

Management Forecasts, Analyst Revisions, and Investor Reactions: The Effect of CEO Gender

Abstract:

In this study, we examine whether CEO gender affects the likelihood of management forecast issuance, forecast properties, and subsequent reactions from analysts and investors. We use a panel data set of CEO transitions between 2000 and 2015 to test our hypotheses. We find that while women CEOs are more likely to issue earnings forecasts after a CEO transition, the characteristics of forecasts issued by women and men CEOs do not differ. Furthermore, we find that CEO gender significantly affects analyst and investor reactions. In particular, we find that analysts and investors demonstrate a more tempered reaction to good news forecasts issued by women CEOs compared to men CEOs. Overall, our findings suggest that analysts and investors find management forecasts issued by women CEOs to be less credible than forecasts issued by men CEOs despite no apparent differences in their forecast properties.

Keywords: CEO Gender, Management Forecasts, Analyst Revisions, Investor Reaction.

1. Introduction

More women serve as CEOs of large companies than ever before.¹ In 2019, thirty-three women are leading or have been appointed to lead firms in the Fortune 500 (Zillman 2019).² These appointments represent a significant increase from 2018 and signal a new era for women's corporate leadership. In addition, to further bolster the presence of women in leadership roles, California enacted a law mandating that publicly traded companies, headquartered in the state, include women on their board of directors. However, despite these gains, research has only begun to analyze whether and how women CEOs impact their firms' practices and how their decisions are evaluated by outsiders (e.g., Gupta, Mortal, Chakrabarty, Guo, and Turban 2019; Jeong and Harrison 2017). While some scholars find that women executives tend to be more conservative and risk averse (Barua, Davidson, Rama, and Thiruvadi 2010; Francis et al. 2015), others find minimal impacts of CEO gender on firm practices (Dyreng, Hanlon, and Maydew 2010; Ge, Matsumoto, and Zhang 2011). Overall, the existing literature has been inconclusive and Binberg (2011) calls for further development and examination of the effect of gender differences. In this study, we extend the literature by analyzing whether CEO gender impacts the properties of management forecasts and the response to forecasts by analysts and investors.

We first examine whether CEO gender affects the likelihood of management earnings forecast issuance. Prior research argues that management forecasts are a voluntary disclosure that managers can use to influence their reputation (Hirst, Koonce, and

¹ Specifically, we note that the percentage of women leading Fortune 500 companies has increased from 0.4% in 2000 to 4.8% in 2018 and peaking at 6.4% in 2017. Further, we note that the percentage of Fortune 500 board members who are women has increased from 11.7% in 2000 to 22.2% in 2018. See Pew Research Center, "The Data on Women Leaders," September 13, 2018.

² We also note that the number of women belonging to top executive teams has increased dramatically since the early 2000s (Francis, Hasan, Park, and Wu 2015).

Venkataraman 2008). As a result, prior studies find that managerial characteristics influence the likelihood of issuing a management forecast (e.g., Hribar and Yang 2016). According to token theory, numerical minorities, such as women in leadership roles, face hyper-scrutiny, performance pressures, and negative stereotypes (Eagly, Eaton, Rose, Riger, and McHugh 2012; Kanter 1977). To combat these pressures, women often conform not only to feminine role stereotypes but also to the expectations of masculine leaders (e.g., Bielby 2000). Further, the added scrutiny of women in leadership roles results in greater standards of transparency (Schubert, Brown, Gysler, and Brachinger 1999). Therefore, we predict that women CEOs will be more likely than men CEOs to issue an earnings forecast.

Next, conditional on issuing an earnings forecast, we examine whether CEO gender is associated with different forecast properties. In addition to the bias, scrutiny, and performance pressures women encounter, women have been shown to be less overconfident and narcissistic than men (e.g., Barber and Odean 2001; Croson and Gneezy 2009), which prior studies document influence management forecast properties (Esplin, Judd, and Olsen 2019; Hribar and Yang 2016). Furthermore, some studies find that women tend to be more risk averse than their men counterparts resulting in more conservative behavior (e.g., Francis et al. 2015). Therefore, we predict that women CEOs will differ from men CEOs in regards to the properties of their earnings forecasts.

Finally, we examine whether analysts and investors react differently to forecasts issued by women CEOs compared to forecasts issued by men CEOs. Prior studies suggest that management forecasts influence the reactions of analysts and investors (e.g., Cotter, Tuna, and Wysocki 2006; Ng, Tuna, and Verdi 2013). However, the extent to which analysts and investors react is impacted by the perceived credibility of those management

forecasts (Jennings 1987). Gender research highlights that women leaders are associated with various negative stereotypes that will influence the perception of their overall credibility. For example, some of the stereotypes suggested by prior research are that women lack organizational fit (Heilman, Manzi, and Braun 2015), competence (Eagly and Carli 2007), trust (Schubert et al. 1999), and that they are risk averse (Fisk 2016). Therefore, we predict that the negative stereotypes of women CEOs will translate into greater skepticism regarding their earnings forecasts and analysts and investors will respond accordingly.

We test our hypotheses by examining CEO transitions between the years 2000 and 2015. We identify CEO transitions and gender using the Standard and Poor's Execucomp database which aggregates compensation data disclosed in annual proxy statements filed with the SEC. We find 85 Male-to-Female CEO transitions during this time period compared to 2,027 Male-to-Male CEO transitions. We then require three years of data before and three years of data after the year of the CEO transition.³ For our empirical models, we require company data from other sources such as Compustat, the I/B/E/S Guidance and I/B/E/S Estimates files, and the Company Issued Guidance File (CIG). Further, we focus our main analyses on the issuance of good news forecasts.⁴ The economic incentives of issuing a good news forecast are more compelling while bad news forecasts are of a different ilk.⁵

Consistent with our hypothesis 1a, we document that after a CEO transition, women

³ We note that the year of the CEO transition is removed from our analyses.

⁴ However, we note that our analysis on the effect of CEO gender on the likelihood of issuing a management earnings forecast includes both good news and bad news forecasts.

⁵ For parsimony's sake, we include in supplemental analyses results for the bad news forecast setting, where the economic incentives are less clear.

CEOs are more likely to issue earnings forecasts than men CEOs. This finding suggests that women CEOs are more forthcoming and transparent in issuing management forecasts and supports the argument that issuing forecasts may help women CEOs combat the added scrutiny and pressure they face. Despite men and women CEOs differing on the likelihood of issuing earnings forecasts, we do not observe any difference related to the properties of those forecasts (likelihood of missing, optimistic bias, and precision), inconsistent with our hypothesis 1b. Specifically, we find that men and women CEOs exhibit no statistical difference in the quality of their earnings forecasts. This suggests that women CEOs' performance is equivalent to men CEOs in regards to management forecasting.

While women CEOs issue forecasts that do not differ in forecast properties from men CEOs, in our next analyses we find that analysts and investors demonstrate a markedly tempered reaction to the forecasts if they are provided by a woman CEO, consistent with our hypothesis 2. This finding provides support for the argument that analysts and investors perceive the forecasts from women CEOs to be less credible and thus respond accordingly. Therefore, this finding suggests a skeptical bias toward women CEOs on the part of analysts and investors in as much as the forecast properties do not differ.

In additional analyses, we first investigate whether our findings are robust to bad news earnings forecasts. In the bad news forecast setting, we continue to find that forecasts by men and women CEOs do not differ in terms of bias and precision.⁶ Further, we continue to find that analysts and investors exhibit a tempered reaction to bad news forecasts issued by women CEOs compared to men CEOs. Next, we adapt the model of Kothari, Shu, and Wysocki (2009) to examine whether CEO gender impacts bad news withholding and find

⁶ In regards to the likelihood of missing their bad news forecast, we find that women CEOs are less likely to miss their forecast than men CEOs.

that women CEOs are no more or no less likely to withhold bad news relative to men CEOs. Thus, analysts' and investors' muted response does not appear to be the result of bad news withholding. We also examine the effect of analyst experience and brokerage reputation (Corwin, Larocque, and Stegemoller 2017; Mikhail, Walther, and Willis 1997), and find that these do not explain the differential reaction by analysts to forecasts from women CEOs. Furthermore, we examine and find that investor disagreement, proxied by trading volume (Bamber, Barron, and Stobber 1997), does not explain the tempered reaction by investors to forecasts from women CEOs. Finally, we find that the bundling of forecasts with earnings announcements does not differ between men and women CEOs.

We contribute to the literature in several ways. First, we contribute to the stream of literature that examines the effects of gender on corporate financial decisions (e.g., Binberg 2011; Barua et al. 2010; Dyreng et al. 2010; Francis, Hasan, Wu, and Yan 2014; Francis et al. 2015; Ge et al. 2011; Gupta et al. 2019; Peni and Vahamaa 2010). Specifically, prior research finds that gender diversity in senior management improves the quality of reported earnings (Krishnan and Parsons 2008; Srinidhi, Gul and Tsui 2011), stock price informativeness (Gul, Srinidhi, and Ng 2011), accounting conservatism (Francis et al. 2015; Ho, Li, Tam, and Zhang 2015), and decreases the likelihood of financial misreporting (Gupta et al. 2019). We add to this stream of literature by providing evidence that women CEOs are more likely than men CEOs to issue earnings forecasts, yet CEO gender does not affect the quality of those forecasts.

Further, we contribute to the stream of literature on the leadership of women CEOs and the differential perception of women CEOs. Understanding how women CEOs impact their firms is vital for tracking the evolution of corporate leadership and the impact of

efforts to integrate women into leadership ranks. Understanding how women CEOs are perceived by outsiders is also important for understanding the constraints and opportunities these leaders face as newcomers to a field historically dominated by men. Consistent with prior studies (Cook and Glass 2014a; Cook and Glass 2014b; Dyreng et al. 2010; Ge et al. 2011), we find that female CEOs exhibit similar behavior to their male CEO counterparts in regards to management forecast characteristics. However, we find a differential perception of female CEOs by key market participants. Specifically, we observe stifled responses by analysts and investors to good news earnings forecasts from women CEOs, which is consistent with prior research highlighting the perceived doubts about future firm growth or performance from firms led by women CEOs (Adams and Ferreira 2009; Huang and Kisgen 2013). We thus add further evidence to the literature on how female CEOs are perceived by financial market participants (Carton and Rosette 2011; Cook and Glass 2014b; Rosette, Leonardelli, and Phillips 2008). Analyzing how CEO gender impacts forecast characteristics and outsider reaction advances theory and research on gender, leadership, and firm outcomes. Token theory suggests that women leaders face hyper-scrutiny, performance pressures, and negative stereotypes regarding their competence (Kanter 1977). However, research suggests that women leaders are associated with greater transparency and stronger governance (Glass and Cook 2018), features that could positively impact the assessment of their capabilities by outsiders. Therefore, the challenges and opportunities that women CEOs face may lead to complex or competing trends with regard to their impacts and evaluation as leaders.

Next, we add to the analyst forecast literature. In a review of the analyst forecast literature, Bradshaw (2011) calls for additional insights into analyst forecasting behavior.

