth. Or firms may offer sales discounts to sell excess inventory. To better capture the cases in which firms opportunistically manage selling, general and administrative expenses, production costs, and cash flows from operations to overstate income, I define an alternative measure where REMTopQtr is an indicator variable that equals one if either REM1 or REM2 are in the top quartile of the sample, and equals zero otherwise. I estimate Eq. 4 as a logistic model with REMTopQtr regressed on analyst coverage attributes and firm characteristics. I conduct the same tests on the IBES, MBE and JMBE subsamples and the results are qualitatively similar. For parsimony, only the results on the JMBE subsample are tabulated hereafter (unless otherwise noted). The results are provided in Table 8.

Panel A of Table 8 reports the results of the logistic model. For comparability, the first column presents the results of regressing REM in Eq. 4. The second column reports the coefficients from regressing REMTopQtr in Eq. 4.[12] The coefficient estimates are qualitatively similar between both regressions. The extent of analyst coverage and analyst experience is associated with lower probability of firms managing real earnings, while analyst affiliation is related to greater likelihood of real earnings management. These estimates are statistically significant at the 1 percent level in both regressions, with the exception of REMTopQtr regressed on EXPERIENCE (p-value=0.6017).

For the economic significance of these results, refer to the average marginal effects presented in Panel A of Table 8. An increase of one analyst covering a firm-quarter is associated with less than a 1 percent decreased probability of real earnings management, all else equal. Likewise, an increase of average analyst experience by one quarter is associated with less than a 1 percent decreased likelihood of managing real activities, all else constant. Finally, coverage by an additional non-independent analyst is associated with a 2 percent increased likelihood of managing real operations, *ceteris paribus*.

Next, I regress continuous measures of real earnings management, REM1 and REM2, and estimate Eq. 4 as an ordinary least squares (OLS) model to

[12] For completeness, I include a similar robustness test on discretionary accruals. See Appendix 4. The results are qualitatively similar to Appendix 2.

examine the magnitude of the relation between real earnings management and analyst attributes. The results presented in Panel B of Table 8 are consistent with the findings in Panel A.

4.5. Variations across magnitude of Accruals Earnings Management

The evidence provided in Table 5 suggests that real earnings management and accruals earnings management may be substitute mechanisms in the presence of analysts. To examine more closely the impact of analyst attributes on the concurrent use of real and accruals earnings management, I partition the sample into quartiles of discretionary accruals and estimate Eq. 4 with the four measures of real earnings management discussed above. Panels A, B, C and D of Table 9 present the results of estimating REM, REMTopQtr, REM1 and REM2, respectively, on the JMBE sample across quartiles of discretionary accruals. (The regression results from estimating the model on the IBES and MBE subsamples are qualitatively similar, thus untabulated.) Control variables are suppressed for parsimony. The results reported in Panels A and B are of logistic models regressing binary variables, REM and REMTopQtr. The results provided in Panels C and D are of OLS models regressing continuous variables, REM1 and REM2.

My discussion focuses on the bottom and top quartiles of discretionary accruals, Quartile 1 and Quartile 4, respectively. The coefficient signs indicate that

analyst coverage and experience continue to be negatively associated with real earnings management, while affiliation is consistently positively related to managing real activities, in both probability and magnitude. In general, the estimates are statistically significant at the 10 percent level or better. (In Panel B, however, EXPERIENCE is negative but not statistically significant.) These results support those reported in Table 5.

An F-test on the OLS results reported in Panels C and D provides modest evidence of firms substituting real activities management with discretionary accruals to meet income targets. In Panel C, the coefficient difference of ABNCOVERAGE between the top and bottom quartiles is not statistically significant (unreported p-value=0.5941), and in Panel D is highly significant (unreported p-value<.0001). The negative association between coverage and real earnings management is most pronounced among firms in the top quartile of discretionary accruals, relative to firms in the bottom quartile. This suggests that analyst coverage has a stronger negative impact on the level of real earnings management among firms with the highest levels of discretionary accruals than among firms with the lowest levels of accruals. This is consistent with the notion that firms limit managing real activities when under greater scrutiny, and shift to using more income-increasing discretionary accruals to meet or beat earnings benchmarks.

Next, the coefficients on AFFILIATION are consistently positive, implying that non-independent analysts are related to higher probability and levels of real earnings management. The OLS results in Panel C and D show this association is more prominent for firms engaging in less accruals management than firms using more discretionary accruals. An F-test indicates that the coefficient difference on AFFILIATION between the top and bottom accruals quartiles is insignificant in Panel C (unreported p-value=0.4465) and highly significant in Panel D (unreported p-value=0.0052). Firms covered by more non-independent analysts shift away from discretionary accruals to managing more real operations.

Lastly, I examine the effect of analysts' experience on real earnings management across levels of discretionary accruals. The negative relation between EXPERIENCE and real earnings management is strongest in the bottom quartile of discretionary accruals (except in Panel B). The OLS results in Panels C and D of Table 9 show that experience is more negative among firms with the lowest levels of accruals than among firms with the highest levels of discretionary accruals. The difference in EXPERIENCE between Quartile 1 and Quartile 4 is statistically significant in Panel C (unreported p-value from F-test=0.0056) and Panel D (unreported p-value from F-test<.0001). This implies that, all else equal, analyst experience is related to lower levels of real earnings management. The evidence is consistent with the idea that more experienced analysts are better able than less

experienced analysts to identify managed earnings, thus firms opportunistically manage both real earnings and discretionary accruals less.

Overall, the findings in Table 9 imply that certain coverage attributes prompt firms to trade off their earnings management strategies. Managers may construe more analyst coverage as greater monitoring of firm activities, thereby reduce managing real activities. To meet earnings benchmarks, they may substitute managing real earnings with income-increasing discretionary accruals. Relatedly, managers may perceive more experienced analysts as having greater ability to detect earnings management, and thereby reduce overall earnings management. In contrast, coverage by non-independent analysts motivate firms to manage more real transactions and less discretionary accruals.

4.6. Variations across Analysts' Forecast Revision Type

As a robustness test to the analysis in Table 6, I examine the relation between analyst attributes and real earnings management conditional on the type of expectations management. I categorize analysts' forecast revisions into three groups: NEGATIVE, NEUTRAL and POSITIVE. A negative revision suggests that managers issued downward guidance to walk down analysts' expectations. A neutral revision indicates no change in analysts' forecasts, suggesting that

managers did not issue guidance.[13] A positive revision implies that managers issued optimistic guidance.

Table 10 provides results that are consistent with those in Table 6. Panels A and B show the regression results of logistic models, while Panels C and D provide those on OLS models. Panels C and D show that analyst coverage has the strongest negative relation to the level of real earnings management when firms issue negative guidance relative to firms that issue non-negative guidance. An (unreported) F-test p-value in Panel C=0.0229 and in Panel D=0.0270, indicating that this difference is statistically significant. Furthermore, AFFILIATION is positively associated with the probability and level of real earnings management, across all forecast revision types. This positive relation is strongest among firms that walk down analysts' expectations, suggesting that firms followed by affiliated analysts are more likely to use real earnings management concurrently with negative guidance to achieve earnings benchmarks. The difference between Negative Revisions vs. Neutral and Positive Revisions is statistically significant. (F-test Panel C p-value=0.0579; Panel D p-value=0.0575).

Taken together, the results from Table 10 indicate that firms covered by more analysts and by more experienced analysts are less likely to manage real

[13] A neutral analyst forecast revision could also indicate that analysts simply did not revise their estimates, even if management did issue pessimistic or optimistic guidance. This may contribute additional noise, but not systematic bias, in my tests, and as such, would not significantly alter my results. To directly address this concern, however, in future research a less noisy measure of expectations management can be used (for example, management issued guidance).

activities. This negative relation is weakest among firms that issue downward guidance. In other words, the probability of managing real activities is higher among firms that also issue negative guidance, relative to firms issuing non-negative guidance. Moreover, non-independent analysts are positively related to the probability of managing real earnings, and the relation is strongest among firms that also manage expectations downwards. Overall, I interpret the findings from this supplementary test as support that firms jointly use real earnings management and downward expectations management to meet or beat earnings benchmarks.

