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ORIGINAL ARTICLE

Trust rhetoric and CEO gender

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Abstract

This study investigates the perceived and actual trustworthiness of female managers when using rhetoric to advertise their trustworthiness in public disclosure documents. We find that the stock market reacts more favorably to trust rhetoric if the document has been prepared under the responsibility of a female CEO rather than a male CEO. We rule out that this result could be driven by female and male CEOs talking about trust in different contexts. However, inconsistently with the notion that the trust rhetoric of women managers is more truthful than that of their male counterparts, trust rhetoric does not relate to less extensive earnings manipulation if such rhetoric stems from female CEOs compared to male CEOs. Our results thus do not confirm the popular view that higher female trustworthiness explains gender differences in accounting behavior.

KEYWORDS

earnings management, female CEOs, stock market reactions, textual analysis, trust

JEL CLASSIFICATION

D53, D91, G14, G41, G30, M41

1 | INTRODUCTION

Experimental evidence demonstrates that women are generally perceived to be more trustworthy than men (e.g., King et al., 1991). Even among researchers, beliefs about higher moral standards of women in the workplace and female executives in particular are widespread (e.g., Ford & Richardson, 1994). In the realm of finance, Aggarwal et al. (2015) demonstrate that female microfinance lenders are considered to be more trustworthy. There is, however, little empirical evidence as to whether financial market participants perceive female executives and their communication as more trustworthy than that of their male counterparts. To the best of our knowledge, the study which comes closest to analyzing this issue is that of De Amicis et al. (2021), who do not observe that stock market reactions to the positivity in earnings conference call tone differ depending on the gender of the executive holding the call. However, tone positivity and trust-related communication are distinct concepts, as only the latter relies on values-related statements.

Moreover, it is another matter as to whether female executives and their communication actually are more trustworthy. The experimental evidence on differences in the propensity of females and males to lie is mixed (e.g., Clot et al., 2014; Conrads et al., 2017; Ezquerra et al., 2018). The same is true for the empirical results on gender differences in terms of unethical behavior in the workplace (Kish-Gephart et al., 2010). Against the backdrop of this ambiguity, it is surprising

that research on financial reporting shows rather unequivocally that women executives behave in a more ethical way, when it comes to their accounting choices, namely earnings management (Barua et al., 2010; Ho et al., 2015; Peni & Vahamaa, 2010), tax avoidance (Dyreng et al., 2010), or financial misreporting (Gupta et al., 2019). Given that managers can suffer legal consequences from aggressive accounting, differences in risk preferences between men and women rather than differences in trustworthiness are a likely explanation for female managers refraining from misrepresenting the financial situation of the firm to their own advantage (e.g., Francis et al., 2015; Zalata et al., 2019).

This paper investigates the issue of perceived and actual female trustworthiness in the context of financial reporting by analyzing managerial rhetoric in 10-K filings. Recent literature has unveiled the potential of textual analysis of public disclosure documents for identifying managerial misconduct. Managers that represent themselves as trustworthy do so to conceal their opportunistic intentions and to mislead investors (e.g., Breuer et al., 2020; Loughran et al., 2009). This line of inquiry allows us to investigate the issue at hand in a real-world setting where lying seems to be (largely) free of risk, as the use of trust rhetoric in legal documents does not give rise to the threat of legal litigation (e.g., Huang, 2005) and managers seem to be rather agnostic of the potential reputational concerns of deceptive trust rhetoric (Breuer et al., 2020). Investigating trust rhetoric as cheap talk enables us to contribute to the issues of perceived and actual trustworthiness of female executives by disentangling the effects of female ethics and female risk aversion on managerial behavior.

Following prior literature, we measure the extent of trust rhetoric by counting the number of trust-related words in the Management Discussion and Analysis (MD&A) section of 10-K filings. We relate this metric to abnormal short-term returns around the date of the 10-K release to answer the question of whether investors perceive rhetoric that advertises the management's trustworthiness as more trustworthy when the firm is run by a female as compared to a male CEO. We employ discretionary accruals as a correlate of actual trustworthiness and test whether female CEOs manipulate reported earnings less extensively than their male counterparts when using trust rhetoric. Our analysis relies on different econometric approaches to ensure that CEO gender causally moderates the relationships between trust rhetoric and short-term stock returns or discretionary accruals. We namely use panel regression models to control for unobserved firm-level heterogeneity, matched samples capturing moderator effects between CEO gender and other observable factors, and a difference-in-difference framework that compares male-to-female and female-to-male CEO turnovers to male-to-male CEO turnovers.

Our results show that investors indeed react more positively to female rather than male CEOs' use of trust rhetoric. Even though additional analyses indicate that female CEOs aim their trust rhetoric more toward investors than male CEOs do, we rule out that this difference in female and male trust rhetoric is the reason for the more positive stock market reactions to female CEOs advertising their trustworthiness. Moreover, we also rule out that the differing reactions to female trust rhetoric are due to female CEOs discussing trust-related issues more depending on the firm's CSR or operating performance or due to female CEOs talking more about trust in the context of other topics typically discussed in the MD&A section, which we extract using unsupervised machine learning. Overall, this finding contributes to the literature documenting that women are perceived to be more trustworthy in finance and accounting (e.g., Aggarwal et al., 2015; Shaub, 1996).

Our results do, however, not confirm that CEO gender moderates the relationship between trust rhetoric and earnings manipulation. We find no evidence that female CEOs can be trusted more than their male counterparts to disclose more reliable accounting information, when they advertise their trustworthiness in public disclosure documents. This is consistent with risk-aversion rather than higher female morals being the reason for female managers refraining more from deceptive accounting behavior than their male counterparts (e.g., Francis et al., 2015; Gupta et al., 2019; Zalata et al., 2019).

Overall, the issue of female managers' trustworthiness is important, since trust is a central concept in the economic literature. It affects economic (Knack & Keefer, 1997) and financial (Guiso et al., 2008) development and, ultimately, the wealth of nations (Gur, 2015). A key factor in the stock market reaction to a company's release of accounting information is the perceived credibility of that information (Pevzner et al., 2015). Even though women executives are still rare (e.g., Huang & Kisgen, 2013), trust toward female managers in financial markets should not be based on stereotypes. Firms are finding themselves under growing pressure to promote the number of women in senior management (Adams & Ferreira, 2009). Basing these demands on false assumptions about women's "virtues" might undermine female managers' reputation and ultimately efforts toward gender equality in management.

This paper proceeds as follows: Section 2 reviews the relevant literature on textual analysis in financial reporting as well as on gender differences in trustworthiness and develops our hypotheses. Section 3 describes our dataset and measurement techniques. Section 4 presents the empirical results. Section 5 concludes.

2 | LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 | Trust rhetoric in financial reporting

A growing body of the finance and accounting literature has started to use textual analysis to identify deceptive behavior or intentions. Overall, this work suggests that managerial rhetoric which advertises a management's trustworthiness indicates opportunistic or unethical behavior: Loughran et al. (2009) find that the use of ethics-related words in 10-K filings is more common among firms that are subject to class action lawsuits, have poor corporate governance, or are so-called "sin stocks". Larcker and Zakolyukina (2012) identify financial misreporting based on extremely positive emotion words, references to general knowledge, or shareholder value in conference calls. Hope and Wang (2018) demonstrate the robustness of these findings in the context of big bath accounting. Breuer et al. (2020) connect the use of trust-related words to managerial opportunism. However, the cited research has not yet documented a significant stock market reaction to the use of trust- or ethics-related terms. This is consistent with investors being unaware of the potential for revealing managerial opportunism as well as investors being successfully lulled by managers into overlooking the latter's opportunistic intentions.

Trust rhetoric therefore provides us with an opportunity to investigate female trustworthiness in a setting where lying appears to be (almost) riskless. Contrary to the use of positive tone (Rogers et al., 2011), trust rhetoric in public disclosure documents is extremely unlikely to be considered "material information", and therefore it does not warrant legal litigation (e.g., Huang, 2005). Another potential cost for managers could be a loss in reputation, which they suffer in the case that trust rhetoric misrepresents their true intentions. However, not only do investors fail to recognize trust rhetoric as an indicator of opportunistic intentions, but managers appear to ignore potential reputational costs involved with deceptive trust rhetoric (to a large degree) (Breuer et al., 2020). Based on these findings, it is safe to assume that even if there are any reputational costs from contradicting trust rhetoric by later actions, managers do not seem to care about these reputational concerns in an adequate way.

Previous literature investigating gender differences in financial reporting finds that the earnings management of female executives is more conservative (Barua et al., 2010; Ho et al., 2015; Peni & Vahamaa, 2010), and that female executives are less likely to engage in financial misreporting (Gupta et al., 2019). Given that managers can suffer legal consequences from aggressive accounting, differences in risk preferences between men and women are a likely explanation for female managers refraining from misrepresenting the financial situation of the firm to their own advantage (e.g., Francis et al., 2015; Zalata et al., 2019). Our analysis addresses the often-conjectured alternative explanation that female managers behave more ethically by using trust rhetoric as a means of cheap talk in order to disentangle both potential explanations.

2.2 | Female trustworthiness

The literature from management, economics, and psychology acknowledges significant gender-based differences in behavior and decision-making. One fundamental aspect of how the behavior of females and males is often suggested to differ is that of ethics and specifically trustworthiness. Trustworthiness is defined as an agent's preference to reciprocate another party's actions, which render that party vulnerable to opportunistic behavior by the agent (e.g., Alós-Ferrer & Farolfi, 2019). One aspect of trustworthiness is truthfulness, which is an individual's preference to refrain from misrepresenting the truth to her or his own advantage, or in other words, the trustworthiness of an individual's communication.

