

# Explaining differences in CEO gender diversity across industries: Do personality traits matter?

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## Abstract

Women are severely underrepresented in the upper echelons across the world. However, the degree of underrepresentation is not uniform across industries. We use the differences in average CEO personality traits across industries and the differences in average personality traits between female and male CEOs to explain the variation in CEO gender diversity across industries. Thus, we argue and show that female CEOs are relatively overrepresented in industries where there is alignment between the CEO personality traits of the industry and the personality traits of female CEOs and that they are relatively underrepresented where this alignment is absent. Our findings are important in understanding one of the industry-related obstacles that women face in reaching the upper echelons in the corporate world.

**Keywords:** Gender diversity; CEO gender; CEO personality traits; Industries

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## 1. Introduction

*“Diversity is not only a matter of fairness. It also drives growth and innovation.  
The business case for having more women in leadership is clear. (...)  
[It] is high time we break the glass ceiling.”*

Ursula von der Leyen (European Commission, 2022)

Our investigation into the variation of (lack of) gender diversity at the CEO level in various industries builds on three pillars. *First*, women represent half of the world’s population, but in 2021 only 5.5% of all CEO positions worldwide were occupied by women (Credit Suisse, 2021). *Second*, women deviate from men in terms of personality traits (Costa et al., 2001; McCrae and Terracciano, 2005; Adams and Funk, 2012), and CEO personality traits have been shown to affect corporate decisions (Chatterjee and Hambrick, 2007; Nadkarni and Herrmann, 2010; Malhotra et al., 2018; Green et al., 2019; Aabo et al., 2023 and 2024). *Third*, Judge et al. (2009) argue that the bright and dark sides of leader personality traits depend on the context. Thus, Hambrick and Mason (1984) state that the industry environment can affect the types of managers found in top ranks. Performance is influenced by how well personal characteristics match the demands of their environment (Kristof-Brown et al., 2005). Chatman (1989) argues that person-organization fit appears when an individual's values and an organization's values are congruent.

Based on these three pillars – 1) the underrepresentation of women in the upper echelons, 2) the gender differences in personality traits, and 3) the influence of the industry environment in determining the type of leader – we ask to what extent gender and industry differences in personality traits can explain the variation in CEO gender diversity across industries. This variation

is non-trivial in our sample with the percentage of female CEOs ranging from a low of 1.3% in Materials to a high of 8.5% in Staples. We hypothesize that the percentage of female CEOs will be highest in industries that are dominated by CEO personality traits which align with the personality traits of female CEOs and lowest in industries where CEO personality traits do not align with the personality traits of female CEOs (i.e., align with the personality traits of male CEOs). Our empirical results support our hypothesis (except for Health).

We do not explicitly address the general underrepresentation of women in the upper echelons and the likely causes for such underrepresentation in the form of, e.g., the glass ceiling and the double bind (Eagly and Karau, 2002; Eagly and Carli, 2007). In contrast, we investigate the variation of (lack of) gender diversity at the CEO level across industries. Such investigation across industries is important as it enhances our understanding of potential industry-related barriers for women in their advancement on the corporate ladder. Thus, we exploit the clustering of female CEOs in certain industries to study the interplay between CEO personality traits, CEO gender, and the industrial context. Ultimately, our aim is to uncover underlying dynamics affecting gender diversity in executive leadership.

Specifically, we study 830 non-financial S&P 1500 firms from 2007 to 2020 covering 72 female CEOs and 1,714 male CEOs. *First*, we show that female and male CEOs differ in terms of personality traits. *Next*, we show that industries differ in CEO personality traits. *Finally*, and most importantly, we show that female CEOs tend to cluster in industries that have CEO personality traits which align with the personality traits of female CEOs and that female CEOs are scarce in industries where this alignment is absent.

Despite the growing attention paid to 1) the personality traits of CEOs and 2) the underrepresentation of women among CEOs, a notable gap exists in the literature regarding how these CEO personality traits vary across industries. The existing research is limited to specific industries and countries (i.e., Italy, Ghana, and India), making it difficult to draw broader conclusions (Presenza et al., 2020; Tuffour and Ockrah-Anyim, 2020; Nadkarni and Herrmann, 2010). Thus, our first contribution to the existing literature is to show that industries in the U.S. differ markedly in terms of CEO personality traits. This is in line with the underlying psychology literature (Judge et al., 2009). Our second, and most important, contribution to the existing literature is to show that female CEOs select into and/or are selected into firms in industries where there is alignment between the CEO personality traits prevailing in the industry and the personality traits of female CEOs. These findings highlight industry-related barriers towards higher female participation in the upper echelons and advance our general understanding of potential causes for female underrepresentation in the C-suite (Adams and Funk, 2012; Huang and Kisgen, 2013; Cook and Glass, 2014; Badura et al., 2018).