CONCLUSION

This study examines the influence of three attributes of analyst coverage on firms' benchmark beating strategies, which include income-increasing real earnings management and discretionary accruals management and downward expectations management. Using the extent of coverage, affiliation, and experience as measures of analyst coverage attributes, I find firms are less likely to manage real activities when they are covered more extensively and by experienced analysts, and are more likely to engage in real management when they are covered by affiliated analysts. My findings indicate that coverage and experience (affiliation) are related to decreased (increased) probabilities and levels of real earnings management. I also examine the concurrent use of upwards real and accruals management. I document that the concurrent use of these earnings management strategies decreases in the extent of coverage and experience of analysts, and increases in analyst affiliation. Furthermore, the negative association between coverage and income-increasing real earnings management is most prominent among firms with the highest levels of discretionary accruals, suggesting that managers use the two strategies as substitutes. Finally, I investigate the use of real earnings management in conjunction with forecast guidance. I show that extent of coverage and experience is related to lower propensities to manage real activities and earnings expectations,

while affiliation is associated with higher propensities for these strategies. Supplementary tests provide modest evidence that managing real activities and guiding expectations downward may be complementary strategies to meet or beat earnings benchmarks. Overall, my results indicate that certain analyst coverage attributes, specifically the extent of coverage and experience, are consistently associated with less income-increasing real earnings management, while analyst affiliation is associated with more.

My findings contribute to the literature on the role of analysts as market intermediaries, their impact on financial reporting decisions and the quality of financial information disclosed by firms. Furthermore, I add to our understanding of factors influencing the choice of real earnings management among a portfolio of earnings expectations beating strategies.

Table 1
Sample Selection

Sample Selection Procedure	Number of Firm-Quarters	Number of Distinct Firms
Quarterly financial data between January 1988-May 2010 from Compustat database	888,837	23,420
less observations missing required financial data for analysis	(577,373)	(7,565)
	311,464	15,855
less observations in 2-digit SICs with fewer than 8 observations	(5,218)	(99)
	306,246	15,756
less observations in regulated industries[1]	(45,291)	(2,718)
Firms with available data for non-regulated industries (The "COMPUSTAT" sample):	260,955	13,038
less observations not on the IBES database	(177,343)	(6,712)
Firms with available financial and analyst data (The "IBES" sample):	83,612	6,326
less observations with negative earnings surprise[2]	(37,645)	(991)
Meet or Beat (The "MBE" sample):	45,967	5,335
retain observations where earnings surprise is positive and less than 5 cents	(14,725)	(861)
Just Meet or Beat (The "JMBE" sample):	31,242	4,474

[1] Regulated industry SIC codes that are excluded from analysis are: 4000-4499 (transportation), 4800-4999 (communications and utilities), and 6000-6999 (finance, insurance and real estate).

[2] Earnings surprise is the difference between the actual (reported) earnings per share and the expected earnings per share (last analyst forecast value).

Table 2
Descriptive Statistics

Panel A. The COMPUSTAT Sample

	Not on IBES						On IBES						
Variable	n	mean	std	Q1	median	Q3	n	mean	std	Q1	median	Q3	p-value
REM1	177,343	-0.048	0.147	-0.116	-0.041	0.021	83,612	-0.058	0.120	-0.115	-0.049	0.007	<.001
REM2	177,343	-0.022	0.093	-0.067	-0.020	0.024	83,612	-0.032	0.075	-0.069	-0.028	0.009	<.001
MarketValue	177,343	561	5,000	33	63	174	83,612	4,580	18,964	246	713	2,318	<.001
Market-to-Book	177,343	4.038	78.725	0.842	1.638	3.523	83,612	1.995	2.757	0.762	1.315	2.329	<.001
ROA	177,343	-0.027	0.626	-0.030	0.004	0.019	83,612	0.006	0.059	0.002	0.014	0.026	<.001
Growth	177,343	0.172	14.229	-0.040	0.006	0.057	83,612	0.059	0.391	-0.012	0.019	0.059	0.001
Financing	177,343	0.105	7.728	-0.013	0.000	0.022	83,612	0.025	0.253	-0.016	-0.001	0.012	<.001
Volatility	177,343	0.159	2.492	0.032	0.055	0.108	83,612	0.070	0.300	0.022	0.036	0.065	<.001
AnalystCoverage	177,343	0	0	0	0	0	83,612	11.327	8.942	5.000	9.000	15.000	--
Affiliation	177,343	0	0	0	0	0	83,612	0.214	0.822	0.000	0.000	0.000	--
Experience	177,343	0	0	0	0	0	83,612	9.959	5.879	5.500	8.900	13.429	--

Panel B. The IBES Sample

	Low Analyst Coverage						High Analyst Coverage						
Variable	n	mean	std	Q1	median	Q3	n	mean	std	Q1	median	Q3	p-value
REM1	36,298	-0.056	0.129	-0.119	-0.047	0.014	47,314	-0.059	0.113	-0.113	-0.051	0.002	0.001
REM2	36,298	-0.027	0.081	-0.068	-0.024	0.017	47,314	-0.036	0.070	-0.070	-0.031	0.003	<.001
MarketValue	36,298	721	3,112	135	288	677	47,314	7,541	24,656	580	1,574	4,781	<.001
Market-to-Book	36,298	2.055	2.944	0.766	1.324	2.376	47,314	1.948	2.603	0.760	1.310	2.291	<.001
ROA	36,298	0.001	0.064	0.000	0.013	0.025	47,314	0.009	0.054	0.004	0.015	0.027	<.001
Growth	36,298	0.072	0.405	-0.015	0.018	0.063	47,314	0.048	0.379	-0.011	0.019	0.056	<.001
Financing	36,298	0.045	0.338	-0.013	0.000	0.017	47,314	0.010	0.159	-0.018	-0.002	0.010	<.001
Volatility	36,298	0.082	0.205	0.026	0.042	0.078	47,314	0.060	0.356	0.020	0.031	0.056	<.001
AnalystCoverage	36,298	4.730	1.539	3.000	5.000	6.000	47,314	16.389	8.970	10.000	13.000	20.000	<.001
Affiliation	36,298	0.243	0.821	0.000	0.000	0.000	47,314	0.193	0.823	0.000	0.000	0.000	<.001
Experience	36,298	8.245	5.871	4.000	6.800	11.000	47,314	11.275	5.536	7.031	10.438	14.793	<.001

Table 2 (continued)
Descriptive Statistics

Panel C. The MBE Sample

	Low Analyst Coverage						High Analyst Coverage						
Variable	n	mean	std	Q1	median	Q3	n	mean	std	Q1	median	Q3	p-value
REM1	20,527	-0.058	0.131	-0.122	-0.050	0.013	25,440	-0.061	0.112	-0.115	-0.054	0.000	0.036
REM2	20,527	-0.027	0.081	-0.068	-0.024	0.017	25,440	-0.034	0.070	-0.069	-0.031	0.004	<.001
MarketValue	20,527	752	2,233	152	332	763	25,440	8,628	27,232	654	1,817	5,526	<.001
Market-to-Book	20,527	2.258	3.400	0.803	1.422	2.588	25,440	2.142	3.065	0.794	1.401	2.486	<.001
ROA	20,527	0.002	0.067	0.002	0.014	0.026	25,440	0.009	0.056	0.004	0.016	0.028	<.001
Growth	20,527	0.084	0.450	-0.011	0.021	0.068	25,440	0.055	0.462	-0.008	0.020	0.057	<.001
Financing	20,527	0.054	0.365	-0.011	0.000	0.017	25,440	0.015	0.176	-0.017	-0.001	0.010	<.001
Volatility	20,527	0.084	0.207	0.026	0.044	0.081	25,440	0.058	0.134	0.020	0.032	0.056	<.001
AnalystCoverage	20,527	4.740	1.526	4.000	5.000	6.000	25,440	15.685	8.064	10.000	13.000	19.000	<.001
Affiliation	20,527	0.296	0.907	0.000	0.000	0.000	25,440	0.219	0.880	0.000	0.000	0.000	<.001
Experience	20,527	8.371	5.913	4.000	7.000	11.000	25,440	11.704	5.786	7.240	10.818	15.462	<.001