Experimental evidence supporting that women are *perceived* as more trustworthy than men at least dates back to Wright and Sharp (1979). King et al. (1991) show that defective behavior is typically attributed to men, while women are credited with cooperation. The views that women are more concerned with ethical behavior in the workplace than men (Ford & Richardson, 1994) or that female executives have higher moral standards (Bernardi & Arnold, 1997) are widely adopted. Empirical research in finance and accounting confirms the bias toward women being perceived as more trustworthy (e.g., Aggarwal et al., 2015; Shaub, 1996). Of special importance to our study is evidence that demonstrates that women elicit more favorable reactions to values-related statements (Wei & Ran, 2019), like trust rhetoric.

CEOs influence a firm's performance through their ability (e.g., Chang et al., 2010; Demerjian et al., 2012) as well as the extent of their opportunism at the cost of investors (e.g., Core et al., 1999; Gompers et al., 2003) and they often possess information about whether the firm's current valuation is justified (e.g., Chalmers et al., 2002; Kahle, 2000; Lee, 1997). By asking investors to trust them, CEOs claim that investing in the firm will turn out advantageous. Even though

trustworthiness in a narrow sense only pertains to managers' honest intentions and truthfulness, i.e., the extent to which opportunism is absent, perceived competence, expertise, skills, or ability are also widely acknowledged to be antecedents of trust and thus aspects of trustworthiness in a wider sense (e.g., Caldwell & Clapham, 2003; Mayer et al., 1995; McAllister, 1995). Trust rhetoric thus is an attempt by managers to convince investors of their honest intentions, abilities, and positive private information, which all will ultimately increase shareholder wealth.

Based on the evidence according to which women and their communication are perceived to be more trustworthy, we conjecture that market participants will also be more convinced when female instead of male CEOs ask investors to trust in them. In this case, trust rhetoric would be interpreted as a more (credible) positive signal of the management's intentions, abilities, and private information, if it comes from female CEOs as compared to male CEOs. We therefore expect stock market reactions to trust rhetoric to be conditional on CEO gender.

Hypothesis 1. Trust rhetoric leads to more positive stock market reactions if the firm is run by a female compared to a male CEO.

However, it is a different issue as to whether female CEOs also *behave* in a more trustworthy way than their male counterparts. Evolutionary pressure from greater intrasexual reproductive competition among men (Lee et al., 2017) or differences in socialization that promote kind, concerned attitudes in women and aggressive behavior in men (Heilman, 2001) are potential reasons for women behaving more ethically. The higher ethical standards of women could explain why female managers are less likely to manipulate corporate disclosures (e.g., Gupta et al., 2019; MacLeod Heminway, 2007). However, empirical results on gender differences in terms of unethical behavior in the workplace are mixed (Kish-Gephart et al., 2010).

The experimental work that analyzes gender differences regarding trustworthiness largely confirms that women are more trustworthy (e.g., Croson & Buchan, 1999). This is at least in part due to women feeling a stronger sense of obligation to reciprocate (e.g., Buchan et al., 2008). Recently, real-world evidence from lending relationships has corroborated these findings (e.g., Shahriar et al., 2020). Experimental studies on differences between genders regarding the special field of truthfulness, i.e., the trustworthiness of communication, are not conclusive. While some work observes that either women (Clot et al., 2014) or men (Conrads et al., 2017) are more prone to lying, many studies do not confirm any gender difference regarding trustworthiness of communication (e.g., Childs, 2012; Dreber & Johannesson, 2008; Ezquerra et al., 2018; Gylfason et al., 2013).

Reasoning that trust rhetoric indicates opportunistic managers' intentions to mislead investors, Breuer et al. (2020) find that the use of trust words relates positively to the exploitation of latitudes in accounting standards. The use of discretionary accruals for selfish motives is widely regarded as unethical (Jha, 2019). Even though CFOs have a greater influence on earnings management than CEOs (Jiang et al., 2010), CEOs also play an important role in this regard as highlighted by their career concerns, incentives, and even personal characteristics – like gender or marital status – determining the extent of discretionary accruals (e.g., Bergstresser & Philippon, 2006; Cheng & Warfield, 2005; Davidson III et al., 2007; Hilary et al., 2016; Ho et al., 2015). Given that the Sarbanes-Oxley Act requires the CEO as well as the CFO to certify financial reports, the relevance of both types of managers for discretionary accruals is not surprising. We are interested in whether the statements of female CEOs regarding their trustworthiness can be trusted more than those of male CEOs. By testing whether female CEOs engage to a lesser degree in unethical accounting decisions when advertising their trustworthiness, we hope to shed light on this issue.

If female CEOs' communication is more trustworthy, their trust rhetoric should coincide to a lesser degree with earnings management than in the case of male CEOs. This argument is based on the assumption that trust rhetoric is not always an indicator of whether managers are trying to mislead investors. It may have a different, more truthful, meaning depending on the manager's gender. If female CEOs' trust rhetoric is truly more trustworthy than that of their male counterparts, the correlation between trust rhetoric and earnings management, with the latter being another means of deceiving market participants, should be weaker.

Hypothesis 2. Trust rhetoric relates in a less positive way to the absolute value of discretionary accruals if the firm is run by a female CEO compared to a male CEO.

Even though CEOs can gain from manipulating reported profits as well as from convincing investors of their trustworthiness, earnings management poses a risk to managers, whereas trust rhetoric is cheap talk. We can therefore answer the question of whether female CEOs are more trustworthy in a scenario where lying is riskless by testing Hypothesis 2.

Following, e.g., Bergstresser and Philippon (2006), we use the absolute value of discretionary accruals for two reasons. First, CEOs do not only stand to gain from inflating but also from reducing reported earnings (e.g., Perry & Williams, 1994). Second, the principle of accrual accounting requires every manipulation of reported earnings to be reversed in another period, which makes earnings manipulation an exercise of "earnings timing".

3 | DATASET

Our procedure to quantify trust rhetoric follows Audi et al. (2016): We download all 10-K reports from the Securities and Exchange Commission's EDGAR website for the years 1997–2015. 10-K filings belong to the most important reports that managerial boards use to inform outsiders about a firm's operations. We concentrate our linguistic investigation on the MD&A section of the 10-K reports. Here, the management discusses past firm performance and outlines future plans and expectations. The MD&A section is subject to little regulation and not audited, giving the management the opportunity to describe its firm's operations, conduct, and prospects in its own words (e.g., Audi et al., 2016; Breuer et al., 2020). Hence, it serves as an ideal platform for communicating managerial trustworthiness to investors.

The proxy for the amount of trust that managers try to convey is the number of words related to trust in a firm's MD&A section. The 21 trust words comprise "accountability", "character", "ethics", "ethical", "ethically", "fairness", "honest", "honesty", "integrity", "respect", "respected", "respectful", "responsible", "responsibility", "responsibilities", "transparency", "trust", "trusted", "truth", "virtue", and "virtues". We delete all "respect to" phrases and capitalized trust words except those at sentence beginnings to ensure that the word does not relate to a financial asset or company name. We count the total number of occurrences for each trust word in the 10-K filing of firm i for year t and divide it by the total word count in the MD&A section. For our measure of trustworthiness $\left(Trust_{i,t}\right)$, we multiply this ratio by 1000 in order to obtain meaningful coefficient estimates. Consistent with prior work (Audi et al., 2016; Breuer et al., 2020), only 0.13‰ of all words in the MD&A sections of our sample are trust words.

We obtain all other data for the firms in our dataset from Thomson Reuters. We match this data with the 10-K filings automatically based on CIK numbers and then manually verify the quality of this match. We exclude all firm-year observations with total assets below $10 million, as we expect that public disclosure documents from very small firms receive limited attention. We also exclude observations that have an MD&A section with 200 or fewer words, which mainly incorporate a reference to the annual report. Multivariate tests confirm that these observations are not significantly different from those that remain in our sample. Our full dataset includes 18,173 firm-year observations from 1869 firms over the years 1997 to 2015. However, many of our analyses also control for the firms' corporate social responsibility (CSR) performance, since CSR performance, for one, is correlated with top manager gender (e.g., Glass et al., 2015; Manner, 2010) and, for another, could be an important determinant of how trustworthy managers are perceived and behave (e.g., Lins et al., 2017). When we exclude those observations for which information on CSR performance is missing, our sample reduces to 5583 observations from 935 firms over the years 2001 to 2015. Faced with the dilemma that we substantially reduce our sample size by controlling for CSR performance, but CSR performance being a potentially important correlate, we estimate all our regression models for our full sample as well as the reduced CSR sample, which requires that information on CSR performance is available. Note, however, that since we use CSR as an independent variable in all analyses, reducing our sample based on whether information on CSR performance is available is a case of exogenous sample selection, which does not introduce a selection bias or any other statistical problems than a smaller size (Wooldridge, 2013). Table 1 provides more detailed information on our sample construction.

10-K filings are prepared under the direct supervision of a firm's executive management. Public disclosure documents exhibit a significant CEO-fixed effect (Davis et al., 2015). CEOs are the most prominent management figures and shape outsiders' perception of a firm's management. We, therefore, focus our analysis on the CEO's gender using a dummy variable indicating whether a firm is run by a female CEO ($FemaleCEO_{i,t}$). We obtain our data on executive gender from the ExecuComp database. In order to increase the number of observations for our reduced CSR sample, we manually obtain information on manager gender and turnover dates if the ExecuComp database does not cover a firm-year observation for which we have CSR performance data. We base our manual research on the Refinitiv database, which provides biographies for the most important managers of many firms.

In order to ensure that the current CEO had an opportunity to assert her or his influence over the rhetoric in the 10-K filing, we require that she or he was not only in office on the day of the 10-K filing but also at least 30 days prior to that. Our final sample includes 526 observations with a female CEO. This corresponds to about 3% of our sample and is thus in line with prior studies on listed US firms (e.g., De Amicis et al., 2021; Liu, 2021; McCarthy et al., 2017; Yuan et al., 2019).