Prior research documents that firms walk down analyst earnings expectations (Bartov, Givoly, and Hayn 2002; Richardson, Teoh, and Wysocki 2004), often through the issuance of management earnings forecasts (Cotter et al. 2006). Furthermore, earlier studies document that analysts misweight earnings related information (Abarbanell and Bernard 1992; Mendenhall 1991; Mikhail et al. 1997). We also note that prior studies find that analysts exhibit more bias in their forecasts when there is greater information uncertainty (Zhang 2006) and more earnings skewness (Gu and Wu 2003). Overall, our findings add to this body of research by suggesting that analysts' revisions are not justified following the issuance of management earnings forecasts by women CEOs.

Lastly, we contribute to the stream of research on the market response to management earnings forecasts (e.g., Hutton, Miller, and Skinner 2003; Waymire 1984; Williams 1996). Specifically, Baik, Farber, and Lee (2011) find that CEO ability enhances the credibility of management forecasts to market participants, whereas Esplin et al. (2019) find that investors exhibit tempered reactions to good news forecasts issued by narcissistic CEOs. These studies highlight the influence of CEO characteristics on market responses to management earnings forecasts. We add to this stream of literature by documenting that investors exhibit tempered reactions to good news management forecasts issued by female CEOs. This finding suggests that investors perceive earnings forecasts issued by women CEOs are less credible than forecasts issued by men CEOs even though the characteristics of those forecasts do not differ.

The remainder of the paper is organized as follows. Section 2 discusses prior literature and develops our hypotheses. Section 3 describes our research design and sample selection. Section 4 presents the results of our empirical analyses. Section 5 provides

additional analyses. Section 6 concludes.

2. Prior Literature and Hypotheses Development

CEO Gender & Forecast Properties

Management earnings forecasts are a voluntary public disclosure by company leadership regarding the expected short-term performance of the company. The disclosure of management forecasts plays a key economic role in financial markets (Hilary and Hsu 2011). Further, Hirst et al. (2008) argue that management forecasts are a critical voluntary disclosure mechanism that managers can utilize to influence their reputation. Prior research finds that managerial characteristics, such as CEO ability (Baik et al. 2011), CEO overconfidence (Hribar and Yang 2016), and CEO narcissism (Esplin et al. 2019) influence management forecast issuance. Therefore, we first explore how CEO gender might affect management earnings forecast issuance.

Due to their numerical rarity, women CEOs face pressures consistent with token status (Kanter 1977). Token theory predicts that numerical minorities confront challenges including hyper-scrutiny, performance pressures and negative stereotypes (Eagly et al. 2012; Kanter 1977). Women who serve in leadership roles traditionally associated with men must navigate these pressures, and their strategies often result in important gender differences in leadership priorities, performances and practices (Eagly and Carli 2012). The impacts of token status on women leaders are well documented. Due to hyper-scrutiny, women leaders must conform both to feminine role stereotypes and masculine leadership expectations (Bielby 2000; Eagly and Karau 2002; Koenig, Eagly, Mitchell, and Ristikari 2011; Williams and Dempsey 2014). If they perform their roles in ways typically associated with masculinity, including self-promotion, assertiveness and dominance, they

face backlash and agency penalties (Eagly and Karau 2002; Rosette, Koval, Ma, and Livingston 2016). If, on the other hand, they conform to feminine stereotypes of warmth, compassion and collaboration, they are often viewed as incapable of aggressive leadership (Eagly and Chin 2010; Eagly and Karau 2002). This ‘double bind’ often contributes to negative stereotypes regarding women leaders’ competence and leadership capability (Fisk 2016; Koenig et al. 2011; Schein 1973). Performance pressures mean that their missteps are often amplified, and women leaders can be blamed for negative outcomes that are beyond their control (Glass and Cook 2019; Meindl 1993). These challenges are compounded by women leaders’ relative lack of supportive professional networks, organizational resources and, in some instances, resistance to their authority (Burt 2000; Glass and Cook 2016).

Additionally, the hyper-scrutiny of women CEOs will contribute to greater standards of transparency, particularly with regard to financial performance where women leaders’ legitimacy is most likely to be questioned (Schubert et al. 1999). In fact, women leaders have a stronger association with corporate social responsibility than men, including the areas of governance and transparency (Glass and Cook 2016; Glass, Cook and Ingersoll 2016; Gul et al. 2011). Women leaders are also more weakly associated with corporate financial fraud compared to men (Capezio and Mavisakalyan 2015; Cumming, Leung, and Rui 2015), which is partly the result of the scrutiny they receive related to financial reporting. Therefore, the scrutiny and monitoring applied to women CEOs will increase the demand for transparent leadership. We predict that this scrutiny will lead women CEOs to pursue different strategies vis-à-vis earnings forecasts compared to men CEOs. In particular, we expect that women CEOs will be more likely than men CEOs to issue

earnings forecasts and state our formal hypothesis as follows:

Hypothesis 1a: *Women CEOs will be more likely than men CEOs to issue an earnings forecast.*

Conditional on issuing a management forecast, we next examine whether CEO gender impacts the properties of earnings forecasts. As discussed above, women face bias, scrutiny, and performance pressures that we expect to impact the properties of their earnings forecasts. In addition, prior research suggests that female executives compared to male executives are less overconfident (Barber and Odean 2001; Francis et al. 2014) and less narcissistic (Croson and Gneezy 2009; Ingersoll, Glass, Cook and Olsen 2017; Olsen and Cox 2001). Prior studies find that CEO overconfidence (Hribar and Yang 2016) and CEO narcissism (Esplin et al. 2019) are associated with various management forecast characteristics.

Furthermore, prior research on gender differences suggests that female executives are more risk averse than their male counterparts, evidenced by the influence of gender on various corporate financial decisions, such as accounting conservatism, tax aggressiveness, disclosure transparency, reduced leverage, etc. (e.g., Francis et al. 2015; Francis et al. 2014; Gul et al. 2011; Huang and Kisgen 2013).⁷ In particular, women executives compared to men are more likely to champion conservative financial reporting practices (Francis et al. 2015; Ho et al. 2015; Peni and Vahamaa 2010). Women executives are also more conservative when it comes to financial decisions and investments (Halko, Kaustia, and Alanko 2012; Jianakopulos and Bernasek 1998; Sunden and Surette 1998). Additionally, Huang and Kisgen (2013) find that female executives place wider bounds on earnings

⁷ It is worth noting, as discussed earlier, that a female's risk aversion does not always translate into an effect on corporate financial decisions. For example, Dyreng et al. (2010) and Ge et al. (2011) find no gender effect on tax firm avoidance and discretionary accruals.

estimates.⁸

In sum, we expect that the bias, scrutiny, and performance pressures women CEOs face combined with their aversion to risk and the lower likelihood of overconfidence and narcissism will impact the properties of their earnings forecasts. We state our formal hypothesis as follows:

***Hypothesis 1b:** Conditional upon issuing earnings forecasts, men CEOs and women CEOs will differ on the properties (i.e., likelihood of Missing, Optimistic Bias, and Precision) of their earnings forecasts.*

CEO Gender & Forecast Reactions

We now explore how CEO gender might affect how analysts and investors react to management earnings forecasts. While analysts and investors are external to the firm, they use the information contained in management forecast disclosures to develop independent earnings estimates and investment decisions (Lang and Lundholm 1996; Lees 1981; Jensen and Meckling 1976). Thus, management forecasts proffered by the firm influence the reactions of analysts and investors (Baginski and Hassell 1990; Cotter et al. 2006; Hassell, Jennings and Lasser 1988; Jaggi 1978; Jennings 1987; Ng et al. 2013; Penman 1980; Waymire 1984; Waymire 1986).⁹ However, the extent to which outsiders, such as analysts' and investors', react to management forecasts is impacted by the perceived credibility of the forecasts issued (Jennings 1987). In other words, forecast reactions are interpretive and reflect analyst and investor assessment of the legitimacy of the firm's forecast.

Negative stereotypes and bias toward women leaders are well documented.

⁸ While these studies highlight the potential benefits of risk aversion from CEO gender on corporate financial decisions, Huang and Kisgen (2013) argue that both can be detrimental to shareholders and lead to worse corporate financial decisions.

⁹ We note that forecasts can help to align insiders' expectations about short-term growth with investors' expectations (Ajinkya and Gift 1984; Hassell and Jennings 1986), thereby reducing market uncertainty.

Scholars have identified a significant association between leadership and masculinity, contributing to the tendency to “think manager-think male” (Schein and Davidson 1993). While leaders are expected to be assertive, achievement oriented and decisive, women are assumed to be nurturing, helpful and caring (Heilman, Block and Martell 1995). Such gender role stereotypes lead to “lack of fit” notions that women simply lack the requirements necessary for successful leadership (Heilman 1983; Heilman et al. 2015). While such biases often limit women’s access to senior leadership roles (Johnson, Murphy, Zewdie, and Richard 2008), they can be heightened when women hold highly visible leadership positions typically associated with men. Indeed, token theory predicts that negative stereotypes of women leaders will be heightened in contexts where women represent numerical minorities (Kanter 1977).

Research finds that women corporate leaders, including CEOs, are subject to a burden of doubt with regard to their competence, capability and fitness for their role (Eagly and Carli 2007; Puwar 2004). They are also viewed as less trustworthy and skilled, particularly when it comes to making financial decisions for firms (Schubert et al. 1999). Instead, women leaders are often assumed to be more communally oriented (Schein 2001), leading to a heightened commitment to long-term goals over short-term gains. Such bias can put women CEOs at greater risk for a range of challenges, including threats from activist shareholders (Gupta et al. 2019).

Women CEOs also face stereotypes that they are less aggressive and more risk averse than men, leading to skepticism regarding their ability to lead effectively. While scholarship on risk taking suggests that women CEOs are no more risk averse than men CEOs (Adams and Funk 2012; Berger, Kick, and Schaeck 2014), they tend to be viewed

as inferior leaders incapable or unwilling to take strategic risks that could translate into performance gains (Fisk 2016; Gupta et al. 2019).

Overall, the majority of research on gender stereotypes suggests that women may be perceived as poorly equipped for the challenges associated with leading large companies, and those perceptions are likely to contribute to negative expectations regarding their efficacy and success. Therefore, we predict that these negative stereotypes of women leaders will translate into greater skepticism regarding their earnings forecasts. To the extent that outside analysts and investors view women CEOs as ‘agentically deficient’ compared to men CEOs (Eagly and Karau 2002; Rosette et al. 2016), their forecast reactions may reflect suspicion or concern regarding women’s CEOs ability to achieve projected earnings. We state our second hypothesis as follows:

***Hypothesis 2:** Analysts and investors will have a more tempered response to earnings forecasts from women CEOs than from men CEOs.*

3. Research Design

Regression Model and Variable Definitions

To test hypothesis 1a, we first use the following model from Hribar and Yang (2016) to examine the likelihood of issuing a management forecast using annual management forecasts as follows:

$$Issue = \beta_0 + \beta_1 Post + \beta_2 MTF + \beta_3 POST * MTF + Controls + \varepsilon \quad (1)$$

where *Issue* equals one if the firm issued at least one management earnings forecast in year *t* and zero otherwise. We include *Post*, which is an indicator variable equal to one for the three years following a CEO transition. *MTF* is an indicator variable equal to one for male-to-female CEO transitions. Our main variable of interest is the interaction term, *Post* ×

MTF. Hypothesis 1a predicts $\beta_3 > 0$, that is, that women CEOs will be more likely than men CEOs to issue an earnings forecast.