Panel D. The JMBE Sample

	Low Analyst Coverage						High Analyst Coverage						
Variable	n	mean	std	Q1	median	Q3	n	mean	std	Q1	median	Q3	p-value
REM1	13,998	-0.063	0.127	-0.124	-0.052	0.007	17,244	-0.068	0.110	-0.122	-0.060	-0.007	0.001
REM2	13,998	-0.029	0.079	-0.070	-0.025	0.014	17,244	-0.037	0.068	-0.072	-0.034	0.000	<.001
MarketValue	13,998	728	1,506	159	338	756	17,244	9,497	29,661	712	1,904	6,085	<.001
Market-to-Book	13,998	2.277	3.121	0.867	1.501	2.630	17,244	2.343	3.265	0.931	1.579	2.704	0.070
ROA	13,998	0.010	0.051	0.005	0.015	0.026	17,244	0.015	0.040	0.007	0.017	0.029	<.001
Growth	13,998	0.077	0.361	-0.006	0.024	0.069	17,244	0.058	0.513	-0.004	0.023	0.059	<.001
Financing	13,998	0.043	0.308	-0.011	0.001	0.018	17,244	0.012	0.164	-0.017	-0.001	0.011	<.001
Volatility	13,998	0.082	0.200	0.026	0.043	0.079	17,244	0.059	0.122	0.020	0.032	0.057	<.001
AnalystCoverage	13,998	4.744	1.523	4.000	5.000	6.000	17,244	15.728	8.071	10.000	13.000	19.000	<.001
Affiliation	13,998	0.306	0.929	0.000	0.000	0.000	17,244	0.209	0.870	0.000	0.000	0.000	<.001
Experience	13,998	8.376	5.783	4.000	7.000	11.143	17,244	11.662	5.691	7.267	10.800	15.353	<.001

COMPUSTAT sample is comprised of all firms in Compustat between January 1988-May 2010 with required financial data and not in regulated industries (financial, utilities, communications, regulated transportation). A firm-quarter from COMPUSTAT is in the IBES sample if there is at least one analyst earnings forecast issued for firm i for quarter q. A firm-quarter is flagged as having Low Analyst Following if the number of unique analysts issuing forecasts for firm i quarter q is less than the IBES sample median; otherwise if the number of unique analysts issuing forecasts for firm i quarter q is greater than the IBES sample median, the firm-quarter is flagged as having High Analyst Following. A firm-quarter from IBES is in the MBE sample if firm i has non-negative SURPRISE for quarter q. A firm-quarter from IBES is in the JMBE sample if firm i has a non-negative SURPRISE between zero and five cents for quarter q. See Appendix A for other variable definitions. Statistical differences in means are presented by p-values.

Table 3

Descriptive Statistics of Earnings Expectations Beating Strategies by Attribute

Panel A. No Coverage or Coverage

	Not on IBES		On IBES		
Strategy	n	Mean	n	Mean	signif
REM	177,343	0.633	83,612	0.567	***
AEM	177,343	0.506	83,612	0.487	***
EXPM	n/a	n/a	83,612	0.456	n/a

Panel B. Extent of Coverage

	IBES					MBE					JMBE				
	Low		High			Low		High			Low		High		
Strategy	n	Mean	n	Mean	signif	n	Mean	n	Mean	signif	n	Mean	n	Mean	signif
REM	36,298	0.595	47,314	0.544	***	20,527	0.590	25,440	0.537	***	13,998	0.575	17,244	0.507	***
AEM	36,298	0.505	47,314	0.474	***	20,527	0.508	25,440	0.472	***	13,998	0.522	17,244	0.476	***
EXPM	36,298	0.450	47,314	0.461	**	20,527	0.498	25,440	0.513	***	13,998	0.456	17,244	0.481	***

Panel C. Affiliation

	IBES					MBE					JMBE				
	Low		High			Low		High			Low		High		
Strategy	n	Mean	n	Mean	signif	n	Mean	n	Mean	signif	n	Mean	n	Mean	signif
REM	77,044	0.563	6,568	0.610	***	41,770	0.557	4,197	0.598	***	28,470	0.534	2,772	0.573	***
AEM	77,044	0.484	6,568	0.521	***	41,770	0.485	4,197	0.518	***	28,470	0.493	2,772	0.536	***
EXPM	77,044	0.460	6,568	0.415	***	41,770	0.510	4,197	0.468	***	28,470	0.474	2,772	0.427	***

Panel D. Experience

	IBES					MBE					JMBE				
	Low		High			Low		High			Low		High		
Strategy	n	Mean	n	Mean	signif	n	Mean	n	Mean	signif	n	Mean	n	Mean	signif
REM	41,821	0.556	41,791	0.577	***	22,417	0.548	23,550	0.573	***	15,185	0.526	16,057	0.549	***
AEM	41,821	0.492	41,791	0.483	**	22,417	0.487	23,550	0.489		15,185	0.504	16,057	0.490	**
EXPM	41,821	0.454	41,791	0.458		22,417	0.505	23,550	0.508		15,185	0.466	16,057	0.474	

IBES sample is a subset of the COMPUSTAT sample, where the COMPUSTAT sample is comprised of all firms in Compustat between 1988-2010 with required financial data and not in regulated industries (financial, utilities, communications, regulated transportation). A firm-quarter is in the IBES sample if there is at least one analyst earnings forecast issued for firm i for quarter q. MBE sample is a subset of the IBES sample. A firm-quarter is in the MBE sample if firm i has non-negative SURPRISE for quarter q.. A firm-quarter is in the JMBE sample if firm i has non-negative SURPRISE for quarter q that is between zero and five cents. A firm-quarter is flagged as having Low ANALYST COVERAGE if the number of unique analysts issuing forecasts for firm i quarter q is less than the IBES sample median; otherwise if the number of unique analysts issuing forecasts for firm i quarter q is greater than the IBES sample median, the firm-quarter is flagged as having High Analyst Following. The sample median of number of unique analysts issuing forecasts for firm i in quarter q is computed on sample of firm-quarters that have an analyst following (i.e., IBES sample). A firm-quarter is flagged as having High Affiliated Analysts if the firm-quarter's AFFILIATION is higher than the IBES sample mean. A firm-quarter is flagged as having High Experienced Analyst if the firm-quarter's EXPERIENCE is higher than the IBES sample median. See Appendix A for other variable definitions. Statistical differences in means are denoted by ***, **, * for significance at 1%, 5%, and 10%, respectively.

Table 4

Analyst Coverage Attributes and the Probability of Real Earnings Management

Model:

$$Prob(REM)_{iq} = \alpha + \beta_1 ON\_IBES_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 Bloat_{iq} + \gamma_8 SOX_{iq} + \varepsilon_{iq}$$

$$Prob(REM)_{iq} = \alpha + \beta_1 ABNCOVERAGE_{iq} + \beta_2 AFFILIATION_{iq} + \beta_3 EXPERIENCE_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 Bloat_{iq} + \gamma_8 SOX_{iq} + \varepsilon_{iq}$$

	COMPUSTAT		IBES		MBE		JMBE	
Variable	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$
Intercept	1.191	<.001	0.208	0.510	-0.038	0.929	-0.420	0.513
Test Variables:								
ON_IBES	**-0.147**	**<.001**						
ABNCOVERAGE			**-0.016**	**<.001**	**-0.018**	**<.001**	**-0.020**	**<.001**
AFFILIATION			**0.123**	**<.001**	**0.121**	**<.001**	**0.123**	**<.001**
EXPERIENCE			**-0.019**	**<.001**	**-0.018**	**<.001**	**-0.020**	**<.001**
Control Variables:								
LogMV	-0.042	<.001	0.099	<.001	0.105	<.001	0.136	<.001
LogMTB	-0.387	<.001	-0.819	<.001	-0.829	<.001	-0.926	<.001
ROA	-0.809	<.001	-2.035	<.001	-2.795	<.001	-3.440	<.001
GROWTH	-0.027	0.146	-0.262	0.001	-0.201	0.013	-0.215	0.015
VOLATILITY	0.013	0.148	0.016	0.886	0.066	0.696	0.139	0.462
FINANCING	0.109	0.001	0.597	<.001	0.484	<.001	0.510	<.001
BLOAT	0.011	0.002	0.152	<.001	0.138	<.001	0.317	0.005
SOX	-0.220	<.001	-0.307	<.001	-0.343	<.001	-0.437	<.001
Quarter Indicators	Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes	
Total Observations	254,798		82,055		45,071		30,638	
Percent Concordant	70.80%		76.00%		76.30%		76.40%	
Likelihood Ratio	34019.22		18170.39		10214.45		7044.41	
$Pr > \chi^2$	<.0001		<.0001		<.0001		<.0001	

See Appendix A for variable definitions. Standard errors are clustered at the firm level.