We review the literature and develop our hypothesis in the next section. The third section describes our data and methodology. The fourth section presents the results. The fifth section provides our discussion, and the last section concludes.

## **2. Literature review and hypothesis development**

We employ the framework of the Big Five personality traits in exploring the interrelatedness of

CEO gender and the industrial contexts. The Big Five framework encompasses five broad dimensions of personality, namely openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (McCrae and Costa, 1997). Empirical evidence supports the robustness of the Big Five model, with studies indicating that these personality traits are heritable and remain stable over time (Digman, 1989). We briefly describe the five personality traits below.

*Openness to experience* is a personality trait associated with a general appreciation for art, adventure, and imagination (McCrae and John, 1991). Individuals high in openness to experience tend to be intellectually curious, creative, and seek out novel experiences (Judge et al., 2002b). This trait is associated with leadership behaviors such as intellectual stimulation and inspirational motivation (Judge and Bono, 2000). According to Judge et al. (2002b), open leaders tend to pursue excitement and take risks. CEOs who possess high levels of openness to experience are typically linked with innovative firms which have higher R&D investments and tend to employ financing strategies that reflect higher levels of risk taking (Gow et al., 2016).

*Conscientiousness* refers to a personality trait that entails a tendency for being dependable, organized, and possessing the aptitude for tenacity and persistence (Barrick and Mount, 1991; Goldberg, 1990). Individuals high in conscientiousness typically exhibit a propensity for paying attention to details, are planful and responsible, and possess a robust work ethic and willingness to achieve (Costa and McCrae, 1992). Conscientiousness is a trait that is often associated with successful leadership, as research has consistently shown that conscientiousness is positively related to job performance in occupations that require a high level of responsibility and self-discipline (Barrick and Mount, 1991). However, Lepine et al. (2000) argue that leaders who are

too focused on detail and structure may be less effective in complex or rapidly changing environments, as they may be less willing to experiment or try new approaches.

*Extraversion* is characterized by being energetic, optimistic, and assertive (McCrae and Costa, 1997). According to Depue and Collins (1999), extraversion can be divided into two primary elements: affiliation, which involves valuing and maintaining warm personal relationships, and agency, which entails being socially dominant, assertive, and influential. Extraversion is positively associated with leadership emergence and effectiveness (Judge et al., 2002b). Extraverted leaders are often described as charismatic, enthusiastic, and inspirational, with strong interpersonal skills that enable them to form and maintain relationships with others (Bono and Judge, 2004).

*Agreeableness* is characterized by empathy, trustworthiness, and warmth (Costa and McCrae, 1992). Agreeable CEOs often prioritize interpersonal relationships over personal gain and are inclined to be more supportive of other people's ideas and values (Judge et al., 2002b; Barrick and Mount, 1991). The relationship between agreeableness and leadership is unclear due to conflicting research findings. Agreeable CEOs are known to express cooperativeness which has been linked with leadership (Bass, 1990; Giberson et al., 2009). On the other hand, agreeable individuals exhibit modesty and a high need for affiliation, which is shown to negatively impact leadership effectiveness (Goldberg, 1990).

*Neuroticism* refers to a personality trait characterized by high levels of anxiety and a tendency towards negative thoughts (McCrae and John, 1991). High levels of neuroticism have been found to be strongly associated with low self-esteem and a lack of general self-efficacy, but high self-

esteem and self-efficacy are essential for leadership initiation (Judge et al., 2002a). Individuals with high levels of neuroticism typically exhibit a greater tendency towards risk aversion and are negatively associated with innovative firms (Harrison et al., 2020; Nicholson et al., 2005).

Multiple studies have shown the association between specific personality traits and both leadership emergence and effectiveness (Judge et al., 2009; Judge et al., 2002b). Whereas leadership emergence refers to whether a person is perceived to be leaderlike, leadership effectiveness refers to the performance of the leader in terms of influencing and guiding the team towards the goals (Judge et al., 2002b). Extraversion, openness to experience, and conscientiousness all have a positive association with leadership, whereas neuroticism has a negative relationship (Judge et al., 2002b; Judge et al., 2009). Such associations are also confirmed in the corporate sector where in general CEOs are more open to experience, more conscientious, more extraverted, and less neurotic than the lay person (Harrison et al., 2019; Aabo et al., 2023 and 2024).