TABLE 1 Sample construction

	Dropped	Firm-year observations remaining
Number of 10-K files downloaded for years 1997–2015		166,679
Automated match of CIK number with Thomson Reuters database	101,195	65,484
Drop observations with total assets < $10 million	14,077	51,407
Drop if MD&A section words <201	6919	44,488
Manual control of CIK and Thomson Reuters database match	468	44,020
Drop if information on CEO gender missing	16,116	27,904
Drop if regression variables other than $CSR_{i,t}$ missing: Full sample	9731	18,173
Drop if $CSR_{i,t}$ missing: Reduced CSR sample	12,590	5583

Note: This table describes the procedure of our sample construction beginning with downloading 10-K reports from the Securities and Exchange Commission's EDGAR website.

We measure investor reactions to the release of 10-K reports as the cumulative abnormal return over a three-day event window centered around the release date of the 10-K filing belonging to year t ($CAR_{i,t}$). Daily abnormal returns are calculated on the basis of the Fama–French three-factor model estimated over an event window of 252 trading days ending six trading days prior to the 10-K release date.

We quantify the use of discretionary accruals ($DiscAcc_{i,t}$) following Capalbo et al. (2018), who utilize a modified version of the Dechow and Dichev (2002) model, which extends the Jones (1991) model to account for prior year, current year, and subsequent year cash flow from operating activities. We estimate the following regression model separately for each industry-year with at least 20 observations, based on the Fama–French 48 industry classification:

$$\frac{TotalAccruals_{i,t}}{AvgTA_{i,t}} = \beta_1 \cdot \frac{1}{AvgTA_{i,t}} + \beta_2 \cdot \frac{\Delta NetSales_{i,t}}{AvgTA_{i,t}} + \beta_3 \cdot \frac{PropPlanEquip_{i,t}}{AvgTA_{i,t}} + \beta_4 \cdot \frac{CFO_{i,t-1}}{AvgTA_{i,t}} + \beta_5 \cdot \frac{CFO_{i,t}}{AvgTA_{i,t}} + \beta_6 \cdot \frac{CFO_{i,t+1}}{AvgTA_{i,t}} + \varepsilon_{i,t}. \quad (1)$$

$TotalAccruals_{i,t}$ is the change in current assets minus the change in cash and short-term investments, minus the change in current liabilities excluding changes of long-term debt in current liabilities, and minus depreciation and amortization over year t.$AvgTA_{i,t}$ is the average of total assets over years t and t-1. $\Delta NetSales_{i,t}$ is the increase in net sales over year t. $PropPlanEquip_{i,t}$ represents property, plant, and equipment. $CFO_{i,t}$ is total cash flow from operating activities. We obtain the measure of how much reported earnings suffer from manipulation ($|DiscAcc_{i,t}|$), as the absolute value of the residuals ($\varepsilon_{i,t}$) from these regressions. Also following Capalbo et al. (2018) as well as others (e.g., Burgstahler et al., 2006; Stubben, 2010), we exclude firms in the insurance and financial services industry from our analyses on discretionary accruals.

Our multivariate regression models control for a variety of linguistic characteristics of the MD&A Section of the 10-K filing as well as for various firm characteristics. As one linguistic aspect, we consider the total MD&A length ($Words_{i,t}$). It serves as a measure of disclosure readability (e.g., Li, 2010), since Loughran and McDonald (2014) show that measures of document size outperform other common measures of disclosure readability or opacity. We also control for the use of positive words ($FinPos_{i,t}$) as well as words that refer to uncertainty ($FinUnc_{i,t}$) in the MD&A section based on the word lists from Loughran and McDonald (2011). Even though the use of positive terms, especially in the MD&A section, only conveys very limited information (Loughran & McDonald, 2011), we want to rule out that our results are driven by potential stock market reactions to rhetoric based on positive language rather than trust rhetoric. Examples of positive words are "efficient", "profitable", or "upturn". We include words relating to uncertainty, like "depend", "indefinite", or "uncertain", since female managers might be prone to describe the firm's prospects with another extent of certainty, as they are generally more risk averse when it comes to financial reporting (Barua et al., 2010; Gupta et al., 2019), and investors might react to this language, because it is an effective proxy for the certainty of the firm's prospects (e.g., Loughran & McDonald, 2013). As for $Trust_{i,t}$, we base our measures for $FinPos_{i,t}$ and $FinUnc_{i,t}$ on the MD&A section, since we expect the use of rhetoric to be more pronounced in this part of the 10-K filing due to the MD&A section being subject to little

regulation and it arguably being the part where managers most likely discuss potentially uncertain prospects (Loughran & McDonald, 2016).

We also consider the frequency with which the MD&A section refers to shareholder value. Larcker and Zakolyukina (2012) show that fewer such references indicate poor accounting quality and negative abnormal stock performance (Larcker & Zakolyukina, 2012). We thus use a wordlist derived by Larcker and Zakolyukina (2012) to count the number of references to the firm's shareholder value. This list contains 15 phrases such as "shareholder value", "value for our stockholders", or "investor welfare", which we detail in Table 2. The resulting variable $SHValRef_{i,t}$ is the number of these phrases in the firm's MD&A section divided by its total wordcount.

Moreover, numerous other topics could be discussed in the MD&A section, to which stock market participants might react or which could be related to accounting quality. We thus apply an unsupervised machine learning approach to determine relevant topics in 10-K filings called "latent Dirichlet allocation" (LDA), which has recently gained popularity in analyzing financial documents such as 10-K filings (e.g., Bao & Datta, 2014; Bybee et al., 2020; Hanley & Hoberg, 2019; Israelsen, 2014). Following prior literature, we preprocess the MD&A section by lowercasing all words and removing punctuation, other symbols, and numbers. As is customary, we remove all words that are common in the English language but do not have meaning on their own, like articles or conjunctions, and words that are very commonly used in the MD&A section, but do not add to the underlying content of interest of the topics, like "millions", "billions", or "percent". Moreover, we delete the "trust" words as well as the words from the shareholder value word list from the document, since we already captured both topics using the bag of words approach. By our choice, the LDA algorithm does not consider words that are contained in more than 80% of all documents. This ensures that our topics are not dominated by common words, which are relevant for most topics and thus do not add to a meaningful interpretation, like "costs", "assets", or "sales".

We estimate the LDA in the "quanteda" package of the open-source software "R", where we employ the Gibbs sampler. The algorithm yields the most frequent words for a specified number of topics that are most commonly discussed in the M&DA sections of our sample as well as the extent to which these topics are referred to within each MD&A section, called "topic weights". Again following prior finance literature using LDA to analyze 10-K filings, we specify that the algorithm reduces the documents to 25 topics (Bao & Datta, 2014; Hanley & Hoberg, 2019; Israelsen, 2014), which should be enough to make the topics distinguishable from one another.

Table S1 of the Online Appendix displays the 25 most relevant words for each topic extracted from the LDA sorted according to the weights that the words have within the respective topic. LDA does not provide labels for the extracted topics. Even though the presented word lists allow for an easy interpretation of most topics, we refrain from labeling the topics, as we only want to control for their potential effect on stock markets or correlation to discretionary accruals and our analysis does therefore not rely on an accurate interpretation of the topics' semantical meaning. We achieve this by adding the topic weights as control variables and present corresponding summary statistics in Table S2 of the Online Appendix.

The set of firm control variables includes the firm's investments in fixed assets ($Investment_{i,t}$), measures of the firm's growth opportunities ($SalesGrowth_{i,t}$ and $MTB_{i,t}$), metrics that capture the financial situation of the firm ($CashHoldings_{i,t}$, $ROA_{i,t}$, $CashFlow_{i,t}$, $Leverage_{i,t}$, and $IndAdjROA_{i,t}$), firm size ($Assets_{i,t}$), and institutional ownership ($IO_{i,t}$) as well as analyst coverage ($AC_{i,t}$) in order to reflect firm governance. As already mentioned, we estimate a specification of this model where we control for CSR performance ($CSR_{i,t}$) and one where we do not control for $CSR_{i,t}$.

In the models where $CAR_{i,t}$ is the dependent variable, we also control for the firm's abnormal stock performance ($PreReleaseAlpha_{i,t}$) as well as unexplained stock volatility ($PreReleaseRMSE_{i,t}$) prior to the 10-K release, which we obtain from the Fama–French three-factor model estimated to calculate the daily abnormal returns (e.g., Audi et al., 2016; Loughran & McDonald, 2011). If $|DiscAcc_{i,t}|$ is the dependent variable, we add the absolute value of the change in $ROA_{i,t}$ from year t–1 to t ($|\Delta ROA_{i,t}|$) as well as a dummy variable indicating whether $ROA_{i,t}$ is negative in both year t and year t–1 ($negROA_{i,t}$) (e.g., Klein, 2002).

Table 2 provides definitions and Table 3 descriptive statistics for all our variables. Using a t-test that controls for unequal sample variances, we do not observe significant differences in the use of trust words ($Trust_{i,t}$), document length ($Words_{i,t}$), 10-K release return ($CAR_{i,t}$), or the use of discretionary accruals ($|DiscAcc_{i,t}|$) between the female and male sample means. Female CEOs are on average working for firms with better CSR performance ($CSR_{i,t}$). The language used by female CEOs differs from that of their male counterparts in that the former employ a less uncertain ($FinUnc_{i,t}$) tone. This study does, however, not investigate the linguistic differences between female and male CEOs per se. We analyze whether stock market participants react differently to trust rhetoric depending on CEO gender and whether these differing reactions would be justified.