We include numerous controls that prior research has shown to influence firms' disclosure policies and likelihood of issuing management forecasts. *LnAnalysts* controls for the number of analysts following a firm (Feng, Li, and McVay 2009). *Size* is measured as the natural logarithm of total assets (Lang and Lundholm 1996). *EarnVol* controls for the volatility of a firm's earnings as the standard deviation of income before extraordinary items scaled by average assets over the previous five years (Waymire 1985). *LitRisk* is the probability that a firm will face litigation and is measured following Rogers and Stocken (2005). *ChgEarn* is the change in year-over-year earnings scaled by year-end price. *MTB* is the ratio of a firm's market value to book value (Bamber and Cheon 1998). *EquityIssue* is an indicator variable equal to one if a firm issued shares in the current year and zero otherwise. *M&A* controls for a firms' engagement in mergers and acquisitions and is measured as an indicator variable equal to one if the firm's annual acquisition or merger-related costs exceeded five percent of net income in the current year and zero otherwise. *Weak* is an indicator variable equal to one if the firm reported a material weakness during the sample period and zero otherwise (Feng et al. 2009). *ROA* controls for firm performance with the ratio of net income over assets (Miller 2002). *Loss* is an indicator variable equal to one if the firm reported a loss in the current year and zero otherwise. *ShrOwn* is the percentage of shares outstanding owned by the CEO in the current year. *Vested* is the CEO's holdings of unexercised options divided by the total shares outstanding in the current year. *Age* is the CEO's age (Brockman, Campbell, Lee, and Salas 2019). *Dual* is an indicator variable equal to one if the CEO is also the chairman of the board and

zero otherwise (Lee, Matsunaga, and Park 2012). *Experience* is the length of the individual's time serving as a CEO at any company listed in Execucomp. Finally, we include industry and year fixed effects to account for systematic industry-wide factors, time trends, and transitory economy-wide factors that could affect our results.

In order to examine our hypothesis 1b and hypothesis 2, it is important to consider the information content of management forecasts. Management forecasts are issued for a variety of reasons. Verrecchia (1983) suggests that managers release good news forecasts in an attempt to increase their firm's stock price. However, the incentive for managers to inflate their company's stock price through the issuance of good news forecasts induces skepticism about the reliability of the forecast (Hutton et al. 2003). Thus, prior research suggests that good news forecasts are less credible than bad news forecasts (Williams 1996). For example, Kasznik (1999) finds that managers do not manage earnings downward to meet their bad news forecasts, suggesting that managers have less of an incentive to issue unreliable bad news forecasts. Furthermore, as noted by Hirst et al. (2008), the market reaction to bad news forecasts is stronger than the market reaction to good news forecasts, as bad news is inherently more credible than good news. We focus on the good news setting because the economic and image incentives are more compelling with good news forecasts.¹⁰

To test Hypothesis 1b, we examine whether the properties of earnings forecasts issued by women CEOs differ relative to those issued by men CEOs. In order to examine whether CEO gender affects management earnings forecast properties, we focus our analysis on firms that issue management earnings forecasts. Since we can only identify the

¹⁰ For example, Kothari et al. (2009) assert that good news forecasts are associated with managers' continued employment and boost the managers' wealth.

forecast properties for CEOs that have elected to issue a forecast, we control for the possibility of self-selection bias (Heckman 1979). We use equation (1) as the first stage in a two-stage Heckman procedure similar to Hribar and Yang (2016). We note that *LnAnalysts* functions as an ideal instrument in the second-stage models to control for endogeneity as it is a determinant of forecast issuance but not of forecast properties (e.g., Hribar and Yang 2016; Feng et al. 2009). To control for the self-selection bias, we include the inverse Mills ratio in the following model adapted from Hribar and Yang (2016):

$$\text{Forecast Property} = \beta_0 + \beta_1 \text{Post} + \beta_2 \text{MTF} + \beta_3 \text{POST} * \text{MTF} + \text{Controls} + \text{InvMills} + \varepsilon \quad (2)$$

where *Forecast Property* is one of three dependent variables: (1) *Miss*, (2) *OptBias*, and (3) *Precision*. *Miss* is an indicator variable equal to one if the firm fails to meet or exceed its earnings forecast and zero otherwise. *OptBias* is defined as the management forecast less realized earnings, scaled by logged assets per share. *Precision* is defined as negative one multiplied by forecast range, scaled by logged assets per share such that a larger value for precision represents a smaller forecast range.

We also include several control variables, which prior research has shown influences the properties of management forecasts. *Horizon* is the natural log of the number of days between forecast issuance and fiscal year end. *News* is the management forecast minus the prevailing analysts' consensus, scaled by logged assets per share. *Dacc* is discretionary accruals in year *t* estimated from the modified Jones model (Dechow, Sloan, and Sweeney 1995). *Conc* is the industry concentration ratio measured as the sum of revenue for the top five firms in the two-digit SIC code, scaled by the sum of revenue for all firms in the two-digit SIC code. All other variables are as previously defined and are

discussed in Appendix 1. For all three forecast properties regressions, we control for industry and year fixed effects. Hypothesis 1b predicts $\beta_3 \neq 0$, that is, that men CEOs and women CEOs will differ on the properties of their earnings forecasts.

To examine hypothesis 2, we utilize the following model for analysts' earnings forecast revisions and investors' market reactions adapted from Hillary and Hsu (2011):

$$\begin{aligned}
 \text{Reaction} = & \beta_0 + \beta_1 \Delta \text{Expectations} + \beta_2 \text{Post} + \beta_3 \text{MTF} + \beta_4 \Delta \text{Expectations} * \\
 & \text{Post} + \beta_5 \Delta \text{Expectations} * \text{MTF} + \beta_6 \text{Post} * \text{MTF} + \beta_7 \Delta \text{Expectations} * \text{Post} * \\
 & \text{MTF} + \text{Controls} + \varepsilon
 \end{aligned} \tag{3}$$

where *Reaction* is one of two dependent variables: (1) *Revision* and (2) *CAR*. *Revision* is the revised individual analyst annual earnings forecast less the prior earnings forecast scaled by the stock price two days prior to the forecast revision. Following Hilary and Hsu (2011), we include analyst forecasts in I/B/E/S that were issued up to 90 days prior to issuance of the management earnings forecast. We then consider an analyst forecast issued in the 30 days following the issuance of the management earnings forecast as a revision. *CAR* is the three-day cumulative abnormal return centered on the management earnings forecast date. $\Delta \text{Expectations}$ measures the change in expectations defined as the management forecast less the prevailing analyst consensus scaled by price two days prior to the management forecast announcement date. Further, we include as independent variables, *Post* and *Male-to-Female*, which are defined previously and discussed in Appendix 1. We then interact each of the three independent variables to include all two-way interactions and the single three-way interaction term. Our main variable of interest is the interaction term, $\Delta \text{Expectations} \times \text{Post} \times \text{MTF}$. Hypothesis 2 predicts that $\beta_7 < 0$, that is, analysts and investors will have a more tempered response to good news earnings

forecasts from women CEOs than from men CEOs.

We also include numerous controls that prior research has shown to influence analysts' and investors' reactions to management earnings forecasts. *Cover* is the log of the number of analysts covering the firm in the ninety days preceding the management forecast announcement. We include controls for the difficulty of predicting earnings, including *Loss*, *StdEarn*, and *RetVol*. *Loss* is an indicator variable equal to one if earnings are negative in the year preceding the management forecast announcement date and zero otherwise. *StdEarn* is the standard deviation of quarterly return on assets over the preceding twelve quarters. *RetVol* is the standard deviation of the stock return six months before the management forecast date. All other variables are defined previously and are discussed in Appendix 1. We include industry and year fixed effects in the model for both analysts' and investors' reactions.

Sample Selection

For inclusion in our sample, we require that a CEO transition take place. We search the Execucomp database for CEO transitions between the years 2000 and 2015. We find 85 Male-to-Female CEO transitions during this period. Appendix 2 provides a listing of all of these transitions. In contrast, we find there were 2,027 Male-to-Male CEO transitions in the same time period. We do not include CEO transitions during this time period that were Female-to-Male (29 instances) or Female-to-Female (1 instance) due to the limited number of observations. This also allows for a more distinct evaluation of the effect of CEO gender by comparing only the transitions that are Male-to-Female and Male-to-Male. The sample size and the number of CEO transitions included vary based on the empirical model used, and are subject to limitations of data availability for the corresponding model. We examine

the three years before (pre-period) and the three years after (post-period) the CEO transition. The year of the CEO transition is excluded from our tests. Table 1 provides details on the sample selection for our issuance, forecast properties, analyst revision, and market tests.

-----INSERT TABLE 1 HERE-----

For our empirical models, we require company data from other sources such as Compustat and I/B/E/S Guidance. We obtain management forecast data from the Company Issued Guidance File (CIG) maintained by First Call and the I/B/E/S Estimates files. For our tests of forecast accuracy and forecast optimism we use the midpoint of range forecasts. However, to assess whether a forecast has been missed, we use the lower bound of the forecast range. We obtain realized earnings from the First Call and I/B/E/S Actuals Files to ensure consistency between management forecasts and EPS realizations.

4. Results

Descriptive Statistics

Table 2 presents descriptive statistics, correlations, and univariate comparisons for the variables used in our management forecast issuance sample. Table 2 Panel A presents descriptive statistics for the variables used to test hypothesis 1a. We find that 43.9% of firm-year observations issue a management forecast. We document that the mean (median) total assets are \$2.876 (\$2.612) billion.¹¹ Further, we find that the mean (median) *ROA* is 3.2% (4.0%) and only 18.3% of firms report a loss. Taken together this suggests that our sample is comprised of relatively large and profitable companies. We also note that the mean (median) number of analysts following a firm is approximately ten (eleven).¹²

¹¹ $e^{7.964} = 2.876$ ($e^{7.868} = 2.612$).

¹² $e^{2.261} = 9.59$ ($e^{2.398} = 11.0$).

In regards to CEO characteristics, we note that the average CEO is 56 years of age, with about six years of experience as a CEO, and 63.7% of our CEOs also serve as the chairman of the board. Table 2 Panel B presents the Pearson (Spearman) correlations. We note that both *Post* and *MTF* are positive and significantly correlated with the likelihood of issuing a management forecast. Further, we note that 13 of the 16 control variables are significantly correlated with the likelihood of forecast issuance. This highlights the importance of controlling for these effects in our multivariate setting. We note that the Pearson correlation coefficient between *Size* and *LnAnalysts* is large and positive, whereas the Pearson correlation coefficient between *ROA* and *Loss* is large and negative. All other variables have correlation coefficients that are less than or equal to 0.45. Table 2 Panel C presents the univariate comparison for our variables split by transition type (i.e. male-to-female transitions versus male-to-male transitions). We find that firms with male-to-female CEO transitions have a higher likelihood of issuing a management forecast than firms with male-to-male CEO transitions. We also note that significant differences exist among numerous control variables, which further indicates the importance of utilizing a multivariate setting to perform our analysis.