Table 5
Analyst Coverage Attributes and Concurrent Real and Accruals Earnings Management

Panel A. Real Earnings Management, conditional on Accrual Earnings Management

Model: $\text{Prob}(REM \mid AEM)_{iq} = \alpha + \beta_1 ABNCOVERAGE_{iq} + \beta_2 AFFILIATION_{iq} + \beta_3 EXPERIENCE_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 Bloat_{iq} + \gamma_8 SOX_{iq} + \varepsilon_{iq}$

	AEM = 0				AEM = 1			
	IBES		MBE		JMBE		IBES		MBE		JMBE	
Variable	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$
Intercept	-0.513	0.305	-0.749	0.318	-0.840	0.270	0.839	0.029	0.862	0.158	0.026	0.977
Test Variables:												
ABNCOVERAGE	**-0.015**	**0.001**	**-0.017**	**0.002**	**-0.019**	**0.002**	**-0.014**	**0.001**	**-0.017**	**0.003**	**-0.017**	**0.005**
AFFILIATION	**0.101**	**<.001**	**0.093**	**0.001**	**0.091**	**0.001**	**0.132**	**<.001**	**0.135**	**<.001**	**0.138**	**<.001**
EXPERIENCE	**-0.016**	**0.001**	**-0.019**	**0.001**	**-0.019**	**0.003**	**-0.025**	**<.001**	**-0.022**	**<.001**	**-0.022**	**<.001**
Control Variables:												
LogMV	0.149	<.001	0.154	<.001	0.182	<.001	0.070	0.014	0.084	0.007	0.118	0.001
LogMTB	-0.873	<.001	-0.894	<.001	-1.029	<.001	-0.816	<.001	-0.824	<.001	-0.873	<.001
ROA	-2.487	<.001	-2.952	<.001	-3.189	<.001	-9.970	<.001	-10.565	<.001	-13.171	<.001
GROWTH	-0.015	0.768	-0.019	0.542	0.026	0.665	-0.361	0.005	-0.447	0.016	-0.444	0.053
VOLATILITY	0.048	0.678	0.066	0.668	0.210	0.247	0.059	0.708	0.188	0.467	0.236	0.406
FINANCING	0.248	0.001	0.244	<.001	0.162	0.110	0.517	0.001	0.556	0.005	0.533	0.041
BLOAT	0.186	<.001	0.190	<.001	0.442	0.004	0.116	0.004	0.098	0.004	0.219	0.024
SOX	-0.290	<.001	-0.341	<.001	-0.438	<.001	-0.257	<.001	-0.286	<.001	-0.344	<.001
Quarter Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Total Observations	41,987		23,001		15,366		40,068		22,070		15,272	
Percent Concordant	77.10%		77.90%		78.10%		77.50%		77.40%		77.20%	
Likelihood Ratio	10311.30		5992.03		4032.50		9129.23		4956.94		3460.83	
$Pr > \chi^2$	<.0001		<.0001		<.0001		<.0001		<.0001		<.0001	

Table 5 (continued)
Analyst Coverage Attributes and Concurrent Real and Accruals Earnings Management

Panel B. Accrual Earnings Management, conditional on Real Earnings Management

Model: $Prob(AEM \mid REM)_{iq} = \alpha + \beta_1 ABNCOVERAGE_{iq} + \beta_2 AFFILIATION_{iq} + \beta_3 EXPERIENCE_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 Bloat_{iq} + \gamma_8 SOX_{iq} + \varepsilon_{iq}$

	REM = 0						REM = 1					
	IBES		MBE		JMBE		IBES		MBE		JMBE	
Variable	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$
Intercept	-0.138	0.617	-0.501	0.142	-0.194	0.698	1.198	<.0001	0.986	0.018	0.574	0.173
Test Variables:												
ABNCOVERAGE	**-0.009**	**0.001**	**-0.007**	**0.032**	**-0.009**	**0.038**	**-0.002**	**0.403**	**-0.003**	**0.404**	**-0.001**	**0.816**
AFFILIATION	**0.004**	**0.815**	**0.011**	**0.584**	**0.009**	**0.704**	**0.044**	**0.001**	**0.054**	**0.001**	**0.037**	**0.058**
EXPERIENCE	**0.013**	**<.001**	**0.012**	**0.002**	**0.009**	**0.069**	**0.004**	**0.071**	**0.006**	**0.069**	**0.002**	**0.665**
Control Variables:												
LogMV	-0.028	0.109	-0.037	0.086	-0.044	0.119	-0.073	<.001	-0.065	<.001	-0.050	0.009
LogMTB	0.114	<.001	0.129	<.001	0.111	0.005	0.147	<.001	0.144	<.001	0.151	<.001
ROA	15.174	<.001	13.408	<.001	14.927	<.001	11.812	<.001	10.319	<.001	11.675	<.001
GROWTH	-2.261	<.001	-2.067	0.011	-2.175	0.092	-1.727	<.001	-2.059	<.001	-2.564	<.001
VOLATILITY	-0.072	0.404	-0.071	0.507	-0.085	0.551	-0.179	0.059	-0.136	0.303	-0.210	0.287
FINANCING	2.801	<.001	2.448	0.002	2.680	0.036	2.617	<.001	2.698	<.001	4.529	<.001
BLOAT	-0.026	0.718	-0.066	0.578	-0.213	0.405	0.000	0.001	-0.001	0.038	-0.010	0.349
SOX	-0.199	<.001	-0.176	<.001	-0.258	<.001	-0.118	<.001	-0.091	0.011	-0.143	0.001
Quarter Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Total Observations	35,326		19,674		14,061		46,729		25,397		16,577	
Percent Concordant	64.90%		63.80%		63.60%		64.30%		63.50%		64.60%	
Likelihood Ratio	2489.05		1184.52		806.42		3051.24		1485.65		943.55	
$Pr > \chi^2$	<.0001		<.0001		<.0001		<.0001		<.0001		<.0001	

See Appendix A for variable definitions. Standard errors are clustered at the firm level.

Table 6
Analyst Coverage Attributes and Concurrent Real Earnings and Expectations Management

Panel A. Real Earnings Management, conditional on Expectations Management

Model: $Prob(REM \mid EXPM)_{iq} = \alpha + \beta_1 ABNCOVERAGE_{iq} + \beta_2 AFFILIATION_{iq} + \beta_3 EXPERIENCE_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 Bloat_{iq} + \gamma_8 SOX_{iq} + \varepsilon_{iq}$

	EXPM = 0				EXPM = 1			
	IBES		MBE		JMBE		IBES		MBE		JMBE	
Variable	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$
Intercept	0.227	0.475	-0.346	0.525	-0.346	0.651	0.151	0.676	0.132	0.751	-0.761	0.257
Test Variables:												
ABNCOVERAGE	**-0.014**	**0.001**	**-0.019**	**0.002**	**-0.020**	**0.002**	**-0.018**	**<.001**	**-0.018**	**<.001**	**-0.020**	**<.001**
AFFILIATION	**0.104**	**<.001**	**0.092**	**<.001**	**0.085**	**0.001**	**0.152**	**<.001**	**0.160**	**<.001**	**0.177**	**<.001**
EXPERIENCE	**-0.020**	**<.001**	**-0.021**	**<.001**	**-0.023**	**<.001**	**-0.017**	**<.001**	**-0.015**	**0.004**	**-0.015**	**0.012**
Control Variables:												
LogMV	0.097	<.001	0.109	0.001	0.138	<.001	0.104	<.001	0.103	<.001	0.140	<.001
LogMTB	-0.834	<.001	-0.843	<.001	-0.912	<.001	-0.796	<.001	-0.812	<.001	-0.940	<.001
ROA	-2.608	<.001	-3.615	<.001	-4.796	<.001	-1.520	<.001	-2.284	<.001	-2.377	<.001
GROWTH	-0.146	0.083	-0.068	0.427	-0.268	0.049	-0.419	0.005	-0.327	0.036	-0.181	0.090
VOLATILITY	-0.010	0.936	-0.027	0.875	0.003	0.987	0.038	0.738	0.149	0.465	0.314	0.182
FINANCING	0.404	<.001	0.263	0.024	0.504	0.002	0.850	<.001	0.705	<.001	0.555	0.005
BLOAT	0.142	<.001	0.119	<.001	0.248	0.016	0.169	0.009	0.165	0.018	0.455	0.023
SOX	-0.357	<.001	-0.413	<.001	-0.516	<.001	-0.246	<.001	-0.273	<.001	-0.338	<.001
Quarter Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Total Observations	44,648		22,296		16,253		37,407		22,775		14,385	
Percent Concordant	76.30%		76.70%		76.70%		75.80%		76.10%		76.40%	
Likelihood Ratio	10189.12		5269.43		3828.73		8017.07		4998.13		3285.66	
$Pr > \chi^2$	<.0001		<.0001		<.0001		<.0001		<.0001		<.0001	