TABLE 2 Variable definitions

Variable	Definition
$FemaleCEO_{i,t}$	A dummy variable indicating whether the individual holding the CEO position on the date of the 10-K release and in the 30 days prior to its release is a woman
$PostTrans_{i,t}$	A dummy variable which is zero during the tenure of the outgoing CEO and 1 during the tenure of the incoming CEO
$FemaleTrans_{i}$	A dummy variable indicating the incoming CEO is female
$Trust_{i,t}$	Total number of trust words used in the MD&A section belonging to year $t \times 1000$/total number of words used in the same MD&A section
$CAR_{i,t}$	The cumulative abnormal return over a three-day event window centered around the 10-K release day in percentage points. See Section 3 for details
$\lvert DiscAcc_{i,t}\rvert$	Absolute value of discretionary accruals measured following Capalbo et al. (2018). See Section 3 for details
$Words_{i,t}$	Natural logarithm of the total number of words used in the MD&A section belonging to year t
$FinPos_{i,t}$	Number of positive words in the MD&A section belonging to year t/total number of words used in the same MD&A section. The list of positive words is taken from Bill McDonald's webpage
$FinUnc_{i,t}$	Number of uncertainty words in the MD&A section belonging to year t/total number of words used in the same MD&A section. The list of positive words is taken from Bill McDonald's webpage
$SHValRef_{i,t}$	The total number of occurrences of the phrases "shareholder value", "shareholder welfare", "shareholder well-being", "value for our shareholders", "value for shareholders", "stockholder value", "stockholder welfare", "stockholder well-being", "value for our stockholders", "value for stockholder", "investor value", "investor welfare", "investor well-being", "value for our investors" or "value for investors" in the MD&A section belonging to year t/total number of words used in the same MD&A section
$Investment_{i,t}$	Purchase of fixed assets in year t/total assets in year $t-1$
$SalesGrowth_{i,t}$	(Net sales in year t/net sales in year $t-1$) -1
$MTB_{i,t}$	(Market capitalization end of fiscal year t + total debt in year t)/total assets in year $t-1$
$CashHoldings_{i,t}$	Cash and short-term investments in year t/total assets in year t.
$ROA_{i,t}$	(Operating Income in year t + Depreciation and Amortization in year t)/total assets in year t-1.
$CashFlow_{i,t}$	Cash flow from operating activities in year t/total assets in year $t-1$
$Assets_{i,t}$	Natural logarithm of total assets in year t
$Leverage_{i,t}$	Book value of total debt in year t/Book value of total assets in year t
$IndAdjROA_{i,t}$	$ROA_{i,t}$ – median of $ROA_{i,t}$ in firm i's Fama–French 48-industry in year t
$CSR_{i,t}$	Simple average of the social and environmental corporate social responsibility scores for year t
$AnalystCoverage_{i,t}$	The yearly average of the number of earnings forecasts given for firm i per month. If the number of earnings forecasts is not provided, we set it to zero
$InstitutionalOwnership_{i,t}$	The percentage of shares held by 13-F investors in the firm at the end of year t
$PreReleaseAlpha_{i,t}$	Measure of abnormal stock performance prior to the 10-K release. Calculated as the intercept from the Fama–French regression prior to the respective 10-K release used to determine abnormal stock performance as described in Section 3
$PreReleaseRMSE_{i,t}$	Measure of abnormal stock volatility prior to the 10-K release. Calculated as the root mean square error from the Fama–French regression prior to the respective 10-K release used to determine abnormal stock performance as described in Section 3
$\lvert\Delta ROA_{i,t}\rvert$	Absolute value of the change in $ROA_{i,t}$ from year $t-1$
$negROA_{i,t}$	Dummy variable which is equal to one if $ROA_{i,t}$ and $ROA_{i,t-1}$ are both negative
$FemaleCFO_{i,t}$	A dummy variable indicating whether the individual holding the CFO position on the date of the 10-K release and in the 30 days prior to its release is a woman

Note: This table provides definitions for all variables used in the empirical analysis. We treat fiscal years that end between January 1 and May 31 as ending in the prior year. We deflate all financial data to 1990 using the Consumer Price Index from the Bureau of Labor Statistics.

TABLE 3 Descriptive statistics

	Mean	Standard deviation	Minimum	Median	Maximum	Obs. Male	Mean male	Median male	Obs. Female	Mean female	Median female	*t*-statistic	*p*-value
$FemaleCEO_{i,t}$	0.03	0.17	0.00	0.00	1.00	17,647	0.00	0.00	526	1.00	1.00		
$Trust_{i,t}$	0.13	0.21	0.00	0.07	1.66	17,647	0.13	0.07	526	0.14	0.08	−0.768	44.28%
$Words_{i,t}$	9.14	0.69	5.30	9.24	10.39	17,647	9.14	9.24	526	9.17	9.25	−1.210	22.70%
$FinPos_{i,t}$	0.77	0.28	0.00	0.74	1.64	17,647	0.77	0.74	526	0.79	0.75	−1.629	10.39%
$FinUnc_{i,t}$	1.57	0.51	0.55	1.49	3.95	17,647	1.57	1.49	526	1.53	1.46	2.563	1.06%
$SHValRef_{i,t}$	0.01	0.03	0.00	0.00	0.20	17,647	0.01	0.00	526	0.01	0.00	−0.024	98.05%
$CAR_{i,t}$	−0.02	5.07	−17.60	−0.08	17.92	16,703	−0.01	−0.08	508	−0.33	−0.17	1.380	16.82%
$\lvert DiscAcc_{i,t}\rvert$	0.04	0.04	0.00	0.03	0.22	7809	0.04	0.03	183	0.04	0.02	0.039	96.91%
$Investment_{i,t}$	0.06	0.08	0.00	0.04	0.70	17,647	0.06	0.04	526	0.05	0.03	5.393	0.00%
$SalesGrowth_{i,t}$	0.15	0.68	−0.86	0.06	8.30	17,647	0.15	0.06	526	0.08	0.02	2.775	0.57%
$MTB_{i,t}$	2.12	2.38	0.06	1.42	20.94	17,647	2.12	1.43	526	2.17	1.29	−0.457	64.81%
$CashHoldings_{i,t}$	0.18	0.20	0.00	0.10	0.95	17,647	0.18	0.10	526	0.22	0.15	−3.457	0.06%
$ROA_{i,t}$	0.10	0.20	−1.53	0.12	0.67	17,647	0.10	0.12	526	0.07	0.10	2.882	0.41%
$CashFlow_{i,t}$	0.08	0.15	−1.09	0.09	0.52	17,647	0.08	0.09	526	0.07	0.09	2.220	2.69%
$Assets_{i,t}$	20.22	1.79	16.21	20.17	25.01	17,647	20.22	20.17	526	20.15	20.12	0.794	42.73%
$Leverage_{i,t}$	0.23	0.21	0.00	0.19	1.00	17,647	0.23	0.19	526	0.22	0.16	0.880	37.93%
$IndAdjROA_{i,t}$	0.06	0.54	−42.17	0.05	45.92	17,647	0.06	0.05	526	0.04	0.03	2.788	0.54%
$CSR_{i,t}$	43.61	27.90	8.23	35.31	95.07	5420	43.49	35.09	163	47.65	39.71	−1.881	6.17%
$AnalystCoverage_{i,t}$	8.27	7.60	0.00	6.00	30.17	17,647	8.28	6.00	526	7.90	6.00	1.110	26.76%
$InstitutionalOwnership_{i,t}$	0.14	0.09	0.00	0.14	0.43	17,647	0.14	0.14	526	0.13	0.12	1.977	4.85%
$PreReleaseAlpha_{i,t}$	0.03	0.15	−0.44	0.02	0.60	16,834	0.03	0.02	513	0.02	0.01	1.835	6.71%
$PreReleaseRMSE_{i,t}$	2.36	1.34	0.70	2.01	7.96	16,834	2.36	2.01	513	2.33	1.96	0.523	60.13%
$\lvert\Delta ROA_{i,t}\rvert$	0.07	0.11	0.00	0.03	0.79	16,727	0.07	0.03	503	0.08	0.03	−1.321	18.71%
$negROA_{i,t}$	0.09	0.28	0.00	0.00	1.00	17,464	0.09	0.00	521	0.13	0.00	−2.868	0.43%
$FemaleCFO_{i,t}$	0.09	0.28	0.00	0.00	1.00	4673	0.09	0.00	89	0.17	0.00	−2.046	4.37%

Note: This table presents descriptive statistics on all variables employed in our tabulated analyses for our full sample after winsorizing. We also present information on the male CEO and female CEO subsample means and medians as well as t-statistics controlling for unequal variances and their corresponding two-sided *p*-values, which test for differences between the two subsample means. Variable definitions are provided in Table 2.

4 | EMPIRICAL RESULTS

4.1 | Reactions to female trust rhetoric

4.1.1 | Baseline regressions

We first analyze the effect of manager gender on stock market reactions to trust rhetoric in the following cross-sectional regression model:

$$CAR_{i,t} = \alpha + \beta_1 \cdot FemaleCEO_{i,t} + \beta_2 \cdot Trust_{i,t} + \beta_3 \cdot FemaleCEO_{i,t} \cdot Trust_{i,t} + \sum_j Controls_{j,i,t} + \tau_t + \delta_k + \epsilon_{i,t}. \quad (2)$$

The interaction term $FemaleCEO_{i,t} \cdot Trust_{i,t}$ describes how female trust rhetoric relates differently than male trust rhetoric to 10-K release returns after controlling for the above-described set of observable firm and 10-K characteristics ($Controls_{j,i,t}$), unobservable industry-level heterogeneity on the Fama–French 48-industry level (δ_k), and common yearlytrends (τ_t).

The results of estimating regression model (2) using ordinary least squares with standard errors clustered at the firm-level for our full sample as well as our reduced CSR sample are presented in Columns 1 and 2 of Table 4, respectively. We observe positive and significant ($p = .070/p = .051$) coefficient estimates on $FemaleCEO_{i,t} \cdot Trust_{i,t}$ for both samples. These results confirm that abnormal announcement returns to trust rhetoric in the MD&A section of 10-K filings are more positive for firms run by female CEOs compared to firms managed by male CEOs as stated by Hypothesis 1. The observed relationship is also economically meaningful. For the smaller of the two coefficient estimates, an increase in the use of trust words by one standard deviation prompts an abnormal 10-K release return that is ceteris paribus 0.45 percentage points higher ($= 2.162 \cdot 0.21$) if the firm is run by a female rather than a male CEO.