-----INSERT TABLE 2 HERE-----

Table 3 presents descriptive statistics, correlations, and univariate comparisons for the revision sample. Table 3 Panel A presents the descriptive statistics. We note that the mean (median) analyst forecast revision is 0.001 (0.001) and the mean (median) change in expectations is 0.004 (0.001). We note that the mean (median) total assets for our revision sample is \$4.573 (\$4.243) billion and only 9.2% of firms report a loss, which suggests that

our sample is comprised of relatively large and profitable companies.¹³ Table 3 Panel B presents the Pearson (Spearman) correlations for our sample. We note that seven of the thirteen variables are correlated with *Revision*. Table 3 Panel C presents the univariate comparison for our variables split by transition type. We again note that significant differences exist across all of our control variables, highlighting the importance of performing our analysis in a multivariate setting.

-----INSERT TABLE 3 HERE-----

Primary Results

Table 4 presents the results related to hypothesis 1a. Specifically, Table 4 presents the results of estimating equation (1), which examines whether gender affects the likelihood of issuing a management earnings forecast. In column 1, we present the results including only the control variables. In column 2, we then add in the variables *Post* and *MTF* and find that both are statistically insignificant. In column 3, we then include the interaction term $Post \times MTF$ and find a positive (6.036) and significant ($p = 0.048$) coefficient. The positive coefficient on the interaction term is consistent with hypothesis 1a and provides evidence that women CEOs are more likely to issue earnings forecasts than their men CEO counterparts after a CEO transition. This finding is consistent with women CEOs being more transparent than men CEOs. In addition, we note that the signs and significance on the control variables generally align with those in prior studies (e.g., Hribar and Yang 2016). In particular, we note that *LnAnalysts* and *Size* are both positive and significant.

-----INSERT TABLE 4 HERE-----

¹³ $e^{8.428} = 4.573$ ($e^{8.353} = 4.243$).

Tables 5, 6 and 7 present the results of estimating equation (2) related to our hypothesis 1b. In Table 5, we first examine whether gender affects the likelihood of missing management forecasts. In column 3, we find that *Post* and *MTF* are statistically insignificant. Furthermore, we find that the interaction term ($Post \times MTF$) is statistically insignificant, inconsistent with hypothesis 1b. This finding suggests that women CEOs are no less or no more likely than men CEOs to miss their good news management earnings forecasts.

-----INSERT TABLE 5 HERE-----

In Table 6, we next examine whether gender affects the bias in good news management earnings forecasts. In column 3, we again note that *Post* and *MTF* are statistically insignificant. Inconsistent with hypothesis 1b, we also find that $Post \times MTF$ is statistically insignificant. This finding suggests that good news forecasts issued by women CEOs are no more or no less optimistically biased than good news forecasts issued by men CEOs.

-----INSERT TABLE 6 HERE-----

Lastly, in Table 7, we examine whether gender affects the precision of good news management earnings forecasts. In column 3, we continue to document statistically insignificant coefficients on *Post* and *MTF*. Furthermore, we find that the coefficient on the interaction term, $Post \times MTF$, is statistically insignificant. This finding is also inconsistent with hypothesis 1b and suggests that good news management earnings forecasts by women CEOs are no less or no more precise than men CEOs. In sum, despite men and women CEOs differing on the likelihood of issuing earnings forecasts, we do not observe any difference related to the properties of those forecasts, inconsistent with

hypothesis 1b. In other words, if good news management earnings forecasts are issued, men and women CEOs exhibit no statistical difference in the quality of those forecasts.

-----INSERT TABLE 7 HERE-----

Next, we examine how analysts and investors respond to management earnings forecasts by estimating equation (3). In Table 8, we first present the results examining whether CEO gender affects analysts' response to good news management earnings forecasts. Consistent with hypothesis 2, we find that the interaction term, $\Delta Expectations \times Post \times MTF$, is negative (-85.845) and statistically significant ($p = 0.000$) in column 5. This suggests that analysts' temper down their reactions to good news management earnings forecasts from women CEOs.

-----INSERT TABLE 8 HERE-----

We next present the results of whether CEO gender affects investors' response to management earnings forecasts in Table 9. We note that several control variables are statistically significant, including *Horizon*, *Size*, and *RetVol*. In column 3, we document a negative (-647.171) and statistically significant effect ($p = 0.000$) on the interaction term, $\Delta Expectations \times Post \times MTF$, consistent with hypothesis 2. This suggests that investors, like analysts, exhibit tempered reactions to good news management earnings forecasts from women CEOs compared to those from men CEOs.

-----INSERT TABLE 9 HERE-----

In sum, our results suggest that while women CEOs are more forthcoming and transparent in issuing management forecasts, they issue forecasts that do not differ in forecast properties from men CEOs. However, analysts and investors demonstrate a markedly tempered reaction to the forecasts if they are provided by a woman CEO. This

finding provides support for the argument that analysts and investors perceive the forecasts from women CEOs to be less credible and thus respond accordingly. Therefore, this finding of a tempered reaction suggests a skeptical bias toward women CEOs on the part of analysts and investors in as much as the forecast properties do not differ.

5. Additional Analyses

Bad News Forecasts

The focus of our analyses so far is on the issuance of good news management forecasts. In this section, we examine whether our results are robust for the sample of firms that issue bad news management forecasts. To perform these analyses, we rerun our tests for Tables 5, 6, 7, 8, and 9 for the sample of firms that issue bad news management forecasts. In terms of forecast properties, in untabulated analyses, we continue to find that the interaction term ($Post \times MTF$) is insignificant for *Precision* and *OptBias*. This indicates that bad news forecasts issued by women CEOs are no less precise and no more biased than bad news forecasts issued by men CEOs. However, we document a negative (-15.616) and significant ($p = 0.090$) effect of $Post \times MTF$ for the regression with *Miss* as the dependent variable. This suggests that women CEOs are less likely to miss bad news forecasts than men CEOs. Next, with regards to analysts' reactions, we find that the interaction term, $\Delta Expectations \times Post \times MTF$, is negative (-50.688) and statistically significant ($p = 0.085$, one-tailed). This provides some support for the argument that analysts exhibit a muted effect in their revisions based on the magnitude of bad news from women CEOs. Finally, with regard to investors' reactions, we find that the interaction term, $\Delta Expectations \times Post \times MTF$, is negative (-344.494) and statistically significant ($p = 0.051$, one-tailed). This again provides evidence that investors also temper their reactions to

women CEOs bad news management forecasts. Overall, the results of these additional analyses in conjunction with our primary analyses of good news forecast results suggest that forecasts issued by female CEOs, as well as analyst and investor responses to such forecasts, do not differ depending on whether the forecast contains good or bad news.

Disclosure of Bad News

Kothari et al. (2009) find that managers delay the release of bad news relative to good news. One potential explanation for the muted response by analysts and investors to earnings forecasts issued by women CEOs is that women CEOs withhold bad news. Therefore, we next explore whether women CEOs are more likely to withhold bad news relative to men CEOs. To perform this analysis, we adopt the model in Kothari et al. (2009) and add an indicator variable for whether the firm has a woman CEO. Additionally, we include an interaction between *Female* and *Bad*, where *Bad* is an indicator variable equal to 1 when the management forecast of earnings per share is lower than the mean analyst forecast for analyst forecasts issued in the 90 days preceding the management earnings forecast. In untabulated analyses, we fail to find that women CEOs exhibit any differential bad news withholding behavior. We then run multiple additional iterations of the models found in Kothari et al. (2009), yet we continue to find undifferentiated bad news withholding by women CEOs relative to men CEOs. Overall, the results of these analyses suggest that women CEOs are no more or no less likely to withhold bad news relative to men CEOs. Thus, analysts' and investors' muted response does not appear to be the result of withholding bad news.

Brokerage Reputation and Analyst Experience

In this section, we seek to provide a potential explanation for the analysts' tempered

response to forecasts issued by women CEOs. Prior research documents that analysts' experience and brokerage reputation affect the accuracy of analysts' forecasts (e.g., Mikhail et al. 1997; Corwin et al. 2017). Therefore, we examine whether the downward revisions to forecasts from women CEOs is impacted by analyst experience (*AnalystExp*) and brokerage reputation (*BrokerageRep*). *AnalystExp* is defined by how long the analyst has followed the firm in years. *BrokerageRep* is an indicator variable equal to one if the analyst works for a brokerage in the top 25 investment banks and zero otherwise (Corwin et al. 2017). To perform this analysis, we adapt equation (3) to include both a level term of *AnalystExp* or *BrokerageRep*, two-way interactions of *Female* \times *AnalystExp* (*BrokerageRep*) and $\Delta Expectations \times AnalystExp$ (*BrokerageRep*) as well as a three-way interaction of *Female* \times *AnalystExp* (*BrokerageRep*) \times $\Delta Expectations$. In untabulated analyses, we find that the differential reaction by analysts with respect to CEO gender is not explained by analyst experience or brokerage reputation.

Trading Volume

In this section, we examine a potential explanation for investors' muted response to forecasts issued by women CEOs. Prior research suggests that trading volume can be indicative of disagreement among investors (e.g., Karpoff 1986; Kim and Verrecchia 1991). Therefore, we examine whether investors demonstrate greater disagreement for firms with women CEOs. Specifically, we examine whether the level of trading volume is impacted by whether or not the firm has a woman CEO. To perform this analysis, we adapt the model from Bamber et al. (1997) and include an indicator variable for whether the firm has a woman CEO. In untabulated analyses, we do not find a differential effect for women CEOs. We run multiple iterations of this test as in Bamber et al. (1997); however, *Female*

is statistically insignificant in every iteration. This suggests that investors do not exhibit more disagreement in their trading behavior for firms with women CEOs compared to men CEOs. Overall, the results of this analysis suggest that investor disagreement does not explain why we document a tempered reaction by investors to good news forecasts issued by women CEOs.

Bundling with Earnings Announcement

Baginski, Campbell, Ryu, and Warren (2019) find that almost 90 percent of management earnings forecasts are issued simultaneously with earnings announcements. In this section we examine not only the rate of bundled forecasts, but also whether the rate of bundling differs between men and women CEOs. In untabulated analyses, we find that 71.9% of management forecasts in our sample are bundled together with earnings announcements. While this rate of bundling is high, we note that it is substantially lower than that in Baginski et al. (2019). Further, we find that the rate of bundling of forecasts and earnings announcements does not differ between men and women CEOs. This provides some support that our findings are not driven by differences in bundling between men and women CEOs.

6. Conclusion

In this study, we examine the role of CEO gender in shaping management earnings forecast issuance and properties. Further, we analyze analyst and investor reaction to earnings forecasts issued by women and men CEOs. First, we find that women CEOs are more likely than men CEOs to issue earnings forecasts. This finding is consistent with previous research that finds that women CEOs tend to be more forthcoming and transparent with regard to firm management (Glass and Cook 2016b). Second, we find no statistical

difference in the properties of earnings forecasts issued by men and women CEOs. Further analyses reveal that this lack of difference extends to bad news forecasts; women CEOs are no more or less likely to withhold bad news from shareholders. Finally, we find that while women CEOs forecast properties do not differ from those of men CEOs, analysts and investors demonstrate a markedly tempered reaction to the forecasts issued by women CEOs. Further analyses reveal that the greater skepticism displayed by external market actors cannot be explained by bad news withholding, analyst experience, brokerage reputation, or investor disagreement.