Table 6 (continued)
Analyst Coverage Attributes and Concurrent Real Earnings and Expectations Management

Panel B. Expectations Management, conditional on Real Earnings Management

Model: $Prob(EXPM \mid REM)_{iq} = \alpha + \beta_1 ABNCOVERAGE_{iq} + \beta_2 AFFILIATION_{iq} + \beta_3 EXPERIENCE_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 Bloat_{iq} + \gamma_8 SOX_{iq} + \varepsilon_{iq}$

	REM = 0						REM = 1					
	IBES		MBE		JMBE		IBES		MBE		JMBE	
Variable	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$
Intercept	0.371	0.040	0.951	<.001	1.572	<.001	0.484	0.010	1.388	<.001	1.702	<.001
Test Variables:												
ABNCOVERAGE	**0.008**	**<.001**	**0.009**	**0.002**	**0.016**	**<.001**	**0.008**	**<.001**	**0.009**	**0.003**	**0.016**	**<.001**
AFFILIATION	**-0.066**	**<.001**	**-0.077**	**<.001**	**-0.088**	**<.001**	**-0.024**	**0.036**	**-0.020**	**0.169**	**-0.013**	**0.466**
EXPERIENCE	**-0.0002**	**0.932**	**-0.001**	**0.766**	**-0.0003**	**0.946**	**0.0004**	**0.836**	**0.002**	**0.534**	**0.004**	**0.257**
Control Variables:												
LogMV	-0.025	0.012	-0.013	0.349	-0.040	0.024	-0.028	0.005	-0.020	0.136	-0.059	<.001
LogMTB	-0.186	<.001	-0.186	<.001	-0.184	<.001	-0.167	<.001	-0.187	<.001	-0.194	<.001
ROA	-1.294	<.001	-0.049	0.855	-0.804	0.055	-0.734	<.001	0.186	0.352	-0.013	0.972
GROWTH	0.051	0.315	0.117	0.026	0.064	0.319	-0.268	0.007	-0.215	0.071	-0.090	0.509
VOLATILITY	-0.079	0.215	-0.120	0.167	-0.232	0.076	-0.046	0.502	-0.003	0.973	-0.048	0.748
FINANCING	-0.058	0.424	-0.236	0.013	-0.171	0.144	0.362	0.001	0.243	0.067	-0.029	0.876
BLOAT	0.022	0.559	-0.022	0.732	0.113	0.314	0.0001	<.001	-0.0005	0.537	0.0001	0.970
SOX	-0.158	<.001	-0.215	<.001	-0.304	<.001	-0.065	0.005	-0.109	0.001	-0.167	<.001
Quarter Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Total Observations	35,326		19,674		14,061		46,729		25,397		16,577	
Percent Concordant	57.00%		63.10%		64.60%		56.20%		61.00%		62.40%	
Likelihood Ratio	603.24		1145.44		1052.69		638.05		1012.24		915.95	
$Pr > \chi^2$	<.0001		<.0001		<.0001		<.0001		<.0001		<.0001	

See Appendix A for variable definitions. Standard errors are clustered at the firm level.

Table 7

Analysts and Benchmark Beating Strategies, controlling for Endogeneity

Panel A. Two-Stage Residual Inclusion

	First Stage	Second Stage							
	AbnCoverage	REM		REM|AEM=0		REM|AEM=1		REM|EXPM=0		REM|EXPM=1	
Variable	Coeff.	Pr > |t|	Coeff.	Pr > χ^2	Coeff.	Pr > χ^2	Coeff.	Pr > χ^2	Coeff.	Pr > χ^2	Coeff.	Pr > χ^2
Intercept	-18.318	<.001	-1.214	0.142	-4.059	<.001	-1.828	0.110	-2.824	0.009	-2.239	0.032
Test Variables:												
S&PDUMMY	2.306	<.001										
ABNCOVERAGE			**-0.114**	**0.005**	**-0.210**	**<.001**	**-0.176**	**0.001**	**-0.188**	**<.001**	**-0.148**	**0.003**
AFFILIATION	-0.360	<.001	**0.077**	**0.004**	**0.009**	**0.797**	**0.063**	**0.063**	**0.015**	**0.638**	**0.110**	**0.001**
EXPERIENCE	-0.076	<.001	**-0.025**	**<.001**	**-0.029**	**<.001**	**-0.031**	**<.001**	**-0.031**	**<.001**	**-0.022**	**0.001**
Control Variables:												
LogMV	2.075	<.001	0.362	<.001	0.649	<.001	0.502	<.001	0.540	<.001	0.452	<.001
LogMTB	-0.344	0.134	-0.980	<.001	-1.140	<.001	-0.950	<.001	-1.006	<.001	-1.004	<.001
ROA	-7.405	<.001	-4.284	<.001	-4.854	<.001	-14.669	<.001	-6.131	<.001	-3.566	<.001
GROWTH	-0.508	<.001	-0.284	0.003	-0.143	0.001	-0.558	0.015	-0.402	0.007	-0.262	0.019
VOLATILITY	2.249	<.001	0.292	0.094	0.659	0.003	0.450	0.026	0.403	0.087	0.403	0.042
FINANCING	1.351	<.001	0.671	<.001	0.516	<.001	0.783	0.003	0.797	<.001	0.753	<.001
BLOAT	-0.004	0.623	0.323	0.005	0.449	0.004	0.217	0.027	0.251	0.018	0.446	0.026
SOX	1.963	<.001	-0.289	0.001	-0.118	0.295	-0.091	0.453	-0.228	0.042	-0.141	0.191
Residual			0.093	0.022	0.190	<.001	0.159	0.004	0.166	0.001	0.128	0.010
Quarter Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Total Observations	31,242		31,242		15,732		15,510		16,557		14,685	
Adj. R-Sq.	34.56%		--		--		--		--		--	
Percent Concordant	--		76.70%		78.50%		77.40%		77.10%		76.60%	
Likelihood Ratio	--		7325.26		4248.79		3593.26		4024.63		3418.62	
Pr > χ^2	--		<.0001		<.0001		<.0001		<.0001		<.0001	

Table 7 (continued)
Analysts and Benchmark Beating Strategies, controlling for Endogeneity