The results on our control variables are in line with prior literature. We find no significant market reaction to trust rhetoric for male CEOs (Breuer et al., 2020) or positive language in the MD&A section (Loughran & McDonald, 2011). More uncertain language (Demers & Vega, 2014) or more references to shareholder value prompt more negative market reactions. With respect to firm financials, we observe at least some evidence that 10-K announcement returns are higher if $MTB_{i,t}$ or $PreReleaseAlpha_{i,t}$ are smaller (Loughran & McDonald, 2011), or if operating performance is higher ($CashFlow_{i,t}$).

However, a major challenge in analyzing the effects of manager gender is that female managers might not be hired by firms at random, but rather depending on other firm characteristics. In order to establish a causal relationship between manager gender and stock market sensitivity to trust rhetoric as postulated in Hypothesis 1, we modify regression model (2) by adding firm-fixed effects (γ_i), which accounts for time-invariant firm characteristics. We drop the industry-fixed effects and estimate the resulting panel regression Model (3) for our full sample as well as our reduced CSR sample with heteroskedasticity-robust standard errors.

$$CAR_{i,t} = \alpha + \beta_1 \cdot FemaleCEO_{i,t} + \beta_2 \cdot Trust_{i,t} + \beta_3 \cdot FemaleCEO_{i,t} \cdot Trust_{i,t} + \sum_j Controls_{j,i,t} + \tau_t + \gamma_i + \epsilon_{i,t}. \quad (3)$$

We present the respective regression results in Column 3 of Table 4 for our full sample and in Column 4 of Table 4 for our reduced CSR sample. The coefficient estimates on $FemaleCEO_{i,t} \cdot Trust_{i,t}$ are again positive and significant ($p = .063/p = .046$). They are similar in magnitude as those in the cross-sectional regression models. We conclude that the positive correlation between stock market sensitivity to trust rhetoric and CEO gender is robust to unobserved time-invariant firm characteristics, providing further evidence in favor of Hypothesis 1.

4.1.2 | Do female CEOs use trust rhetoric in a different context?

Alternative interpretations of our results would be possible if female CEOs talked about trust in different contexts than their male counterparts and investors reacted to trust rhetoric conditional on the context in which it is used rather than depending on the CEO's gender.

TABLE 4 CEO gender and stock market reaction to trust rhetoric

	(1)	(2)	(3)	(4)
	$CAR_{i,t}$	$CAR_{i,t}$	$CAR_{i,t}$	$CAR_{i,t}$
$FemaleCEO_{i,t} \cdot Trust_{i,t}$	2.162*	2.202*	2.711*	1.796**
	(1.195)	(1.127)	(1.457)	(0.897)
$FemaleCEO_{i,t}$	−0.768***	−0.554**	−0.755*	−0.719
	(0.264)	(0.245)	(0.391)	(0.455)
$Trust_{i,t}$	−0.001	−0.180	0.016	−0.218
	(0.181)	(0.201)	(0.276)	(0.334)
$Words_{i,t}$	0.001	−0.028	0.090	0.126
	(0.071)	(0.087)	(0.136)	(0.226)
$FinPos_{i,t}$	−0.044	−0.116	−0.173	0.320
	(0.176)	(0.219)	(0.246)	(0.347)
$FinUnc_{i,t}$	−0.265***	−0.222*	−0.277*	−0.367
	(0.098)	(0.127)	(0.164)	(0.247)
$SHValRef_{i,t}$	−2.377***	−0.738	−4.126***	−1.969
	(0.911)	(1.005)	(1.390)	(1.726)
$Investment_{i,t}$	−1.377**	−2.127**	−2.063**	−0.583
	(0.654)	(1.048)	(0.887)	(1.771)
$SalesGrowth_{i,t}$	−0.116	0.134	−0.096	0.311
	(0.076)	(0.222)	(0.079)	(0.265)
$MTB_{i,t}$	−0.011	−0.088*	−0.047	−0.137*
	(0.023)	(0.046)	(0.031)	(0.071)
$CashHoldings_{i,t}$	0.520	0.992	0.170	0.834
	(0.348)	(0.632)	(0.561)	(1.013)
$ROA_{i,t}$	−0.050	1.939	0.004	1.723
	(0.515)	(1.977)	(0.594)	(2.490)
$CashFlow_{i,t}$	1.680***	−0.684	1.747**	−1.914
	(0.603)	(1.280)	(0.751)	(1.475)
$Assets_{i,t}$	0.051	−0.007	−0.237*	−0.332
	(0.047)	(0.070)	(0.121)	(0.220)
$Leverage_{i,t}$	0.533*	−0.050	0.579	−0.529
	(0.275)	(0.415)	(0.453)	(0.789)
$IndAdjROA_{i,t}$	0.114	0.667	0.148	0.815
	(0.108)	(1.933)	(0.116)	(2.567)
$CSR_{i,t}$		−0.003		0.000
		(0.002)		(0.004)
$AnalystCoverage_{i,t}$	−0.023***	−0.012	−0.049***	−0.037*
	(0.008)	(0.010)	(0.014)	(0.022)
$InstitutionalOwnership_{i,t}$	−0.817	−0.766	−2.049**	−2.177*
	(0.539)	(0.749)	(0.815)	(1.200)
$PreReleaseAlpha_{i,t}$	−3.428***	−2.047***	−3.699***	−2.208***
	(0.382)	(0.757)	(0.411)	(0.846)
$PreReleaseRMSE_{i,t}$	−0.098	0.011	0.026	0.171
	(0.068)	(0.147)	(0.081)	(0.195)
Topic weights	Yes	Yes	Yes	Yes

TABLE 4 (Continued)

	(1)	(2)	(3)	(4)
	$CAR_{i,t}$	$CAR_{i,t}$	$CAR_{i,t}$	$CAR_{i,t}$
Industry-fixed effects	Yes	Yes	No	No
Firm-fixed effects	No	No	Yes	Yes
Year-fixed effects	Yes	Yes	Yes	Yes
Observations	17,211	5546	17,211	5546
Within *R*-squared			0.021	0.029
R-squared	0.026	0.035	0.147	0.205
Number of obs. with female CEO	508	163	508	163
Number of firms	1769	929	1769	929

Note: This table presents regression results with $CAR_{i,t}$ as dependent variable. We indicate standard errors, which are clustered at the firm-level in Columns 1 and 2 and heteroskedasticity-robust in Columns 3 and 4, in parentheses. Columns 1 and 3 present the results for our full sample and Columns 2 and 4 for our reduced CSR sample. All variables are winsorized 1% in each tail. Variable definitions are provided in Table 2. $^{***}p < .01$, $^{**}p < .05$, $^{*}p < .1$.

Stock market reactions to trust rhetoric could, for example, depend on whether managers refer more frequently to the firm's shareholders' interests or to those of the firm's general stakeholders. We would expect that investors react more positively to trust rhetoric, if an MD&A section is focused more on the firm's shareholder value, as measured by $SHValRef_{i,t}$, because investors might only then interpret trust rhetoric as a signal of the management's loyalty toward their interests rather than that of other stakeholders.

Trust rhetoric might also be viewed differently by investors depending on the firm's ethical behavior. If a firm has behaved less responsibly toward its stakeholders, as measured by $CSR_{i,t}$, investors might be more likely to view its trust rhetoric as cheap talk and ignore it.

Moreover, investor reactions to trust rhetoric could be determined by the firm's financial performance, as investors might disregard the management's praise of their own virtues as an attempt to distract, if the management has delivered poor performance. We consider firm performance based on $IndAdjROA_{i,t}$, which is a firm's industry-adjusted operating performance calculated as $ROA_{i,t}$ minus the Fama–French 48-industry median $ROA_{i,t}$ (e.g., Chen et al., 2007; Clifford & Lindsey, 2016; Cornett et al., 2008).

We firstly analyze whether female CEOs make references to trust- and ethics-related issues in different contexts than their male counterparts. For this purpose, we estimate regressions of $SHValRef_{i,t}$, $CSR_{i,t}$, or $IndAdjROA_{i,t}$ on $FemaleCEO_{i,t} \cdot Trust_{i,t}$, its components, as well as our other control variables. We present the results of estimating these regressions in Table 5. They indicate that female CEOs make more references to shareholder value when they talk about trust than their male counterparts. This result is consistent with the notion that the trust rhetoric of female CEOs is more strongly aimed at convincing investors of the management's trustworthiness than that of male CEOs. We find, however, no evidence that female CEOs refer more to trust depending on the firm's CSR or operating performance.

The observed difference in correlation between trust rhetoric and references to shareholder value leads to the question of whether the differing market reactions to trust rhetoric of female and male CEOs are actually elicited by references to shareholder value rather than by the CEO's gender. We thus add the interaction between $Trust_{i,t}$ and $SHValRef_{i,t}$ to regression Model (2) as well as our panel regression model. Despite not having found a gender difference in the extent of trust rhetoric depending on the firm's $CSR_{i,t}$ or $IndAdjROA_{i,t}$, we estimate additional models that also control for the moderating effect of these two variables. The results of estimating these models are presented in Columns 1 to 4 of Table 6.

Moreover, reactions to trust rhetoric could also depend on the context captured by any of the 25 topics identified by our LDA. Therefore, we also estimate regression models that include the interactions of our 25 topic weights with $Trust_{i,t}$ as independent variables. Due to potential collinearity problems, we do not add the variables $CSR_{i,t}$ and $IndAdjROA_{i,t}$ or their interactions with $Trust_{i,t}$ to this model. We present the results of estimating these regressions in Columns 5 and 6 of Table 6, where we do not display the coefficient estimates on the topic weights or their interactions with $Trust_{i,t}$ for reasons of space. Note, however, that none of the coefficient estimates on the interaction terms is significantly different from zero.