The reaction of analysts and investors to management forecasts is a reflection of the perceived credibility they grant to management forecasts (Jennings 1987). Thus, these reactions represent market actors' assessment of the legitimacy of firm-issued forecasts. The tempered reaction to forecasts issued by women CEOs as compared to men CEOs suggests that market actors may be more likely to question women CEO's competence or capability with regard to firm financial performance. Evidence of potential bias against women CEOs is underscored by our findings that the properties of forecasts issued by women and men CEOs do not differ. Thus, while women CEOs are more likely than men to issue earnings forecasts, this transparency is not rewarded by market assessments.

Previous research finds that women leaders are subject to a burden of doubt with regard to their capability (Eagly and Carli 2007). Their competence, particularly with regard to financial decisions, is often viewed with skepticism (Schubert et al. 1999). Such bias has led to significant challenges for women CEOs including glass cliff appointments (Cook and Glass 2014a) and threats from activist shareholders (Gupta et al. 2019). Our findings suggest that such bias may extend to the reaction of analysts and investors to

voluntary financial disclosures by firms led by women CEOs. Such bias may harm firms by downgrading the expected performance by external market actors and by undermining the legitimacy of financial disclosures offered by women CEOs.

While our analysis reveals important gender dynamics with regard to earnings forecasts, there are limitations to our study that can be addressed by future research. First, our analysis is limited to women CEOs, who remain underrepresented relative to men in senior leadership positions. Future research could consider the impact of race/ethnicity on forecast issuance and properties as well as investor and analyst reaction. Such a study may reveal whether and how market actors respond to CEOs from other underrepresented groups. Second, our study is focused on U.S. firms. Future research could explore whether there are similar tempered reactions by market actors to women CEOs in non-U.S. contexts. Finally, our study is limited to market actor reactions to earnings forecasts. Future research could broaden the scope to explore additional measures of assessment of CEO competence and capability including stock price reaction to strategic investments or internal restructuring.

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Appendix 1

Variable Definitions

Variable	Definition
<i>Age</i>	Age in years of the CEO.
<i>CAR</i>	The three-day cumulative abnormal return centered on the management earnings forecast. The individual day abnormal returns for each security are formed by summing the individual day abnormal return (raw return less the corresponding decile size return).
<i>ChgEarn</i>	Change in earnings in year t, scaled by year-end price.
<i>Conc</i>	Industry concentration ratio measured as the sum of revenue for the top five firms in its two-digit SIC code, scaled by the sum of revenue for all firms in its two-digit SIC code.
<i>Cover</i>	The natural log of the number of analysts covering the firm in the ninety days preceding the management forecast announcement.
<i>Dacc</i>	Discretionary accruals in year t estimated from the modified Jones model (Dechow et al. 1995).
<i>Dual</i>	Indicator variable equal to 1 if the CEO's title in Execucomp also includes Chairman of the Board.
<i>EarnVol</i>	The standard deviation of income before extraordinary items scaled by assets over 5 years ending in year t.
<i>EquityIssue</i>	An indicator variable equal to one if the firm issued shares in year t, and zero otherwise.
<i>Experience</i>	Number of years the CEO has been listed as the CEO of the same firm or another firm included in the Execucomp database.
<i>Horizon</i>	Forecast horizon measured as the natural log of the number of days between management forecast issuance and the end of the forecasted period.
<i>InvMills</i>	The inverse Mill's ratio estimated from the first stage of the Heckman (1979) model.
<i>Issue</i>	An indicator variable equal to one if the firm issued at least one forecast in year t, and zero otherwise.
<i>LitRisk</i>	Probability of litigation estimated using the probit model in Rogers and Stocken (2005).
<i>LnAnalysts</i>	The natural log of the number of analysts following in year t.
<i>Loss</i>	An indicator variable equal to one if the firm reported a loss in year t for the forecast issuance and characteristics tests and year t -1 for the revision and market reaction tests, and zero otherwise.
<i>M&A</i>	An indicator variable equal to one if the firm's annual acquisition or merger-related costs exceeded 5 percent of net income (loss) in year t, and zero otherwise.
<i>Miss</i>	An indicator variable equal to one if actual earnings is less than the management forecast, and zero otherwise. For range forecasts, Miss = 1 if actual earnings is less than the lower bound of the range estimate.
<i>MTB</i>	Market-to-book in year t for the forecast issuance and characteristics tests and year t -1 for the revision and market reaction tests.

<i>MTF</i>	Indicator variable equal to 1 for male-to-female CEO transitions.
<i>News</i>	Management forecast minus prevailing analysts' consensus, scaled by logged assets per share. We use the midpoint of range forecasts.
<i>OptBias</i>	Management forecast less realized earnings, scaled by logged assets per share. We use the midpoint of range forecasts.
<i>Post</i>	Indicator variable equal to 1 for the three years following the CEO transition. The year of the CEO transition is removed from the sample.
<i>Precision</i>	Negative one multiplied by the absolute value of the forecast range, scaled by logged assets per share.
<i>RetVol</i>	Standard deviation of the stock return over the six months prior to the management forecast date.
<i>Revision</i>	The revised individual analyst earnings forecast less the prior earnings forecast scaled by price two days prior to the forecast revision.
<i>Roa</i>	Return on assets defined as income before extraordinary items scaled by total assets in year t.
<i>ShrOwn</i>	Percentage of shares outstanding owned by the CEO in year t.
<i>Size</i>	Natural log of the firm's assets in year t for the forecast issuance and characteristics tests and year t -1 for the revision and market reaction tests.
<i>StdEarn</i>	Standard deviation of quarterly return on assets over the preceding twelve quarters.
<i>Vested</i>	The CEO's holdings of unexercised exercisable options over total shares outstanding in year t, multiplied by 10.
<i>Weak</i>	An indicator variable equal to one if the firm reported a material weakness during the sample period, and zero otherwise.
<i>ΔExpectations</i>	The management forecast less the prevailing analyst consensus (consisting of the last forecast for each analyst on I/B/E/S in the 90 days preceding the management forecast) scaled by price two days prior to the management forecast announcement date. We use the midpoint of range forecasts.

Appendix 2

Male-to-Female CEO transitions

Company Name	Transition Fiscal Year	Male CEO	Female CEO
1 Aspect Communications Corporation	2000	James R. Carreker	Beatriz V. Infante
2 Bombay Company Incorporated	2000	Robert S. Jackson	Carmie Mehrlander
3 HP Incorporated	2000	Lewis E. Platt	Carleton S. Fiorina
4 Lee Enterprises Incorporated	2001	Richard D. Gottlieb	Mary E. Junck
5 Quintiles Transnational Corporation	2001	Dennis B. Gillings	Pamela J. Kirby
6 SFN Group Incorporated	2001	Raymond Marcy	Cinda A. Hallman
7 Southern Company Gas	2001	Walter M. Higgins, III	Paula G. Rosput
8 VISX Incorporated	2001	Mark B. Logan	Elizabeth H. Davila
9 Axcelis Technologies Incorporated	2002	Brian R. Bachman	Mary G. Puma
10 DineEquity Incorporated	2002	Richard K. Herzer	Julia A. Stewart
11 Edgewater Technology Incorporated	2002	Clete T. Brewer	Shirley Singleton
12 Xerox Corporation	2002	Paul A. Allaire	Anne M. Mulcahy
13 Advent Software Incorporated	2003	Peter M. Caswell	Stephanie G. DiMarco
14 Banta Corporation	2003	Donald D. Belcher	Stephanie A. Streeter
15 Rite Aid Corporation	2003	Robert G. Miller	Mary F. Sammons
16 Books-A-Million Incorporated	2004	Clyde B. Anderson	Sandra Brophy Cochran
17 Frontier Communications Corporation	2005	Leonard Tow	Mary Agnes Wilderotter
18 Hancock Fabrics Incorporated	2005	Larry G. Kirk	Jane F. Aggers
19 New York Times Company	2005	Russell T. Lewis	Janet L. Robinson
20 Reynolds American Incorporated	2005	Andrew J. Schindler	Susan M. Cameron
21 Ann Incorporated	2006	J. Patrick Spainhour	Katherine Lawther Krill
22 Hawaiian Electric Industries	2006	Robert F. Clarke	Constance Hee Lau
23 Hillshire Brands Company	2006	C. Steven McMillan	Brenda C. Barnes
24 Jack In The Box Incorporated	2006	Robert J. Nugent	Linda A. Lang
25 Mondelez International Incorporated	2006	Roger K. Deromedi	Irene B. Rosenfeld
26 Anthem Incorporated	2007	Larry C. Glasscock	Angela F. Braly
27 Archer Daniels Midland Company	2007	G. Allen Andreas	Patricia A. Woertz
28 Carpenter Technology Corporation	2007	Robert J. Torcolini	Anne L. Stevens, Ph.D., B.Sc
29 LTC Properties Incorporated	2007	Andre C. Dimitriadis, Ph.D.	Wendy L. Simpson
30 PepsiCo Incorporated	2007	Steven S. Reinemund	Indra K. Nooyi, M.P.P.M.
31 RTI International Metals Incorporated	2007	Timothy G. Rupert	Dawne S. Hickton, Esq.
32 Belo Corporation	2008	Robert W. Decherd	Dunia A. Shive
33 Blue Nile Incorporated	2008	Mark C. Vadon	Diane M. Irvine
34 MTS Systems Corporation	2008	Sidney W. Emery, Jr., Ph.D.	Laura B. Hamilton
35 Sunoco Incorporated	2008	John G. Drosdick	Lynn Laverty Elsenhans
36 Wilshire Bancorp Incorporated	2008	Soo Bong Min	Joanne Kim
37 Altaba Incorporated	2009	Chih-Yuan Yang	Carol A. Bartz, Ph.D.
38 American Equity Investment Life Holding Company	2009	David Jeff Noble	Wendy C. Waugaman
39 Du Pont (E I) de Nemours	2009	Charles O. Holliday, Jr.	Ellen J. Kullman
40 Ingredion Incorporated	2009	Samuel C. Scott, III	Ilene S. Gordon
41 Standard Microsystems Corporation	2009	Steven J. Bilodeau	Christine King
42 Arcbest Corporation	2010	Robert A. Davidson	Judy R. McReynolds
43 Childrens Place Incorporated	2010	Charles K. Crovitz	Jane T. Elfers
44 Dun & Bradstreet Corporation	2010	Steven W. Alesio	Sara Mathew
45 International Game Technology	2010	Thomas J. Matthews	Patti Sarles Hart
46 International Speedway Corporation	2010	James C. France	Lesa France Kennedy
47 PNM Resources Incorporated	2010	Jeffry E. Sterba	Patricia K. Vincent-Collawn
48 Tredegar Corporation	2010	John D. Gottwald	Nancy M. Taylor
49 Williams-Sonoma Incorporated	2010	W. Howard Lester	Laura J. Alber
50 Caleres Incorporated	2011	Ronald A. Fromm	Diane M. Sullivan
51 CDI Corporation	2011	Roger H. Ballou	H. Paulett Eberhart
52 KeyCorporation	2011	Henry L. Meyer, III	Beth E. Mooney