Panel B. Two-Stage Least Squares

	First Stage		Second Stage							
	AbnCoverage		REM		REM | AEM=0		REM | AEM=1		REM|EXPM=0		REM|EXPM=1	
Variable	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|
Intercept	-18.318	<.001	0.112	0.546	-0.151	0.461	0.219	0.281	0.026	0.900	0.194	0.319
Test Variables:												
S&PDUMMY	2.306	<.001										
Pred_ABNCVR			**-0.030**	**0.001**	**-0.036**	**<.001**	**-0.030**	**0.002**	**-0.034**	**0.001**	**-0.025**	**0.007**
AFFILIATION	-0.360	<.001	**0.011**	**0.031**	**0.004**	**0.576**	**0.010**	**0.095**	**0.004**	**0.525**	**0.021**	**0.001**
EXPERIENCE	-0.076	<.001	**-0.005**	**<.001**	**-0.005**	**<.001**	**-0.005**	**<.001**	**-0.006**	**<.001**	**-0.004**	**0.003**
Control Variables:												
LogMV	2.075	<.001	0.085	<.001	0.109	<.001	0.084	0.001	0.096	<.001	0.072	0.002
LogMTB	-0.344	0.134	-0.191	<.001	-0.204	<.001	-0.172	<.001	-0.193	<.001	-0.187	<.001
ROA	-7.405	<.001	-0.841	<.001	-0.857	<.001	-2.460	<.001	-1.007	<.001	-0.676	<.001
GROWTH	-0.508	<.001	-0.040	<.001	-0.025	0.001	-0.072	0.003	-0.074	<.001	-0.033	<.001
VOLATILITY	2.249	<.001	0.070	0.045	0.107	0.008	0.073	0.060	0.067	0.130	0.068	0.074
FINANCING	1.351	<.001	0.120	<.001	0.092	<.001	0.119	0.002	0.151	<.001	0.130	<.001
BLOAT	-0.004	0.623	0.001	0.201	0.001	0.088	0.009	<.001	0.001	0.477	0.0004	0.275
SOX	1.963	<.001	-0.046	0.018	-0.033	0.126	-0.022	0.328	-0.054	0.016	-0.036	0.081
Quarter Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Total Observations	31,242		31,242		15,732		15,510		16,557		14,685	
Adj. R-Sq.	34.56%		20.53%		23.25%		20.42%		21.07%		20.25%	
F-stat	--		53.45		57.95		35.79		41.32		45.39	
Pr > F	--		<.0001		<.0001		<.0001		<.0001		<.0001	

See Appendix A for variable definitions.

Table 8
Analyst Coverage Attributes and Real Earnings Management

Panel A. Probability of Real Earnings Management

Model:

$$\text{Prob(DepVar)}_{iq} = \alpha + \beta_1 \text{ABNCOVERAGE}_{iq} + \beta_2 \text{AFFILIATION}_{iq} + \beta_3 \text{EXPERIENCE}_{iq} + \gamma_1 \text{logMV}_{iq} + \gamma_2 \text{logMTB}_{iq} + \gamma_3 \text{ROA}_{iq} + \gamma_4 \text{Growth}_{iq} + \gamma_5 \text{Volatility}_{iq} + \gamma_6 \text{Financing}_{iq} + \gamma_7 \text{Bloat}_{iq} + \gamma_8 \text{SOX}_{iq} + \varepsilon_{iq}$$

	Dependent Variable					
	REM			REMTopQtr		
Variable	Coeff.	Pr > χ^2	Avg Marginal Effect	Coeff.	Pr > χ^2	Avg Marginal Effect
Intercept	-0.420	0.513		-0.755	0.303	
Test Variables:						
ABNCOVERAGE	**-0.020**	**<.001**	-0.004	**-0.014**	**0.020**	-0.002
AFFILIATION	**0.123**	**<.001**	0.024	**0.112**	**<.001**	0.020
EXPERIENCE	**-0.020**	**<.001**	-0.004	**-0.003**	**0.602**	-0.0005
Control Variables:						
LogMV	0.136	<.001		0.005	0.872	
LogMTB	-0.926	<.001		-0.633	<.001	
ROA	-3.440	<.001		-2.576	<.001	
GROWTH	-0.215	0.015		-0.029	0.747	
VOLATILITY	0.139	0.462		0.587	0.008	
FINANCING	0.510	<.001		0.443	<.001	
BLOAT	0.317	0.005		0.051	0.037	
SOX	-0.437	<.001		-0.641	<.001	
Quarter Indicators	Yes			Yes		
Industry Indicators	Yes			Yes		
Total Observations	30,638			30,638		
Percent Concordant	76.40%			74.00%		
Likelihood Ratio	7044.41			5188.71		
Pr > χ^2	<.0001			<.0001		

Table 8 (continued)
Analyst Coverage Attributes and Real Earnings Management

Panel B. Levels of Real Earnings Management

Model:

$$DepVar_{iq} = \alpha + \beta_1 ABNCOVERAGE_{iq} + \beta_2 AFFILIATION_{iq} + \beta_3 EXPERIENCE_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 Bloat_{iq} + \gamma_8 SOX_{iq} + \varepsilon_{iq}$$

	Dependent Variable			
	REM1		REM2	
Variable	Coeff.	Pr > |t|	Coeff.	Pr > |t|
Intercept	-0.060	0.051	-0.063	0.012
Test Variables:				
ABNCOVERAGE	**-0.0005**	**0.051**	**-0.0003**	**0.020**
AFFILIATION	**0.005**	**<.001**	**0.003**	**<.001**
EXPERIENCE	**-0.001**	**0.005**	**-0.001**	**0.002**
Control Variables:				
LogMV	0.007	<.001	0.003	<.001
LogMTB	-0.043	<.001	-0.024	<.001
ROA	-0.138	<.001	-0.142	<.001
GROWTH	0.002	0.717	-0.024	<.001
VOLATILITY	-0.018	0.373	-0.010	0.365
FINANCING	-0.020	0.031	0.032	<.001
BLOAT	0.0003	0.055	0.0001	0.224
SOX	-0.016	<.001	-0.013	<.001
Quarter Indicators	Yes		Yes	
Industry Indicators	Yes		Yes	
Total Observations	30,638		30,638	
R-Squared	24.98%		22.73%	

See Appendix A for variable definitions. Standard errors are clustered at the firm level. The marginal effect is first computed at each firm-quarter observation. The average marginal effect is then computed as the sample average of individual marginal effects.

Table 9
Analyst Attributes and Real Earnings Management by Levels of Discretionary Accruals

Model:

$$\text{Prob(DepVar)}_{iq} = \alpha + \beta_1 \text{ABNCOVERAGE}_{iq} + \beta_2 \text{AFFILIATION}_{iq} + \beta_3 \text{EXPERIENCE}_{iq} + \gamma_1 \text{logMV}_{iq} + \gamma_2 \text{logMTB}_{iq} + \gamma_3 \text{ROA}_{iq} + \gamma_4 \text{Growth}_{iq} + \gamma_5 \text{Volatility}_{iq} + \gamma_6 \text{Financing}_{iq} + \gamma_7 \text{SOX}_{iq} + \varepsilon_{iq}$$

Panel A. Dependent Variable: REM

	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
Variable	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$
ABNCOVERAGE	-0.021	0.005	-0.022	0.005	-0.019	0.015	-0.019	0.011
AFFILIATION	0.082	0.028	0.069	0.058	0.156	<.001	0.118	0.001
EXPERIENCE	-0.026	0.002	-0.016	0.035	-0.025	0.002	-0.019	0.022
Control Variables	Yes		Yes		Yes		Yes	
Quarter Indicators	Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes	
Total Observations	6,809		8,141		8,023		7,665	
Percent Concordant	77.20%		78.90%		81.20%		76.30%	
Likelihood Ratio	1603.62		2327.81		2573.86		1512.63	
$Pr > \chi^2$	<.0001		<.0001		<.0001		<.0001	

Panel B. Dependent Variable: REMTopQtr

	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
Variable	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$
ABNCOVERAGE	-0.016	0.078	-0.006	0.460	-0.009	0.316	-0.024	0.002
AFFILIATION	0.088	0.031	0.059	0.191	0.089	0.036	0.125	<.001
EXPERIENCE	-0.004	0.617	0.010	0.227	-0.001	0.919	-0.010	0.148
Control Variables	Yes		Yes		Yes		Yes	
Quarter Indicators	Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes	
Total Observations	6,809		8,141		8,023		7,665	
Percent Concordant	75.80%		77.30%		79.90%		73.20%	
Likelihood Ratio	1077.66		1576.28		2110.40		1359.78	
$Pr > \chi^2$	<.0001		<.0001		<.0001		<.0001	

Table 9 (continued)
Analyst Attributes and Real Earnings Management by Levels of Discretionary Accruals

Model:

$$DepVar_{iq} = \alpha + \beta_1 ABNCOVERAGE_{iq} + \beta_2 AFFILIATION_{iq} + \beta_3 EXPERIENCE_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 SOX_{iq} + \varepsilon_{iq}$$

Panel C. Dependent Variable: REM1

	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
Variable	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|
ABNCOVERAGE	-0.001	0.088	-0.0004	0.150	-0.001	0.057	-0.001	0.123
AFFILIATION	0.005	0.017	0.002	0.093	0.004	0.002	0.004	0.016
EXPERIENCE	-0.001	0.059	-0.001	0.042	-0.001	0.012	-0.001	0.052
Control Variables	Yes		Yes		Yes		Yes	
Quarter Indicators	Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes	
Total Observations	6,809		8,141		8,023		7,665	
R-Squared	26.30%		27.91%		31.04%		21.61%	

Panel D. Dependent Variable: REM2

	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
Variable	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|
ABNCOVERAGE	-0.0002	0.440	-0.0002	0.131	-0.0003	0.036	-0.0004	0.088
AFFILIATION	0.002	0.057	0.001	0.113	0.002	0.029	0.002	0.048
EXPERIENCE	-0.001	0.023	-0.0004	0.009	-0.0005	0.006	-0.001	0.029
Control Variables	Yes		Yes		Yes		Yes	
Quarter Indicators	Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes	
Total Observations	6,809		8,141		8,023		7,665	
R-Squared	28.79%		34.71%		36.86%		20.66%	

Discretionary accruals are estimated by the modified Jones model. See Appendix A for other variable definitions. Standard errors are clustered at the firm level.