Finally, we add the interaction terms $FemaleCEO_{i,t} \cdot FinPos_{i,t}$ and $FemaleCEO_{i,t} \cdot FinUnc_{i,t}$ to further control for potential moderator effects between positive or uncertain tone and CEO gender in Columns 7 and 8 of Table 6.

TABLE 5 CEO gender and use of trust rhetoric in different contexts

	(1)	(2)	(3)	(4)	(5)
	$SHValRef_{i,t}$	$SHValRef_{i,t}$	$CSR_{i,t}$	$IndAdjROA_{i,t}$	$IndAdjROA_{i,t}$
$FemaleCEO_{i,t} \cdot Trust_{i,t}$	0.026*	0.056*	1.394	0.006	−0.025
	(0.013)	(0.029)	(12.709)	(0.038)	(0.016)
$FemaleCEO_{i,t}$	−0.004*	−0.005	2.141	−0.001	0.000
	(0.002)	(0.006)	(2.639)	(0.008)	(0.002)
$Trust_{i,t}$	−0.002	0.005	5.378**	−0.008	0.001
	(0.003)	(0.006)	(2.457)	(0.013)	(0.003)
$Words_{i,t}$	0.002*	0.003*	0.093	−0.013	0.003*
	(0.001)	(0.001)	(0.994)	(0.011)	(0.001)
$FinPos_{i,t}$	0.012***	0.013***	2.147	−0.015**	−0.003
	(0.002)	(0.004)	(2.391)	(0.007)	(0.003)
$FinUnc_{i,t}$	0.001	0.004*	1.170	−0.008	0.001
	(0.001)	(0.002)	(1.455)	(0.012)	(0.002)
$SHValRef_{i,t}$			−11.399	−0.033	−0.008
			(13.938)	(0.058)	(0.013)
$Investment_{i,t}$	−0.001	−0.017	0.271	−0.300	0.003
	(0.007)	(0.012)	(7.321)	(0.186)	(0.017)
$SalesGrowth_{i,t}$	0.001	0.000	−1.303	−0.037	−0.004**
	(0.000)	(0.001)	(1.006)	(0.036)	(0.002)
$MTB_{i,t}$	0.000	−0.001	−0.154	−0.005	0.001
	(0.000)	(0.000)	(0.268)	(0.012)	(0.001)
$CashHoldings_{i,t}$	0.000	0.000	11.672**	0.186*	0.017
	(0.003)	(0.007)	(5.020)	(0.098)	(0.014)
$ROA_{i,t}$	−0.000	0.001	14.479**	1.428***	1.050***
	(0.002)	(0.011)	(7.318)	(0.136)	(0.048)
$CashFlow_{i,t}$	0.002	0.026***	0.105	0.009	−0.033
	(0.003)	(0.010)	(6.596)	(0.122)	(0.048)
$Assets_{i,t}$	−0.000	−0.001	10.775***	0.002	0.000
	(0.001)	(0.001)	(0.650)	(0.010)	(0.001)
$Leverage_{i,t}$	0.005	0.009	1.428	0.032	0.008
	(0.004)	(0.007)	(3.651)	(0.037)	(0.008)
$IndAdjROA_{i,t}$	−0.000	−0.005	−0.744		
	(0.000)	(0.008)	(5.552)		
$CSR_{i,t}$		−0.000			−0.000
		(0.000)			(0.000)
$AnalystCoverage_{i,t}$	−0.000	−0.000	0.432***	−0.001	−0.000
	(0.000)	(0.000)	(0.106)	(0.001)	(0.000)
$InstitutionalOwnership_{i,t}$	−0.011*	−0.023*	3.015	−0.037	0.003
	(0.006)	(0.014)	(7.609)	(0.057)	(0.009)
$PreReleaseAlpha_{i,t}$	0.001	−0.007*	−3.111	0.032	0.015
	(0.001)	(0.004)	(2.234)	(0.057)	(0.011)
$PreReleaseRMSE_{i,t}$	−0.001***	−0.003***	−0.783	0.016**	−0.000
	(0.000)	(0.001)	(0.675)	(0.008)	(0.001)
Topic weights	Yes	Yes	Yes	Yes	Yes

TABLE 5 (Continued)

	(1)	(2)	(3)	(4)	(5)
	$SHValRef_{i,t}$	$SHValRef_{i,t}$	$CSR_{i,t}$	$IndAdjROA_{i,t}$	$IndAdjROA_{i,t}$
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	17,347	5553	5553	17,347	5553
R-squared	0.060	0.120	0.552	0.221	0.942
Number of obs. with female CEO	513	163	163	513	163
Number of firms	1777	929	929	1777	929

Note: This table presents regression results with $SHValRef_{i,t}$, $CSR_{i,t}$, or $IndAdjROA_{i,t}$ as dependent variable. We indicate standard errors, which are clustered at the firm-level, in parentheses. Columns 1 and 4 present results for our full sample and Columns 2, 3, and 5 for our reduced CSR sample. All variables are winsorized 1% in each tail. Variable definitions are provided in Table 2. ***$p < .01$, **$p < .05$, *$p < .1$.

The coefficient estimate on $FemaleCEO_{i,t} \cdot Trust_{i,t}$ remains positive and significant in all eight models presented in Table 6 (with similar significance levels as in our baseline regressions in Table 4). These results confirm that the more positive investor reactions to female trust rhetoric are neither caused by female CEOs referring more to shareholder interests than their male counterparts, by female CEOs discussing trust issues more pronounced depending on CSR or operating performance, by female CEOs talking more about trust in connection with any of the 25 most relevant topics discussed within the MD&A sections of our sample, nor by investors reacting differently to more positive or uncertain language depending on CEO gender.

4.1.3 | Propensity score matching

Another endogeneity concern is that observable firm and 10-K characteristics could affect both the sensitivity of announcement returns to trust rhetoric and manager gender. One example of such a potential effect could be that stock markets react differently to positive or uncertain tone depending on CEO gender, and that these effects are related to gender-specific stock market sensitivity toward trust rhetoric. Regression Model (2) does not control for these potential moderating effects of our control variables. To address this concern, we follow prior literature on gender differences of managers and employ a propensity score matching procedure (e.g., Huang & Kisgen, 2013; Li & Zeng, 2019). Specifically, we match each firm-year observation with a female CEO to an observation with a male CEO by performing a one-on-one logit-based propensity score nearest-neighbor matching without replacements. This procedure renders direct comparisons between these groups more meaningful (Rosenbaum & Rubin, 1983).

We perform separate matching procedures for our full sample and for our CSR sample: In the case of our full sample, we use all independent variables from regression Model (2) (except $FemaleCEO_{i,t}$ and $CSR_{i,t}$) as well as year- and industry-dummies based on the Fama–French 48-industry classification as covariates. For our CSR sample, we include $CSR_{i,t}$ in our set of covariates, but do not consider the 25 topic weights, as this would result in a relatively large number of independent variables for the relatively small number of observations in the matched CSR sample regressions.

We require a 0.5% caliper to obtain a sample of male-run firms that display the highest likelihood of being run by a female CEO. Our results remain qualitatively similar if we require other calipers or common support.

Table 7 evaluates the effect of $Trust_{i,t}$ on $CAR_{i,t}$ separately for our female and matched male samples after controlling for the same factors employed in the matching procedure, including year- and industry-fixed effects. Columns 1 and 2 show the regression results for the female and matched male samples for our full sample and Columns 3 and 4 for our reduced CSR sample. Over both samples, the observed coefficient estimates on $Trust_{i,t}$ are positive for our female subsamples (even though insignificant in Column 3) and negative for our matched male subsamples. We test for the null hypothesis that the coefficient on $Trust_{i,t}$ is equal across both samples by using a seemingly unrelated estimation with standard errors clustered at the firm-level. Chi-square statistics of 9.37 or 5.07, respectively, reject this hypothesis in both samples ($p = .002/.024$). These results again provide strong support of Hypothesis 1. Even after controlling for the moderating role of other observable firm and 10-K characteristics, stock markets react more positively to female than to male trust rhetoric in the MD&A section of 10-K filings.