Company Name	Transition Fiscal Year	Male CEO	Female CEO
53 Neustar Incorporated	2011	Jeffrey E. Ganek	Lisa A. Hook
54 Sempra Energy	2011	Donald E. Felsing	Debra L. Reed
55 Alliant Energy Corporation	2012	William D. Harvey	Patricia Leonard Kampling
56 Ambac Financial Group Incorporated	2012	David W. Wallis	Diana N. Adams
57 Benchmark Electronics Incorporated	2012	Cary T. Fu	Gayla J. Delly
58 Campbell Soup Company	2012	Douglas R. Conant	Denise M. Morrison
59 Cracker Barrel Old Country Store	2012	Michael A. Woodhouse	Sandra Brophy Cochran
60 International Business Machines Corporation	2012	Samuel J. Palmisano	Virginia M. Rometty
61 ITT Incorporated	2012	Steven R. Loranger	Denise L. Ramos
62 Libbey Incorporated	2012	John F. Meier	Stephanie A. Streeter
63 Mylan N.V.	2012	Robert J. Coury	Heather Bresch
64 Navigant Consulting Incorporated	2012	William M. Goodyear	Julie M. Howard
65 Select Comfort Corporation	2012	William R. McLaughlin	Shelly R. Ibach
66 Simpson Manufacturing Incorporated	2012	Thomas J. Fitzmyers	Karen W. Colonias
67 Spire Incorporated	2012	Douglas H. Yaeger	Suzanne Sitherwood
68 Tegna Incorporated	2012	Craig A. Dubow	Gracia C. Martore
69 Clearwater Paper Corporation	2013	Gordon L. Jones	Linda K. Massman
70 Convergys Corporation	2013	Jeffrey H. Fox	Andrea J. Ayers
71 Duke Energy Corporation	2013	James E. Rogers, Jr.	Lynn J. Good
72 General Dynamics Corporation	2013	Jay L. Johnson	Phebe N. Novakovic
73 Lockheed Martin Corporation	2013	Robert J. Stevens	Marillyn A. Hewson
74 Nutrisystem Incorporated	2013	Joseph M. Redling	Dawn M. Zier
75 Ulta Beauty Incorporated	2013	Carl S. Rubin	Mary N. Dillon
76 General Motors Company	2014	Daniel Francis Akerson	Mary T. Barra
77 HCP Incorporated	2014	James F. Flaherty, III, CPA	Lauralee E. Martin
78 Horace Mann Educators Corporation	2014	Peter H. Heckman	Marita Zuraitis
79 Reynolds American Incorporated	2014	Daniel M. Delen	Susan M. Cameron
80 Ross Stores Incorporated	2014	Michael Balmuth	Barbara Rentler
81 Tootsie Roll Industries Incorporated	2014	Melvin J. Gordon	Ellen R. Gordon
82 WEX Incorporated	2014	Michael E. Dubyak	Melissa D. Smith
83 Advanced Micro Devices	2015	Rory P. Read	Lisa T. Su
84 Amerisafe Incorporated	2015	Clifford Allen Bradley, Jr.	Gerry Janelle Frost
85 Central Pacific Financial Corporation	2015	John C. Dean, Jr.	Anli Ngo

Table 1: Sample Selection

	Male-to-Female CEO Transitions	Male-to-Male CEO Transitions
Number of CEO transitions on ExecuComp database from 2000 to 2015 meeting sample selection criteria	85	2,027
CEO transitions included in issuance test (Table 4)	59	1,285
CEO transitions included in Table 5	18	419
CEO transitions included in analyst revision test (Table 7)	28	595
CEO transitions included in market test (Table 8)	47	1,029

There are 29 Female-to-Male CEO transitions and 1 Female-to-Female transition over the 2000 to 2015 period.

Table 2: Issuance Sample Descriptive Statistics**Panel A: Issuance Sample Descriptive Statistics**

	N	Mean	Median	Std Dev
<i>Issue</i>	12,144	0.439	0.000	0.496
<i>Post</i>	12,144	0.483	0.000	0.500
<i>MTF</i>	12,144	0.043	0.000	0.203
<i>LnAnalysts</i>	12,144	2.261	2.398	0.880
<i>Size</i>	12,144	7.964	7.868	1.753
<i>EarnVol</i>	12,144	0.053	0.025	0.080
<i>LitRisk</i>	12,144	0.189	0.014	0.323
<i>ChgEarn</i>	12,144	-0.069	0.324	33.289
<i>MTB</i>	12,144	2.789	2.045	3.549
<i>EquityIssue</i>	12,144	0.853	1.000	0.354
<i>M&A</i>	12,144	0.063	0.000	0.244
<i>Weak</i>	12,144	0.285	0.000	0.451
<i>Roa</i>	12,144	0.032	0.040	0.102
<i>Loss</i>	12,144	0.183	0.000	0.386
<i>ShrOwn</i>	12,144	0.277	0.037	0.384
<i>Vested</i>	12,144	5.646	2.933	7.561
<i>Age</i>	12,144	56.407	57.000	7.104
<i>Dual</i>	12,144	0.637	1.000	0.481
<i>Experience</i>	12,144	5.888	3.751	5.968

Summary statistics for the variables used in our management forecast sample. All variables are defined in the Appendix.

Table 2: Issuance Sample Descriptive Statistics (Continued)

Panel B: Issuance Sample Correlations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
<i>Issue</i> (1)		0.03	0.04	0.14	0.16	-0.21	-0.01	0.00	0.16	0.07	0.04	-0.05	0.19	-0.19	-0.08	0.01	0.00	0.08	-0.02
<i>Post</i> (2)	0.03		0.00	0.00	0.04	0.02	0.06	0.04	-0.02	-0.01	0.08	0.00	-0.02	0.01	0.02	-0.15	-0.37	-0.20	-0.49
<i>MTF</i> (3)	0.04	0.00		0.00	0.01	0.00	0.00	-0.01	0.00	0.01	-0.01	-0.01	0.03	-0.03	0.02	-0.01	-0.04	0.01	-0.01
<i>LnAnalysts</i> (4)	0.17	0.00	0.00		0.61	-0.11	0.40	0.10	0.23	0.04	0.01	-0.19	0.18	-0.13	-0.18	-0.19	-0.01	0.13	0.05
<i>Size</i> (5)	0.15	0.04	0.01	0.59		-0.43	0.10	0.12	-0.02	-0.10	0.03	-0.20	-0.05	-0.17	-0.25	-0.32	0.11	0.21	0.05
<i>EarnVol</i> (6)	-0.20	0.02	-0.01	-0.15	-0.36		0.28	-0.02	-0.01	0.03	0.04	0.13	-0.12	0.42	0.10	0.17	-0.14	-0.17	-0.06
<i>LitRisk</i> (7)	-0.11	0.01	0.00	0.27	-0.01	0.24		-0.04	0.02	0.11	0.05	0.01	0.01	0.13	0.10	-0.02	-0.13	-0.07	-0.01
<i>ChgEarn</i> (8)	-0.02	0.02	0.01	0.01	0.02	0.02	-0.05		0.14	0.01	-0.07	-0.03	0.28	-0.27	-0.05	-0.04	0.02	0.04	-0.01
<i>MTB</i> (9)	0.08	-0.02	0.02	0.14	-0.02	0.02	0.00	0.03		0.12	-0.02	-0.11	0.50	-0.26	-0.10	-0.05	-0.03	0.07	0.00
<i>EquityIssue</i> (10)	0.07	-0.01	0.01	0.05	-0.09	0.02	0.05	0.01	0.07		0.00	0.00	0.13	-0.06	-0.01	0.12	-0.05	0.01	0.02
<i>M&A</i> (11)	0.04	0.08	-0.01	0.02	0.03	0.01	0.02	-0.02	-0.01	0.00		-0.01	-0.13	0.04	0.08	-0.04	-0.05	-0.05	-0.01
<i>Weak</i> (12)	-0.05	0.00	-0.01	-0.18	-0.19	0.12	0.04	-0.01	-0.08	0.00	-0.01		-0.14	0.13	0.06	0.09	-0.05	-0.09	-0.03
<i>Roa</i> (13)	0.17	-0.01	0.03	0.18	0.12	-0.45	-0.09	0.23	0.21	0.07	-0.05	-0.12		-0.67	-0.02	-0.08	0.04	0.09	0.03
<i>Loss</i> (14)	-0.19	0.01	-0.03	-0.15	-0.18	0.39	0.18	-0.19	-0.12	-0.06	0.04	0.13	-0.67		0.05	0.11	-0.08	-0.13	-0.04
<i>ShrOwn</i> (15)	-0.07	0.01	0.01	-0.16	-0.23	0.07	0.06	-0.02	-0.05	0.00	0.07	0.06	-0.03	0.06		0.19	0.04	-0.09	0.14
<i>Vested</i> (16)	-0.01	-0.17	-0.01	-0.22	-0.35	0.15	0.01	-0.01	-0.03	0.07	-0.03	0.10	-0.13	0.11	0.17		-0.01	0.07	0.16
<i>Age</i> (17)	-0.01	-0.35	-0.03	-0.02	0.11	-0.13	-0.10	0.01	-0.04	-0.06	-0.04	-0.05	0.07	-0.08	0.04	0.00		0.27	0.38
<i>Dual</i> (18)	0.08	-0.20	0.01	0.13	0.21	-0.15	-0.07	0.01	0.04	0.01	-0.05	-0.09	0.10	-0.13	-0.08	0.04	0.27		0.24
<i>Experience</i> (19)	-0.04	-0.43	-0.02	0.02	0.01	-0.04	0.00	0.01	0.02	0.02	-0.02	0.01	0.04	-0.03	0.13	0.13	0.41	0.22	

Numbers in bold indicate statistical significance at the 1 percent level. Spearman (Pearson) correlation coefficients are presented above (below) the diagonal. All variables are defined in the Appendix.

Table 2: Issuance Sample Descriptive Statistics (Continued)**Panel C: Issuance Sample Descriptive Statistics by Transition Type**

	Male-to-Female		Male-to-Male		Difference	p-value
	N	Mean	N	Mean		
<i>Issue</i>	522	0.531	11,622	0.434	0.096 ***	0.000
<i>Post</i>	522	0.494	11,622	0.482	0.012	0.593
<i>LnAnalysts</i>	522	2.282	11,622	2.260	0.021	0.585
<i>Size</i>	522	8.055	11,622	7.960	0.095	0.243
<i>EarnVol</i>	522	0.050	11,622	0.053	-0.003	0.346
<i>LitRisk</i>	522	0.187	11,622	0.189	-0.002	0.900
<i>ChgEarn</i>	522	1.119	11,622	-0.122	1.242	0.461
<i>MTB</i>	522	3.102	11,622	2.775	0.328 *	0.099
<i>EquityIssue</i>	522	0.870	11,622	0.853	0.017	0.258
<i>M&A</i>	522	0.054	11,622	0.064	-0.010	0.310
<i>Weak</i>	522	0.272	11,622	0.285	-0.013	0.514
<i>Roa</i>	522	0.045	11,622	0.031	0.014 ***	0.000
<i>Loss</i>	522	0.134	11,622	0.185	-0.051 ***	0.001
<i>ShrOwn</i>	522	0.295	11,622	0.276	0.019	0.261
<i>Vested</i>	522	5.312	11,622	5.661	-0.349	0.273
<i>Age</i>	522	55.448	11,622	56.450	-1.001 ***	0.001
<i>Dual</i>	522	0.651	11,622	0.637	0.015	0.494
<i>Experience</i>	522	5.320	11,622	5.913	-0.593 ***	0.008

The 522 (11,622) observations reflect up to 6 event years (3 years before and 3 years after the management transition) for 97 (2,174) male-to-female (male-to-male) CEO transitions with sufficient data for the independent and dependent variables. *, **, *** Denote coefficients statistically different from zero at the 10 percent, 5 percent, and 1 percent levels, respectively (p-values are given as two-tailed). All variables are defined in the Appendix.