Table 10

Analyst Attributes and Real Earnings Management by Analysts' Forecast Revision Type

Model:

$$\text{Prob(DepVar)}_{iq} = \alpha + \beta_1 \text{ABNCOVERAGE}_{iq} + \beta_2 \text{AFFILIATION}_{iq} + \beta_3 \text{EXPERIENCE}_{iq} + \gamma_1 \text{logMV}_{iq} + \gamma_2 \text{logMTB}_{iq} + \gamma_3 \text{ROA}_{iq} + \gamma_4 \text{Growth}_{iq} + \gamma_5 \text{Volatility}_{iq} + \gamma_6 \text{Financing}_{iq} + \gamma_7 \text{Bloat}_{iq} + \gamma_8 \text{SOX}_{iq} + \varepsilon_{iq}$$

Panel A. Dependent Variable: REM

	Negative		Neutral		Positive	
Variable	Coeff.	Pr > χ^2	Coeff.	Pr > χ^2	Coeff.	Pr > χ^2
ABNCOVERAGE	-0.020	<.001	-0.022	0.005	-0.019	0.012
AFFILIATION	0.176	<.001	0.082	0.024	0.085	0.007
EXPERIENCE	-0.015	0.011	-0.025	0.002	-0.022	0.001
Control Variables	Yes		Yes		Yes	
Quarter Indicators	Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes	
Total Observations	14,385		7,452		8,801	
Percent Concordant	76.30%		77.30%		76.80%	
Likelihood Ratio	3258.82		1823.03		2085.46	
Pr > χ^2	<.0001		<.0001		<.0001	

Panel B. Dependent Variable: REMTopQtr

	Negative		Neutral		Positive	
Variable	Coeff.	Pr > χ^2	Coeff.	Pr > χ^2	Coeff.	Pr > χ^2
ABNCOVERAGE	-0.016	0.011	-0.015	0.112	-0.013	0.107
AFFILIATION	0.147	<.001	0.109	0.003	0.061	0.103
EXPERIENCE	0.0004	0.951	0.002	0.819	-0.010	0.168
Control Variables	Yes		Yes		Yes	
Quarter Indicators	Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes	
Total Observations	14,385		7,452		8,801	
Percent Concordant	73.80%		75.20%		74.40%	
Likelihood Ratio	2407.08		1330.87		1513.40	
Pr > χ^2	<.0001		<.0001		<.0001	

Table 10 (continued)
Analyst Attributes and Real Earnings Management by Analysts' Forecast Revision Type

Model:

$$DepVar_{iq} = \alpha + \beta_1 ABNCOVERAGE_{iq} + \beta_2 AFFILIATION_{iq} + \beta_3 EXPERIENCE_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 Bloat_{iq} + \gamma_8 SOX_{iq} + \varepsilon_{iq}$$

Panel C. Dependent Variable: REM1

	Negative		Neutral		Positive	
Variable	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|
ABNCOVERAGE	-0.001	0.002	-0.0004	0.313	-0.0001	0.828
AFFILIATION	0.006	<.001	0.004	0.040	0.003	0.057
EXPERIENCE	-0.001	0.023	-0.001	0.162	-0.001	0.002
Control Variables	Yes		Yes		Yes	
Quarter Indicators	Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes	
Total Observations	14,385		7,452		8,801	
R-Squared	25.02%		24.16%		26.91%	

Panel D. Dependent Variable: REM2

	Negative		Neutral		Positive	
Variable	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|
ABNCOVERAGE	-0.0005	0.003	-0.0004	0.054	-0.0001	0.496
AFFILIATION	0.004	<.001	0.001	0.484	0.002	0.014
EXPERIENCE	-0.0004	0.013	-0.0004	0.061	-0.001	<.001
Control Variables	Yes		Yes		Yes	
Quarter Indicators	Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes	
Total Observations	14,385		7,452		8,801	
R-Squared	22.18%		24.61%		23.58%	

Analysts' forecast revisions are the difference between the last analyst forecast for firm i quarter q and the initial analyst forecast. A revision is categorized as "Negative" if the last forecast is less than the initial forecast, as "Neutral" if the last forecast equals the initial forecast, as "Positive" if the last forecast is greater than the initial forecast. See Appendix A for other variable definitions. Standard errors are clustered at the firm level.

APPENDIX A

List of Variable Definitions

ABNCOVERAGE is the residual from the regression of number of analysts following firm *i* at quarter *q* on firm size, performance, growth, financing activities and cash flow volatility.

AEM (Accruals Earnings Management) is measured by an indicator variable that equals one if discretionary accruals (measured by the modified Jones model) of firm *i* for quarter *q* is greater than the IBES sample median; and equals zero otherwise.

AEMTopQtr is an indicator variable that equals one if discretionary accruals of firm *i* for quarter *q* are in the top quartile of the IBES sample; and equals zero otherwise.

AFFILIATION is the number of analysts covering firm *i* in quarter *q* whose employer underwrites equity offerings of the covered firm during the fiscal year.

ANALYSTCOVERAGE is the number of unique analysts issuing earnings forecasts for firm *i* quarter *q*.

BLOAT is the net operating assets of firm *i* at the beginning of quarter *q*.

DA is discretionary accruals of firm *i* in quarter *q* as measured by the modified Jones model.

EXPERIENCE is the average number of quarters analysts of firm *i* has issued earnings forecasts, as of quarter *q*.

EXPM (Expectations Management) is the reporting strategy of firms to guide analysts' forecasts downward and is measured by an indicator variable that equals one if the difference between the last analyst forecast for firm *i* quarter *q* and the initial analyst forecast is negative; and equals zero otherwise.

FINANCING is defined as cash flows from financing scaled by total assets of firm *i* at quarter *q*.

GROWTH is defined as the change in total assets scaled by lagged assets of firm *i* at quarter *q*.

LOGMTB is the natural logarithm of market-to-book ratio of firm *i* at quarter *q*.

LOGMV is the natural logarithm of market value of firm *i* at the end of quarter *q*.

MARKET-TO-BOOK is the market-to-book value of firm *i* and calculated as market value at the beginning of quarter *q* scaled by lagged assets.

MARKETVALUE is the market value of firm *i* and is calculated as common shares multiplied by closing price per share at the end of quarter *q*.

ON_IBES is an indicator variable that equals one if there are any analysts' earnings forecasts for firm *i* during quarter *q*; and equals zero otherwise.

PERFORMANCE is calculated as net income divided by lagged assets for firm *i* quarter *q*.

PRED_ABNCVR is the predicted value of analyst coverage from the regression of number of analysts following firm *i* at quarter *q* on S&PDUMMY, firm size, performance, growth, financing activities and cash flow volatility.

S&PDUMMY is an indicator variable that equals one if firm *i* is included in the S&P 500 index during quarter *q*; and equals zero otherwise.

SOX is an indicator variable that equals one if the firm-quarter-end reporting date is after the Sarbanes-Oxley Act's effective date of August 29, 2002; and equals zero otherwise.

SURPRISE is the difference between the actual (reported) earnings per share and the expected earnings per share (last analyst forecast value) for firm *i* during quarter *q*.

REM (Real Earnings Management) is measured by an indicator variable that equals one if any of the real earnings management measures (REM1, REM2) of firm *i* for quarter *q* are greater than the IBES sample median; and equals zero otherwise.