TABLE 6 Alternative reasons for stock market reactions to trust rhetoric

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$CAR_{i,t}$	$CAR_{i,t}$	$CAR_{i,t}$	$CAR_{i,t}$	$CAR_{i,t}$	$CAR_{i,t}$	$CAR_{i,t}$	$CAR_{i,t}$
$FemaleCEO_{i,t} \cdot Trust_{i,t}$	2.160*	2.702*	2.043*	1.710*	2.074*	2.912*	2.154*	2.698*
	(1.194)	(1.455)	(1.144)	(0.916)	(1.227)	(1.590)	(1.236)	(1.470)
$SHValRef_{i,t} \cdot Trust_{i,t}$	−1.836	−3.291	−1.073	−1.523	1.163	−0.686		
	(3.152)	(4.284)	(3.057)	(5.599)	(4.059)	(5.364)		
$IndAdjROA_{i,t} \cdot Trust_{i,t}$			0.856	1.737				
			(1.669)	(2.300)				
$CSR_{i,t} \cdot Trust_{i,t}$			0.012*	0.009				
			(0.007)	(0.010)				
$Trust_{i,t}$	0.017	0.047	−0.780**	−0.751	−1.449	1.856	0.001	0.017
	(0.191)	(0.287)	(0.383)	(0.604)	(3.244)	(4.482)	(0.181)	(0.276)
$SHValRef_{i,t}$	−2.132**	−3.708**	−0.497	−1.717	−2.441**	−3.967***	−2.328**	−4.085***
	(1.026)	(1.495)	(1.192)	(2.060)	(1.049)	(1.538)	(0.909)	(1.394)
$IndAdjROA_{i,t}$	0.114	0.148	0.530	0.527	0.114	0.140	0.115	0.148
	(0.108)	(0.116)	(2.031)	(2.640)	(0.108)	(0.118)	(0.109)	(0.116)
$CSR_{i,t}$			−0.005*	−0.001				
			(0.003)	(0.005)				
$FemaleCEO_{i,t}$	−0.767***	−0.752*	−0.526**	−0.695	−0.777***	−0.813**	1.145	0.052
	(0.264)	(0.391)	(0.247)	(0.456)	(0.261)	(0.395)	(1.416)	(1.758)
$FemaleCEO_{i,t} \cdot FinPos_{i,t}$							−0.425	−0.050
							(1.105)	(1.569)
$FemaleCEO_{i,t} \cdot FinUnc_{i,t}$							−1.031*	−0.509
							(0.571)	(0.707)
$FinPos_{i,t}$	−0.043	−0.172	−0.116	0.334	−0.034	−0.159	−0.031	−0.173
	(0.176)	(0.246)	(0.218)	(0.349)	(0.176)	(0.248)	(0.176)	(0.246)
$FinUnc_{i,t}$	−0.265***	−0.277*	−0.243*	−0.372	−0.261***	−0.296*	−0.244**	−0.267
	(0.098)	(0.164)	(0.129)	(0.249)	(0.097)	(0.164)	(0.098)	(0.165)
Topic weights	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Topic weights · $Trust_{i,t}$	No	No	No	No	Yes	Yes	No	No
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	No	Yes	No	Yes	No	Yes	No
Firm-fixed effects	No	Yes	No	Yes	No	Yes	No	Yes
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	17,211	17,211	5546	5546	17,211	17,211	17,211	17,211
Within *R*-squared		0.021		0.029		0.023	0.026	0.021
R-squared	0.026	0.147	0.035	0.205	0.027	0.148		0.147
Number of obs. with female CEO	508	508	163	163	508	508	508	508
Number of firms	1769	1769	929	929	1769	1769	1769	1769

Note: This table presents regression results with $CAR_{i,t}$ as dependent variable. All models include our full set of control variables. We indicate standard errors, which are clustered at the firm-level in Columns 1, 3, 5, and 7 and heteroskedasticity-robust in Columns 2, 4, 6, and 8, in parentheses. All variables are winsorized 1% in each tail. Variable definitions are provided in Table 2. ***$p < .01$, **$p < .05$, *$p < 0.1$.

TABLE 7 CEO gender and stock market reaction to trust rhetoric – Propensity Score Matching

	(1)	(2)	(3)	(4)
	$CAR_{i,t}$		$CAR_{i,t}$	
	Female	**Male**	**Female**	**Male**
$Trust_{i,t}$	2.884*	−3.192**	1.195	−3.312**
	(1.521)	(1.275)	(1.171)	(1.551)
$CSR_{i,t}$			−0.033**	−0.034***
			(0.013)	(0.012)
Topic weights	Yes	Yes	No	No
Control variables	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes	Yes
Chi-square	9.37		5.07	
p-value	.002		.024	
Observations	498	498	156	156
R-squared	0.229	0.170	0.375	0.424

Note: This table presents the results of a seemingly unrelated estimation including industry- and year-fixed effects with standard errors clustered at the firm-level over a female and matched male sample, where $CAR_{i,t}$ is the dependent variable. Columns 1 and 2 present the results for our full sample and columns 3 and 4 for our reduced CSR sample. The models presented in columns 3 and 4 do not include the 25 topic weights as control variables. The matching procedure is described in Section 4.1.2. All models include industry- and year-fixed effects. All variables are winsorized 1% in each tail. Variable definitions are provided in Table 2. ***$p < .01$, **$p < .05$, *$p < .1$.

4.1.4 | Difference-in-difference framework

Inspired by Huang and Kisgen (2013) as well as Li and Zeng (2019), we also employ a difference-in-difference framework to compare the changes in market reactions to trust rhetoric around the appointment of a new CEO for male-to-female or female-to-male transitions with a control group of male-to-male transitions. To this end, we solely consider the latest CEO transition recorded for each firm in our data and only include transitions where both the outgoing and the incoming CEO have tenures of at least 3 years. These criteria exclude the few female-to-female transitions we have in our sample. $PostTrans_{i,t}$ is used as a dummy variable being zero during the tenure of the outgoing CEO and one during the tenure of the incoming CEO. $GenderTrans_i$ is set to zero for male-to-male transitions, it is 1 for male-to-female transitions, and it is −1 for female-to-male transitions. This way, male-to-male transitions serve us as a control group to isolate whether reactions to trust rhetoric change around CEO turnovers where the incoming CEO differs in gender from his predecessor. By female-to-male transitions having the opposite sign as male-to-female transitions, we assume that markets perceptions of trust rhetoric change to a similar degree, but that they improve for male-to-female transitions and deteriorate for female-to-male transitions. To rule out that these changes are due to changes in observable firm and 10-K characteristics, the regression includes all our control variables. $GenderTrans_i$ is not part of the regression, since it is absorbed by the firm-fixed effects (Huang & Kisgen, 2013, or Li & Zeng, 2019):

$$\begin{aligned} CAR_{i,t} = {} & \alpha + \beta_1 \cdot PostTrans_{i,t} + \beta_2 \cdot Trust_{i,t} + \beta_3 \cdot Trust_{i,t} \cdot PostTrans_{i,t} \\ & + \beta_4 \cdot Trust_{i,t} \cdot GenderTrans_i + \beta_5 \cdot PostTrans_{i,t} \cdot GenderTrans_i \\ & + \beta_6 \cdot PostTrans_{i,t} \cdot GenderTrans_i \cdot Trust_{i,t} + \sum_j Controls_{j,i,t} + \tau_t + \gamma_i + \varepsilon_{i,t}. \end{aligned} \tag{4}$$

$PostTrans_{i,t} \cdot GenderTrans_i \cdot Trust_{i,t}$ indicates whether the change in sensitivity to trust rhetoric is different for transitions that result in a change of CEO gender. Higher values indicate that trust rhetoric is perceived more favorably after male-to-female transitions or more unfavorably after female-to-male transitions. Table 8 presents the results for regression Model (4), with heteroskedasticity-robust standard errors in parentheses for our full sample, covering 31 male-to-female transitions, 17 female-to-male, and 537 male-to-male transitions, as well as the reduced CSR sample in columns 1 and 2, respectively. The triple interaction term $PostTrans_{i,t} \cdot GenderTrans_i \cdot Trust_{i,t}$ is positive and significant in both estimations. Thus, our results confirm that stock markets change their attitude toward trust rhetoric differently if a change

TABLE 8 CEO gender and stock market reaction to trust rhetoric – Difference-in-difference estimation

	(1)	(2)
	$CAR_{i,t}$	$CAR_{i,t}$
$Trust_{i,t} \cdot PostTrans_{i,t} \cdot GenderTrans_i$	4.557**	5.251**
	(1.796)	(2.542)
$Trust_{i,t} \cdot GenderTrans_i$	2.197	−0.881
	(1.829)	(2.387)
$Trust_{i,t} \cdot PostTrans_{i,ti}$	−0.228	−0.045
	(0.563)	(0.639)
$PostTrans_{i,t} \cdot GenderTrans_i$	−0.232	−0.487
	(0.503)	(0.722)
$PostTrans_{i,t}$	−0.090	0.025
	(0.218)	(0.253)
$Trust_{i,t}$	−0.735	−0.122
	(0.462)	(0.613)
$CSR_{i,t}$		0.000
		(0.006)
Topic weights	Yes	Yes
Control variables	Yes	Yes
Firm-fixed effects	Yes	Yes
Year-fixed effects	Yes	Yes
Observations	6813	2795
Within *R*-squared	0.030	0.055
R-squared	0.140	0.205
Number of obs. with female CEO	219	103
Number of firms	643	405

Note: This table presents results for a difference-in-difference regression where the treatment groups are male-to-female and female-to-male CEO transitions and the control group is male-to-male CEO transitions. Column 1 presents the results for our full sample and column 2 for our reduced CSR sample. The models include firm- and year-fixed effects and we indicate heteroskedasticity-robust standard errors in parentheses. All variables are winsorized 1% in each tail. Variable definitions are provided in Table 2. ***$p < .01$, **$p < .05$, *$p < .1$.

in CEO genders occurs than when a male CEO succeeds a male CEO. Other than market participants reacting differently to the trust rhetoric of female than that of male CEOs, the sole alternative explanation for this result is that of unobserved firm characteristics changing around the CEO transition for male-to-female transitions only. These results also provide strong evidence in favor of the causal relationship postulated by Hypothesis 1.

4.2 | Female trust rhetoric as an indicator of trustworthiness

We test Hypothesis 2 with the same econometrical approaches that address the endogeneity of CEO gender outlined in Sections 4.1.1 to 4.1.3. Table 9 presents the results of estimating the panel regression model from Section 4.1.1 using $|DiscAcc_{i,t}|$ as the dependent variable for our full sample as well as our reduced CSR sample. The interaction term $FemaleCEO_{i,t} \cdot Trust_{i,t}$ is insignificant in both models. Untabulated results confirm a positive effect of $Trust_{i,t}$ on $|DiscAcc_{i,t}|$ in regressions without the interaction term $FemaleCEO_{i,t} \cdot Trust_{i,t}$ (Breuer et al., 2020). We also estimate untabulated regression models considering either firm- or industry-fixed effects, where we exclude all text-based control variables, to examine whether CEO and CFO gender relate to the extent of earnings management, as established by prior work. We identify a negative and significant correlation between $FemaleCEO_{i,t}$ and $|DiscAcc_{i,t}|$ in the model with firm-fixed effects and the same for the relationship between $FemaleCFO_{i,t}$ and $|DiscAcc_{i,t}|$ in the model with industry-fixed effects. These results provide weak confirmation of previous findings and further substantiate that not only CFO (e.g., Barua et al., 2010) but also CEO (e.g., Ho et al., 2015) gender may affect earnings management.