However, the existing literature does not address how CEO personality traits vary across industries – except for research limited to specific industries and countries (Presenza et al., 2020; Tuffour and Ockrah-Anyim, 2020; Nadkarni and Herrmann, 2010). This is a gap in the existing literature as the underlying psychology literature emphasizes that 1) there is no one-size-fits-all in terms of the optimal combination of personality traits and 2) that (dis)advantages of certain personality traits are specific to the given context (Judge et al., 2009). Thus, one would expect CEO personality traits to vary across industries because the different industries act as different contexts. Judge et al. (2009) argue that environments and personality traits interact and that some personality traits might be productive in one context while being counterproductive in another. Indeed, we do find that

CEO personality traits vary markedly across industries. Consequently, we also expect female CEOs to be unevenly distributed across industries – at least to the extent that female CEO personality traits deviate from the personality traits of their male peers. More specifically, we expect female CEOs to cluster in industries where there is alignment between the CEO personality traits of the industry and the personality traits of female CEOs. This leads us to our hypothesis.

H: Female CEOs will be overrepresented in industries where there is alignment between the CEO personality traits of the industry and the personality traits of female CEOs and be underrepresented in industries where such alignment is absent.

Thus, our aim is not to address the general underrepresentation of female leaders in the upper echelons and the potential reasons for such underrepresentation, but to address the relative under- or overrepresentation of female CEOs in various industries and its relation to the alignment between the CEO personality traits of the specific industry and the personality traits of female CEOs. By investigating this interplay, we hope to shed light on an important industry-related barrier towards more gender diversity in the upper echelons.

### **3. Data and methodology**

Our sample comprises all non-financial and non-utility firms listed on the S&P1500 index mid-2019 and covers the period from 2007 to 2020. We use the Global Industry Classification Standard (GICS) developed by MSCI and Standard & Poor's to categorize companies into eleven industries. We exclude financials, utilities, and real estate to reduce potential biases that may arise from highly



leveraged and heavily regulated industries in line with previous literature (Dezsö and Ross, 2012; Peltomäki et al., 2021). Thus, we categorize our 830 firms into eight industries (number of firms): Energy (55), Materials (67), Industrials (193), Discretionary (154), Staples (55), Health (123), IT (152), and Communication (31). We obtain data on CEO and firm characteristics from ExecuComp and Compustat. Our final sample contains 11,047 firm-year observations for 830 firms and 1,786 CEOs of which 72 are female CEOs.

We use the Open Language Chief Executive Personality Tool developed by Harrison et al. (2019) to estimate the CEOs' Big Five personality traits – openness to experience (OPE), conscientiousness (CON), extraversion (EXT), agreeableness (AGR), and neuroticism (NEU) – based on a machine learning algorithm analysis in line with previous literature (Harrison et al., 2020; Harrison and Malhotra, 2023; Aabo et al., 2023 and 2024). We require at least three Q&A sessions of quarterly earnings conference calls and a minimum of 1,000 spoken words from the CEO. We assume that personality traits remain stable over the sample period (Roberts et al., 2006). The tool has superior convergent validity compared to other personality recognition tools (Harrison et al., 2019) as the calibration is done on CEOs; this is an advantage compared to other tools that are calibrated on psychology students (e.g., the Personality Recognizer developed by Mairesse et al., 2007). Moreover, Malhotra et al. (2018) emphasize the benefits of using Q&A sessions, which are not scripted, to obtain an unbiased representation of the CEO's personality.

Each CEO personality trait is measured on a scale from 1 (e.g., least open to experience) to 7 (e.g., most open to experience) with 4 being the neutral midpoint. In the online appendix (Table A.1), we show descriptive statistics of each CEO personality trait in our sample. The means of the five

personality traits are 4.67 for openness to experience, 5.10 for conscientiousness, 4.75 for extraversion, 4.10 for agreeableness, and 3.25 for neuroticism. Thus, our CEOs are more open to experience, more conscientious, and more extraverted than the lay population. They have the same degree of agreeableness, and they are less neurotic compared to the lay population. These average personality traits are in line with previous literature (Judge et al., 2009; Colbert et al., 2014; Aabo et al., 2023).