Table 3: Revision Sample Descriptive Statistics

Panel A: Revision Sample Descriptive Statistics

	N	Mean	Median	Std Dev
<i>Revision</i>	11,414	0.001	0.001	0.008
<i>ΔExpectations</i>	11,414	0.004	0.001	0.008
<i>Post</i>	11,414	0.518	1.000	0.500
<i>MTF</i>	11,414	0.071	0.000	0.256
<i>Horizon</i>	11,414	5.156	5.505	0.785
<i>Size</i>	11,414	8.428	8.353	1.634
<i>MTB</i>	11,414	3.659	2.820	3.983
<i>Loss</i>	11,414	0.092	0.000	0.289
<i>Cover</i>	11,414	2.543	2.639	0.595
<i>StdEarn</i>	11,414	0.013	0.007	0.018
<i>RetVol</i>	11,414	0.022	0.020	0.011
<i>Age</i>	11,414	55.889	56.000	6.766
<i>Dual</i>	11,414	0.659	1.000	0.474
<i>Experience</i>	11,414	5.514	3.548	5.783

Summary statistics for the variables used in our analyst revision sample. All variables are defined in the Appendix.

Panel B: Revision Sample Correlations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>Revision</i> (1)		0.30	0.01	0.02	0.06	-0.07	-0.08	0.06	-0.05	0.07	0.10	-0.02	0.00	-0.01
<i>ΔExpectations</i> (2)	0.05		-0.04	-0.01	0.04	-0.11	-0.23	0.20	-0.14	0.18	0.35	-0.08	-0.05	0.00
<i>Post</i> (3)	0.04	-0.03		-0.03	0.02	0.07	-0.03	0.06	-0.04	-0.05	-0.10	-0.35	-0.19	-0.66
<i>MTF</i> (4)	0.03	0.02	-0.03		-0.02	0.01	0.07	-0.06	0.05	0.02	-0.07	0.02	0.02	-0.03
<i>Horizon</i> (5)	0.02	0.06	0.03	-0.09		0.01	0.03	0.00	-0.06	-0.03	-0.03	-0.02	0.01	-0.04
<i>Size</i> (6)	-0.03	-0.02	0.07	0.03	-0.12		-0.04	-0.06	0.50	-0.29	-0.40	0.10	0.22	0.01
<i>MTB</i> (7)	0.00	-0.05	-0.03	0.05	0.03	-0.06		-0.18	0.22	0.10	-0.12	-0.08	0.03	0.02
<i>Loss</i> (8)	-0.02	0.21	0.06	-0.06	0.04	-0.06	-0.08		-0.03	0.32	0.22	-0.04	-0.10	-0.05
<i>Cover</i> (9)	-0.03	-0.05	-0.04	0.05	-0.14	0.48	0.08	-0.03		0.01	-0.15	0.03	0.12	0.10
<i>StdEarn</i> (10)	-0.04	0.16	-0.02	-0.02	0.04	-0.22	0.04	0.40	-0.04		0.34	-0.10	-0.09	0.03
<i>RetVol</i> (11)	0.04	0.29	-0.08	-0.04	0.01	-0.28	-0.04	0.28	-0.12	0.27		-0.10	-0.09	0.01
<i>Age</i> (12)	0.00	-0.05	-0.35	0.03	-0.11	0.10	-0.05	-0.03	0.02	-0.09	-0.09		0.23	0.41
<i>Dual</i> (13)	0.02	-0.01	-0.19	0.02	-0.07	0.22	0.00	-0.10	0.10	-0.12	-0.07	0.23		0.24
<i>Experience</i> (14)	-0.01	0.04	-0.53	-0.04	-0.06	-0.04	-0.01	-0.01	0.05	0.03	0.01	0.46	0.20	

Numbers in bold indicate statistical significance at the 1 percent level. Spearman (Pearson) correlation coefficients are presented above (below) the diagonal. All variables are defined in the Appendix.

Table 3 Revision Sample Descriptive Statistics (Continued)

Panel C: Revision Sample Descriptive Statistics by Transition Type

	Male-to-Female		Male-to-Male		Difference	p-value
	N	Mean	N	Mean		
<i>Revision</i>	806	0.002	10,608	0.001	0.001	*** 0.000
<i>ΔExpectations</i>	806	0.004	10,608	0.004	0.001	* 0.072
<i>Post</i>	806	0.465	10,608	0.522	-0.057	*** 0.002
<i>Horizon</i>	806	4.903	10,608	5.176	-0.273	*** 0.000
<i>Size</i>	806	8.605	10,608	8.415	0.190	*** 0.006
<i>MTB</i>	806	4.364	10,608	3.605	0.760	*** 0.000
<i>Loss</i>	806	0.029	10,608	0.097	-0.068	*** 0.000
<i>Cover</i>	806	2.649	10,608	2.535	0.113	*** 0.000
<i>StdEarn</i>	806	0.011	10,608	0.013	-0.002	*** 0.001
<i>RetVol</i>	806	0.020	10,608	0.022	-0.002	*** 0.000
<i>Age</i>	806	56.562	10,608	55.837	0.725	*** 0.002
<i>Dual</i>	806	0.699	10,608	0.656	0.043	** 0.011
<i>Experience</i>	806	4.640	10,608	5.581	-0.941	*** 0.000

The 806 (10,608) observations reflect analyst revisions over 6 event years (3 years before and 3 years after the management transition) for 50 (1,023) male-to-female (male-to-male) CEO transitions with sufficient data for the independent and dependent variables. *, **, *** Denote coefficients statistically different from zero at the 10 percent, 5 percent, and 1 percent levels, respectively (p-values are given as two-tailed). All variables are defined in the Appendix.

Table 4: Probability of Management Forecast Issuance

	Coefficient	Std. Error		Coefficient	Std. Error		Coefficient	Std. Error	
<i>Post</i>				-0.936	(1.13)		-1.210	(1.09)	
<i>MTF</i>				2.402	(4.53)		-0.577	(4.33)	
<i>Post</i> × <i>MTF</i>							6.036	(3.44)	**
<i>LnAnalysts</i>	8.383	(1.16)	***	8.371	(1.17)	***	8.367	(1.16)	***
<i>Size</i>	2.586	(0.78)	***	2.589	(0.78)	***	2.586	(0.78)	***
<i>EarnVol</i>	-67.634	(8.05)	***	-67.669	(8.06)	***	-67.686	(8.06)	***
<i>LitRisk</i>	-15.003	(2.32)	***	-15.043	(2.33)	***	-15.014	(2.33)	***
<i>ChgEarn</i>	-0.059	(0.02)	***	-0.059	(0.02)	***	-0.059	(0.02)	***
<i>MTB</i>	0.512	(0.20)	**	0.510	(0.20)	**	0.509	(0.20)	**
<i>EquityIssue</i>	1.588	(1.78)		1.577	(1.78)		1.579	(1.78)	
<i>M&A</i>	6.894	(1.86)	***	6.949	(1.86)	***	6.935	(1.86)	***
<i>Weak</i>	0.624	(1.87)		0.642	(1.87)		0.644	(1.87)	
<i>Roa</i>	-0.584	(6.92)		-0.550	(6.91)		-0.591	(6.91)	
<i>Loss</i>	-12.394	(1.94)	***	-12.389	(1.96)	***	-12.377	(1.96)	***
<i>ShrOwn</i>	-2.663	(1.94)		-2.675	(1.92)		-2.654	(1.91)	
<i>Vested</i>	0.378	(0.09)	***	0.373	(0.09)	***	0.370	(0.09)	***
<i>Age</i>	0.047	(0.09)		0.036	(0.09)		0.035	(0.09)	
<i>Dual</i>	2.152	(1.83)		2.122	(1.83)		2.152	(1.82)	
<i>Experience</i>	-0.304	(0.12)	**	-0.326	(0.13)	**	-0.329	(0.13)	**
Fixed Effects	Industry/Year			Industry/Year			Industry/Year		
Adjusted R ²	0.263			0.263			0.263		
Observations	12,144			12,144			12,144		

The dependent variable is *Issue*. Robust standard errors are reported in parentheses. Standard errors are clustered by firm and year. *, **, *** Denote coefficients statistically different from zero at the 10 percent, 5 percent, and 1 percent levels, respectively (unless predicted, p-values are two-tailed). All continuous variables are winsorized at the 1 percent and 99 percent levels. For readability, all of the coefficients and standard errors are multiplied by 100. All variables are defined in the Appendix.

Table 5: Missed Good News Forecasts

	Coefficient	Std. Error		Coefficient	Std. Error		Coefficient	Std. Error	
<i>Post</i>				-4.156	(2.42)		-4.474	(2.69)	
<i>MTF</i>				4.114	(5.39)		0.140	(8.21)	
<i>Post × MTF</i>							8.233	(11.79)	
<i>Size</i>	-1.745	(1.23)		-1.601	(1.19)		-1.499	(1.26)	
<i>EarnVol</i>	-57.054	(44.23)		-58.623	(43.93)		-59.967	(44.03)	
<i>LitRisk</i>	3.325	(6.12)		2.966	(5.92)		2.837	(5.88)	
<i>ChgEarn</i>	-0.171	(0.04)	***	-0.170	(0.05)	***	-0.172	(0.05)	***
<i>MTB</i>	-1.146	(0.39)	***	-1.156	(0.41)	**	-1.160	(0.40)	***
<i>EquityIssue</i>	1.571	(3.67)		1.763	(3.79)		1.799	(3.86)	
<i>M&A</i>	1.021	(5.80)		1.599	(5.78)		1.756	(5.84)	
<i>Weak</i>	6.266	(2.63)	**	6.419	(2.58)	**	6.470	(2.61)	**
<i>Roa</i>	-89.689	(38.34)	**	-88.123	(37.75)	**	-88.321	(37.62)	**
<i>Loss</i>	7.472	(6.23)		6.987	(6.18)		6.699	(6.30)	
<i>Horizon</i>	0.036	(0.01)	**	0.036	(0.01)	**	0.036	(0.01)	**
<i>News</i>	145.504	(13.14)	***	144.901	(13.44)	***	144.794	(13.48)	***
<i>Dacc</i>	36.671	(29.27)		34.057	(29.44)		34.414	(29.27)	
<i>Conc</i>	15.846	(31.57)		12.210	(28.87)		11.124	(27.83)	
<i>Age</i>	-0.244	(0.23)		-0.319	(0.25)		-0.320	(0.25)	
<i>Dual</i>	-2.265	(3.02)		-2.158	(2.99)		-2.055	(2.97)	
<i>Experience</i>	0.169	(0.44)		0.014	(0.43)		0.012	(0.34)	
<i>InvMills</i>	-2.007	(11.49)		-0.142	(11.66)		0.801	(12.15)	
Fixed Effects	Industry/Year			Industry/Year			Industry/Year		
Adjusted R ²	0.248			0.249			0.249		
Observations	2,276			2,276			2,276		

The dependent variable is *Miss*. Robust standard errors are reported in parentheses. Standard errors are clustered by firm and year. *, **, *** Denote coefficients statistically different from zero at the 10 percent, 5 percent, and 1 percent levels, respectively (p-values are two-tailed). All continuous variables are winsorized at the 1 percent and 99 percent levels. For readability, all of the coefficients and standard errors are multiplied by 100. All variables are defined in the Appendix.