TABLE 9 CEO gender, trust rhetoric, and earnings manipulation

	(1)	(2)	(3)	(4)	(5)	(6)
	$\lvert DiscAcc_{i,t}\rvert$	$\lvert DiscAcc_{i,t}\rvert$	$\lvert DiscAcc_{i,t}\rvert$	$\lvert DiscAcc_{i,t}\rvert$	$\lvert DiscAcc_{i,t}\rvert$	$\lvert DiscAcc_{i,t}\rvert$
$FemaleCEO_{i,t} \cdot Trust_{i,t}$	−0.031	−0.009			−0.032	−0.045
	(0.019)	(0.016)			(0.020)	(0.041)
$FemaleCEO_{i,t}$	−0.003	−0.007			0.001	−0.002
	(0.004)	(0.006)			(0.007)	(0.007)
$FemaleCFO_{i,t} \cdot Trust_{i,t}$			0.020	−0.012	0.020	−0.012
			(0.020)	(0.015)	(0.020)	(0.015)
$FemaleCFO_{i,t}$			−0.005	0.006	−0.004	0.006
			(0.005)	(0.006)	(0.005)	(0.006)
$Trust_{i,t}$	0.006	0.013**	−0.001	0.018*	−0.000	0.019*
	(0.005)	(0.006)	(0.006)	(0.010)	(0.006)	(0.010)
$Words_{i,t}$	−0.001	−0.002	−0.004	−0.003	−0.004	−0.003
	(0.002)	(0.003)	(0.003)	(0.004)	(0.003)	(0.004)
$FinPos_{i,t}$	0.003	0.008*	0.000	0.004	0.000	0.003
	(0.003)	(0.004)	(0.004)	(0.005)	(0.004)	(0.005)
$FinUnc_{i,t}$	−0.001	−0.000	−0.005*	−0.005	−0.005*	−0.005
	(0.002)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)
$SHValRef_{i,t}$	−0.017	−0.029	−0.025	−0.014	−0.025	−0.014
	(0.020)	(0.034)	(0.026)	(0.026)	(0.026)	(0.027)
$Investment_{i,t}$	0.018	0.018	0.031	−0.001	0.031	−0.002
	(0.012)	(0.027)	(0.020)	(0.035)	(0.020)	(0.035)
$SalesGrowth_{i,t}$	0.003***	0.002	0.004**	0.001	0.004**	0.001
	(0.001)	(0.003)	(0.002)	(0.003)	(0.002)	(0.003)
$MTB_{i,t}$	0.000	−0.001	0.001*	−0.001	0.001*	−0.001
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
$CashHoldings_{i,t}$	0.006	0.018	0.001	0.030	0.001	0.031*
	(0.008)	(0.014)	(0.011)	(0.019)	(0.011)	(0.019)
$ROA_{i,t}$	0.013	0.046**	0.010	0.041	0.010	0.041
	(0.009)	(0.020)	(0.012)	(0.028)	(0.012)	(0.029)
$CashFlow_{i,t}$	0.002	−0.016	0.001	0.001	0.001	0.001
	(0.009)	(0.020)	(0.012)	(0.021)	(0.012)	(0.021)
$Assets_{i,t}$	−0.001	0.002	0.002	0.007*	0.002	0.007*
	(0.002)	(0.003)	(0.002)	(0.004)	(0.002)	(0.004)
$Leverage_{i,t}$	0.001	0.002	0.002	0.005	0.002	0.005
	(0.006)	(0.014)	(0.008)	(0.017)	(0.008)	(0.018)
$IndAdjROA_{i,t}$	−0.024***	−0.056***	−0.023***	−0.051**	−0.023***	−0.051**
	(0.004)	(0.016)	(0.004)	(0.022)	(0.004)	(0.022)
$CSR_{i,t}$		−0.000		−0.000		−0.000
		(0.000)		(0.000)		(0.000)
$AnalystCoverage_{i,t}$	0.000	0.000	−0.000	0.000	−0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$InstitutionalOwnership_{i,t}$	0.001	0.004	−0.006	−0.007	−0.006	−0.007
	(0.009)	(0.015)	(0.012)	(0.017)	(0.012)	(0.018)

(Continues)

TABLE 9 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)
	$\lvert DiscAcc_{i,t}\rvert$	$\lvert DiscAcc_{i,t}\rvert$	$\lvert DiscAcc_{i,t}\rvert$	$\lvert DiscAcc_{i,t}\rvert$	$\lvert DiscAcc_{i,t}\rvert$	$\lvert DiscAcc_{i,t}\rvert$
$\lvert\Delta ROA_{i,t}\rvert$	0.025***	0.032***	0.023***	0.035**	0.023***	0.035**
	(0.006)	(0.012)	(0.008)	(0.015)	(0.008)	(0.015)
$negROA_{i,t}$	0.013***	0.009*	0.010*	0.003	0.010*	0.003
	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Topic weights	YES	YES	YES	YES	YES	YES
Firm-fixed effects	YES	YES	YES	YES	YES	YES
Year-fixed effects	YES	YES	YES	YES	YES	YES
Observations	7945	2789	4762	1765	4762	1765
Within *R*-squared	0.039	0.052	0.049	0.069	0.049	0.070
R-squared	0.348	0.321	0.384	0.372	0.384	0.373
Number of obs. with female CEO	183	79	89	30	89	30
Number of firms	1191	517	775	380	775	380

Note: This table presents regression results with $\lvert DiscAcc_{i,t}\rvert$ as dependent variable. Column 1 describes the results for our full sample and column 2 for our reduced CSR sample. Both models include firm- and year-fixed effects. Standard errors are heteroskedasticity-robust. All variables are winsorized 1% in each tail. Variable definitions are provided in Table 2. ***$p < .01$, **$p < .05$, *$p < .1$.

Given the aforementioned relevance of CFOs on earnings management (Jiang et al., 2010), we also test whether CFO gender – rather than CEO gender – moderates the relationship between $\lvert DiscAcc_{i,t}\rvert$ and $Trust_{i,t}$. Like for CEO gender, we obtain information on CFO gender from ExecuComp and through manual research using Refintiv and construct the variable $FemaleCFO_{i,t}$ analogously. Since information on CFO gender is rarer than on CEO gender in both databases, we only manage to identify the gender of 4762 CFOs for the sample considered in our analyses on discretionary accruals. 8.8% of these CFOs are female, which is higher than in the case of CEOs and in line with prior work on listed US firms (e.g., Barua et al., 2010; Gupta et al., 2019).

We estimate additional models which include $FemaleCFO_{i,t}$ as well as $FemaleCFO_{i,t}$ and its interaction with $Trust_{i,t}$ alternatively to $FemaleCEO_{i,t}$ and $FemaleCEO_{i,t} \cdot Trust_{i,t}$ for our full sample as well as our CSR sample in columns 3 and 4 of Table 9. Like for CEO gender, we find no evidence of CFO gender moderating the relationship between $Trust_{i,t}$ and $\lvert DiscAcc_{i.t}\rvert$. When considering CEO and CFO gender simultaneously, the moderator effects of both CEO as well as CFO gender remain insignificant in columns 5 and 6 of Table 9.

We also find no significant difference in how CEO gender moderates the relationship between trust rhetoric and earnings manipulation over a female and a matched male sample or when adopting the outlined difference-in-difference approach. We present the respective regression results for our full sample as well as our reduced CSR sample in Tables S3–S4 of our Online Appendix. In none of these cases, there is evidence in support of Hypothesis 2. Overall, our findings cannot be interpreted as female CEOs being more trustworthy than their male counterparts in a scenario where deception is largely free of risk.

5 | CONCLUSION

We present evidence that CEO gender causally moderates the effect of trust rhetoric in the MD&A section of 10-K filings on the respective 10-K release returns. Firms with female CEOs experience more positive announcement returns to the use of trust rhetoric. This outcome is consistent with rhetoric that advertises the management's trustworthiness being perceived as more convincing if the financial statement is prepared under the responsibility of a female CEO. We corroborate the results from prior literature which support the notion that females are perceived as more trustworthy (e.g., Aggarwal et al., 2015; King et al., 1991). Moreover, we show that the beliefs about female trustworthiness have practical implications for financial reporting. We also rule out that the more positive market reactions to female trust rhetoric are due to the fact that female CEOs talk about trust in different contexts than their male counterparts do.

However, we cannot confirm that trust rhetoric relates to less exploitation of latitude in accounting standards if it stems from female CEOs rather than male CEOs. Hence, our results provide no reason for investors to place greater trust in the financial information presented by female managers who affirm their trustworthiness in the same disclosure document. Overall, we cannot support the widespread notion that female executives are more trustworthy than their male counterparts. Since the use of trust rhetoric is mostly free of risk, these results contribute to disentangling the effect of female trustworthiness from the alternative explanation for more conservative accounting choices of female managers: higher risk aversion of women (e.g., Gupta et al., 2019). We would have expected that female trust rhetoric is a better indicator of actual trustworthiness, if female CEOs actually behaved in a more trustworthy manner. Our results do, however, not lend support to this notion. This implies that the observed differences in accounting choices by gender, where managers take risks by behaving deceptively, can primarily be explained by higher female risk aversion rather than higher ethical standards (e.g., Francis et al., 2015; Zalata et al., 2019).

It is worth mentioning that our analysis, like other work which investigates gender differences among CEOs, naturally relies on only relatively few sample observations with female CEOs. With the caveat of this limitation, our findings indicate that female managers seem to use trust rhetoric to lull investors into complacency, just as their male counterparts do. However, investors are more willing to buy into the rhetoric if it stems from women. This finding on perceived female trustworthiness contrasts with studies which confirm discrimination against female managers based on negative stereotypes about their competence (e.g., Bigelow et al., 2014; Niessen-Ruenzi & Ruenzi, 2018).

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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