REMTopQtr is an indicator variable that equals one if any of the real earnings management measures (REM1, REM2) of firm *i* for quarter *q* are in the top quartile of the IBES sample; and equals zero otherwise.

REM1 is a measure of real earnings management and is calculated by multiplying abnormal SGA expenses by negative one and adding the product to abnormal production costs.

REM2 is a measure of real earnings management and is calculated by multiplying abnormal cash flows from operations and abnormal SGA by negative one and adding them together.

RESIDUAL is the residual from regressing the number of analysts following firm i at quarter q on S&PDUMMY, firm size, performance, growth, financing activities and cash flow volatility.

ROA is return on assets and calculated as net income divided by total assets for firm *i* quarter *q*.

VOLATILITY is defined as the standard deviation of cash flows from operations scaled by lagged assets of firm *i* at quarter *q*.

Appendix B
Determinants of Analyst Coverage

Model:

$$AnalystCoverage_{iq} = \alpha + \beta_1 MarketValue_{iq} + \beta_2 Performance_{iq} + \beta_3 Growth_{iq} + \beta_4 Financing_{iq} + \beta_5 Volatility_{iq} + \varepsilon_{iq}$$

	Predicted	COMPUSTAT		IBES		MBE		JMBE	
Variable	Sign	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|	Coeff.	Pr > |t|
Intercept	+	3.171	<.001	11.737	<.001	11.338	<.001	12.254	<.001
MARKETVALUE	+	0.0003	<.001	0.0002	<.001	0.0002	<.001	0.0002	<.001
PERFORMANCE	+	0.024	0.020	3.789	<.001	4.197	<.001	4.138	0.002
GROWTH	+	0.017	0.002	0.934	<.001	0.526	0.012	1.001	<.001
FINANCING	-	-0.004	0.255	-2.499	<.001	-1.918	<.001	-2.764	<.001
VOLATILITY	-	-0.091	0.003	-2.105	<.001	-2.674	<.001	-2.859	<.001
Quarter Indicators	?	Yes		Yes		Yes		Yes	
Total Observations		254,798		82,055		45,071		30,638	
R-Sq		18.02%		21.99%		20.34%		21.38%	

See Appendix A for variable definitions. To reduce the influence of outliers, observations where the absolute value of studentized residuals are greater than three are deleted. Standard errors are clustered at the firm level.

Appendix C
Analyst Coverage Attributes and the Probability of Accruals Earnings Management

Model:

$$Prob(AEM)_{iq} = \alpha + \beta_1 ABNCOVERAGE_{iq} + \beta_2 AFFILIATION_{iq} + \beta_3 EXPERIENCE_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 Bloat_{iq} + \gamma_8 SOX_{iq} + \varepsilon_{iq}$$

	IBES		MBE		JMBE	
Variable	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$
Intercept	0.597	<.001	0.265	0.211	0.100	0.761
Test Variables:						
ABNCOVERAGE	**-0.009**	**<.001**	**-0.009**	**0.001**	**-0.009**	**0.004**
AFFILIATION	**0.047**	**<.001**	**0.055**	**<.001**	**0.047**	**0.002**
EXPERIENCE	**0.004**	**0.045**	**0.004**	**0.090**	**0.0004**	**0.902**
Control Variables:						
LogMV	-0.030	0.004	-0.024	0.071	-0.012	0.437
LogMTB	-0.011	0.461	-0.014	0.430	-0.034	0.133
ROA	11.381	<.001	9.724	<.001	10.661	<.001
GROWTH	-1.979	<.001	-2.146	<.001	-2.338	<.001
VOLATILITY	-0.101	0.088	-0.068	0.373	-0.092	0.395
FINANCING	2.721	<.001	2.665	<.001	3.279	<.001
BLOAT	-0.0001	<.001	-0.001	0.203	-0.004	0.109
SOX	-0.193	<.001	-0.183	<.001	-0.271	<.001
Quarter Indicators	Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes	
Total Observations	82,055		45,071		30,638	
Percent Concordant	62.90%		61.90%		62.30%	
Likelihood Ratio	4429.51		2071.02		1351.72	
$Pr > \chi^2$	<.0001		<.0001		<.0001	

See Appendix A for variable definitions. Standard errors are clustered at the firm level.

Appendix D
Analyst Coverage Attributes and Expectations Management

Model:

$$Prob(EXPM)_{iq} = \alpha + \beta_1 ABNCOVERAGE_{iq} + \beta_2 AFFILIATION_{iq} + \beta_3 EXPERIENCE_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 Bloat_{iq} + \gamma_8 SOX_{iq} + \varepsilon_{iq}$$

	IBES		MBE		JMBE	
Variable	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$	Coeff.	$Pr > \chi^2$
Intercept	0.463	<.001	1.200	<.001	1.692	<.001
Test Variables:						
ABNCOVERAGE	**0.008**	**<.001**	**0.009**	**<.001**	**0.016**	**<.001**
AFFILIATION	**-0.037**	**<.001**	**-0.039**	**0.001**	**-0.039**	**0.005**
EXPERIENCE	**0.00004**	**0.978**	**0.001**	**0.751**	**0.002**	**0.430**
Control Variables:						
LogMV	-0.029	<.001	-0.018	0.062	-0.054	<.001
LogMTB	-0.183	<.001	-0.199	<.001	-0.198	<.001
ROA	-1.026	<.001	0.039	0.808	-0.392	0.177
GROWTH	-0.087	0.104	0.018	0.568	-0.003	0.967
VOLATILITY	-0.062	0.153	-0.063	0.312	-0.154	0.127
FINANCING	0.137	0.034	-0.045	0.406	-0.112	0.268
BLOAT	0.0001	<.001	-0.001	0.505	0.0001	0.976
SOX	-0.106	<.001	-0.159	<.001	-0.233	<.001
Quarter Indicators	Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes	
Total Observations	82,055		45,071		30,638	
Percent Concordant	56.50%		61.90%		63.30%	
Likelihood Ratio	1209.42		2108.87		1920.77	
$Pr > \chi^2$	<.0001		<.0001		<.0001	

See Appendix A for variable definitions. Standard errors are clustered at the firm level.

Appendix E
Analyst Coverage Attributes and the Extent of Accruals Earnings Management

Model:

$$DepVar_{iq} = \alpha + \beta_1 ABNCOVERAGE_{iq} + \beta_2 AFFILIATION_{iq} + \beta_3 EXPERIENCE_{iq} + \gamma_1 logMV_{iq} + \gamma_2 logMTB_{iq} + \gamma_3 ROA_{iq} + \gamma_4 Growth_{iq} + \gamma_5 Volatility_{iq} + \gamma_6 Financing_{iq} + \gamma_7 Bloat_{iq} + \gamma_8 SOX_{iq} + \varepsilon_{iq}$$

	Dependent Variable					
	AEM		AEMTopQtr		DA	
Variable	Coeff.	Pr > χ^2	Coeff.	Pr > χ^2	Coeff.	Pr > |t|
Intercept	0.100	0.761	0.424	0.229	-0.003	0.814
Test Variables:						
ABNCOVERAGE	**-0.009**	**0.004**	**-0.005**	**0.232**	**0.000**	**0.013**
AFFILIATION	**0.047**	**0.002**	**0.045**	**0.010**	**0.001**	**0.001**
EXPERIENCE	**0.000**	**0.902**	**0.001**	**0.883**	**0.000**	**0.454**
Control Variables:						
LogMV	-0.012	0.437	-0.181	<.001	-0.001	<.001
LogMTB	-0.034	0.133	0.173	<.001	-0.001	0.015
ROA	10.661	<.001	10.927	<.001	0.351	<.001
GROWTH	-2.338	<.001	-1.582	0.008	-0.028	<.001
VOLATILITY	-0.092	0.395	0.180	0.146	0.002	0.596
FINANCING	3.279	<.001	2.585	<.001	0.048	<.001
BLOAT	-0.004	0.109	-0.036	0.316	0.000	0.212
SOX	-0.271	<.001	-0.399	<.001	-0.003	<.001
Quarter Indicators	Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes	
Total Observations	30,638		30,638		30,638	
R-Squared	--		--		16.61%	
Percent Concordant	62.30%		67.10%		--	
Likelihood Ratio	1351.72		2010.85		--	
Pr > χ^2	<.0001		<.0001		--	

See Appendix A for variable definitions. Standard errors are clustered at the firm level.

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