Table 6: Good News Forecast Bias

	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
<i>Post</i>			-7.154	(7.19)	-7.236	(7.25)
<i>MTF</i>			12.104	(13.87)	11.075	(14.06)
<i>Post</i> × <i>MTF</i>					2.131	(8.82)
<i>Size</i>	-5.370	(6.39)	-5.152	(6.36)	-5.125	(6.43)
<i>EarnVol</i>	1,164.166	(1099.35)	1,162.221	(1098.75)	1,161.872	(1098.57)
<i>LitRisk</i>	-10.981	(19.77)	-11.525	(20.36)	-11.558	(20.39)
<i>ChgEarn</i>	-1.178	(1.19)	-1.176	(1.19)	-1.176	(1.20)
<i>MTB</i>	0.350	(1.05)	0.319	(1.02)	0.318	(1.04)
<i>EquityIssue</i>	-3.467	(9.56)	-3.275	(9.53)	-3.266	(9.53)
<i>M&A</i>	-46.643	(43.60)	-45.504	(42.84)	-45.463	(42.82)
<i>Weak</i>	13.624	(14.65)	14.058	(15.03)	14.071	(15.11)
<i>Roa</i>	-745.286	(670.12)	-743.181	(669.75)	-743.236	(669.99)
<i>Loss</i>	-92.320	(97.60)	-93.200	(98.26)	-93.276	(98.38)
<i>Horizon</i>	0.047	(0.05)	0.048	(0.05)	0.048	(0.05)
<i>News</i>	253.123	(117.50) **	252.144	(117.13) **	252.116	(117.14) **
<i>Dacc</i>	47.396	(54.72)	42.314	(53.52)	42.407	(53.58)
<i>Conc</i>	209.011	(212.07)	200.725	(205.00)	200.446	(204.78)
<i>Age</i>	-1.634	(1.57)	-1.758	(1.64)	-1.758	(1.64)
<i>Dual</i>	4.190	(7.03)	4.331	(7.09)	4.357	(7.15)
<i>Experience</i>	0.505	(0.84)	0.236	(0.79)	0.235	(0.82)
<i>InvMills</i>	-108.303	(101.27)	-105.135	(99.52)	-104.890	(99.48)
Fixed Effects	Industry/Year		Industry/Year		Industry/Year	
Adjusted R ²	0.136		0.135		0.135	
Observations	2,272		2,272		2,272	

The dependent variable is *OptBias*. Robust standard errors are reported in parentheses. Standard errors are clustered by firm and year. *, **, *** Denote coefficients statistically different from zero at the 10 percent, 5 percent, and 1 percent levels, respectively (p-values are two-tailed). All continuous variables are winsorized at the 1 percent and 99 percent levels. For readability, all of the coefficients and standard errors are multiplied by 100. All variables are defined in the Appendix.

Table 7: Good News Management Forecast Precision

	Coefficient	Std. Error		Coefficient	Std. Error		Coefficient	Std. Error	
<i>Post</i>				0.046	(0.22)		0.065	(0.23)	
<i>MTF</i>				-0.602	(0.34)		-0.303	(0.35)	
<i>Post</i> × <i>MTF</i>							-0.576	(0.52)	
<i>Size</i>	-0.160	(0.12)		-0.164	(0.11)		-0.169	(0.11)	
<i>EarnVol</i>	-5.350	(3.20)		-5.337	(3.16)		-5.249	(3.18)	
<i>LitRisk</i>	-0.890	(0.56)		-0.873	(0.55)		-0.866	(0.55)	
<i>ChgEarn</i>	-0.010	(0.01)	*	-0.010	(0.01)		-0.009	(0.01)	
<i>MTB</i>	0.008	(0.02)		0.007	(0.02)		0.008	(0.02)	
<i>EquityIssue</i>	-0.177	(0.29)		-0.171	(0.29)		-0.175	(0.29)	
<i>M&A</i>	0.558	(0.26)	**	0.535	(0.27)	*	0.526	(0.27)	*
<i>Weak</i>	-0.202	(0.36)		-0.221	(0.35)		-0.223	(0.36)	
<i>Roa</i>	8.661	(2.51)	***	8.668	(2.50)	***	8.694	(2.50)	***
<i>Loss</i>	-0.640	(0.74)		-0.637	(0.72)		-0.615	(0.72)	
<i>Horizon</i>	-0.006	(0.00)	***	-0.006	(0.00)	***	-0.006	(0.00)	***
<i>News</i>	-3.384	(1.52)	**	-3.385	(1.53)	**	-3.380	(1.53)	**
<i>Dacc</i>	-3.708	(2.23)		-3.637	(2.20)		-3.660	(2.19)	
<i>Conc</i>	-1.913	(2.36)		-1.563	(2.22)		-1.474	(2.20)	
<i>Age</i>	-0.014	(0.01)		-0.014	(0.01)		-0.014	(0.01)	
<i>Dual</i>	0.070	(0.27)		0.066	(0.27)		0.057	(0.28)	
<i>Experience</i>	-0.016	(0.03)		-0.013	(0.04)		-0.013	(0.04)	
<i>InvMills</i>	-0.238	(1.27)		-0.285	(1.20)		-0.344	(1.21)	
Fixed Effects	Industry/Year			Industry/Year			Industry/Year		
Adjusted R ²	0.283			0.283			0.283		
Observations	1,848			1,848			1,848		

The dependent variable is *Precision*. Robust standard errors are reported in parentheses. Standard errors are clustered by firm and year. *, **, *** Denote coefficients statistically different from zero at the 10 percent, 5 percent, and 1 percent levels, respectively (p-values are two-tailed). All continuous variables are winsorized at the 1 percent and 99 percent levels. For readability, all of the coefficients and standard errors are multiplied by 100. All variables are defined in the Appendix.

Table 8: Analysts' Reaction to Good News Management Forecasts

	Coefficient	Std. Error		Coefficient	Std. Error		Coefficient	Std. Error	
$\Delta Expectations$	-0.350	(9.19)		-15.013	(15.70)		-17.232	(16.03)	
$Post$	0.082	(0.07)		-0.002	(0.05)		-0.025	(0.06)	
MTF	0.095	(0.04)	**	0.102	(0.05)	**	-0.099	(0.06)	
$\Delta Exp. \times Post$				26.101	(14.11)	*	32.253	(15.61)	*
$\Delta Exp. \times MTF$				22.945	(12.93)	*	77.121	(14.80)	***
$Post \times MTF$				-0.228	(0.09)	**	0.122	(0.06)	**
$\Delta Exp. \times Post \times MTF$							-85.845	(16.44)	***
$Horizon$	0.008	(0.02)		0.013	(0.02)		0.011	(0.03)	
$Size$	-0.018	(0.01)		-0.010	(0.01)		-0.011	(0.02)	
MTB	0.002	(0.00)		0.002	(0.00)		0.003	(0.01)	
$Loss$	-0.046	(0.16)		-0.070	(0.16)		-0.085	(0.16)	
$Cover$	-0.030	(0.03)		-0.033	(0.03)		-0.024	(0.05)	
$StdEarn$	-2.577	(1.48)	*	-2.390	(1.36)	*	-2.421	(1.26)	*
$RetVol$	5.908	(3.86)		7.355	(4.01)	*	6.408	(4.02)	
Age	0.002	(0.00)		0.002	(0.00)		0.002	(0.00)	
$Dual$	0.079	(0.06)		0.071	(0.06)		0.077	(0.11)	
$Experience$	-0.003	(0.01)		-0.002	(0.01)		-0.002	(0.01)	
Fixed Effects	Industry/Year			Industry/Year			Industry/Year		
Adjusted R ²	0.081			0.103			0.114		
Observations	11,414			11,414			11,414		

The dependent variable is *Revision*. Robust standard errors are reported in parentheses. Standard errors are clustered by firm and year. *, **, *** Denote coefficients statistically different from zero at the 10 percent, 5 percent, and 1 percent levels, respectively (unless predicted, p-values are two-tailed). All continuous variables are winsorized at the 1 percent and 99 percent levels. For readability, all of the coefficients and standard errors are multiplied by 100. $\Delta Exp.$ is short for $\Delta Expectations$. All variables are defined in the Appendix.

Table 9: Investor Reaction to Good News Management Forecasts

	Coefficient	Std. Error		Coefficient	Std. Error		Coefficient	Std. Error	
<i>ΔExpectations</i>	72.185	(26.29)	**	91.201	(33.83)	**	72.608	(36.13)	*
<i>Post</i>	-0.044	(0.25)		0.160	(0.27)		-0.023	(0.27)	
<i>MTF</i>	0.034	(0.88)		0.129	(1.50)		-1.526	(1.31)	
<i>ΔExp. × Post</i>				-50.673	(47.01)		0.804	(53.06)	
<i>ΔExp. × MTF</i>				41.281	(122.90)		443.590	(94.49)	***
<i>Post × MTF</i>				-0.550	(1.28)		2.214	(1.09)	*
<i>ΔExp. × Post × MTF</i>							-647.171	(136.46)	***
<i>Horizon</i>	0.267	(0.11)	**	0.265	(0.12)	**	0.254	(0.13)	*
<i>Size</i>	-0.411	(0.10)	***	-0.420	(0.10)	***	-0.430	(0.10)	***
<i>MTB</i>	0.035	(0.02)		0.034	(0.02)		0.035	(0.02)	
<i>Loss</i>	-0.461	(0.61)		-0.442	(0.60)		-0.526	(0.59)	
<i>Cover</i>	0.196	(0.29)		0.188	(0.31)		0.215	(0.29)	
<i>StdEarn</i>	-10.259	(12.86)		-11.251	(12.42)		-10.336	(11.75)	
<i>RetVol</i>	44.135	(18.73)	**	42.682	(18.71)	**	37.244	(20.47)	*
<i>Age</i>	0.009	(0.03)		0.008	(0.03)		0.007	(0.03)	
<i>Dual</i>	-0.067	(0.34)		-0.057	(0.33)		-0.062	(0.35)	
<i>Experience</i>	-0.003	(0.04)		-0.002	(0.04)		-0.002	(0.04)	
Fixed Effects	Industry/Year			Industry/Year			Industry/Year		
Adjusted R ²	0.035			0.035			0.044		
Observations	2,114			2,114			2,114		

The dependent variable is *CAR*. Robust standard errors are reported in parentheses. Standard errors are clustered by firm and year. *, **, *** Denote coefficients statistically different from zero at the 10 percent, 5 percent, and 1 percent levels, respectively (unless predicted, p-values are two-tailed). All continuous variables are winsorized at the 1 percent and 99 percent levels. For readability, all of the coefficients and standard errors are multiplied by 100. *ΔExp.* is short for *ΔExpectations*. All variables are defined in the Appendix.