In the online appendix, we also show descriptive statistics for CEO and firm variables (Table A.2) as well as means of these variables for each of our eight industries (Table A.3). Our average (median) CEO is 56 (56) years old and has a tenure of 8.3 (6.1) years. Half of our CEOs are chairmen of the board of directors. The average (median) firm size in the form of total assets of our sample firms is \$10.9 (\$2.4) billion. The average (median) profitability, ROA, is 10% (10%), and the average (median) Tobin's Q is 2.16 (1.72). The average (median) firm spends the equivalent of 4% (1%) of its total assets on R&D and has an annual sales growth rate of 10% (5%). Most notable when comparing means across industries are the following observations. *First*, firms in Communication are large in terms of total assets. *Second*, firms in Energy are capital intensive as measured by property, plant, and equipment scaled by total assets. *Third*, firms in Health and IT have high R&D expenditures. We will return to the last observation on high R&D expenditures in Health and IT in our discussion section.

In our main text, we primarily rely on the univariate analysis to disentangle the interplay between CEO personality traits, CEO gender, and industries. To test if the means of two unmatched populations are significantly different, we use a two-sample t-test (Keller and Gaciu, 2019). In our

online appendix, we supplement the univariate analysis with a multivariate analysis where we analyze the panel data by 1) including year-fixed effects, 2) including industry-fixed effects, and 3) clustering standard errors at the firm level (Petersen, 2009).

#### **4. Empirical results**

Table 1 reports gender differences in CEO personality traits. The univariate analysis examines how female and male CEOs differ in terms of the Big Five personality traits. Female CEOs exhibit higher levels of agreeableness. This result aligns with expectations based on the general gender differences in the lay population. Furthermore, female CEOs score higher on openness to experience and conscientiousness and lower on neuroticism compared to male CEOs. These results suggest that female CEOs exhibit personality traits that are more in line with the typical CEO profile than with the general female population (Judge et al., 2009; Costa et al., 2001). In this line of reasoning, Chen et al. (2024) show that women who care less than other women about work-life balance self-select into career paths that ultimately lead to management positions. The difference in extraversion between female and male CEOs is small and statistically insignificant.

\*\*\* Please insert Table 1 here \*\*\*

In the online appendix (Table A.4), we perform a multivariate regression analysis to confirm the results from the univariate analysis in Table 1. Thus, the findings in Table 1 could be due to female CEOs self-selecting into firms with certain characteristics so that once we control for these characteristics, the differences between female and male CEOs disappear. The results for the Big

Five personality traits are predominantly robust (although diminished in magnitude) after considering firm and CEO characteristics. Specifically, the gender differences in openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism in the univariate test in Table 1 are 0.18, 0.41, 0.04, 0.32, and -0.30. The corresponding coefficients in the multivariate setting are 0.06, 0.17, -0.05, 0.10, and -0.13 with openness to experience, conscientiousness, agreeableness, and neuroticism being statistically significant at conventional levels (Table A.4). The corresponding coefficients in a multivariate setting with firm-fixed effects included are 0.06, 0.16, -0.06, 0.09, and -0.12 with conscientiousness and neuroticism being statistically significant at conventional levels (not tabulated). This indicates that the personality of female CEOs is remarkably distinct even when factors such as CEO and firm characteristics are considered. The higher conscientiousness and the lower neuroticism of female CEOs compared to their male peers are especially robust and significant. These findings are consistent with the univariate analysis, which suggests that female CEOs exhibit personality traits that are more in line with the typical CEO profile than with the general female population.

Table 2 reports tests for differences in average personality traits across industries. *First*, means are stated for each industry. *Second*, the deviations of each industry from the overall mean are stated. Table 2 shows that industries differ markedly from each other in terms of CEO personality traits. Energy and Health deviate the most from the grand mean. The average CEO within Health “outperforms” all other industries as Health seems to overshoot other industries on personality traits associated with leadership (i.e., high in openness to experience, high in conscientiousness, high in extraversion, and low in neuroticism). On the other hand, the average CEO in Energy scores lower on all personality traits associated with leadership (i.e., low in openness to experience,

low in conscientiousness, low in extraversion, and high in neuroticism). In the online appendix (Table A.5), we perform a multivariate regression analysis and find that once we control for firm and CEO characteristics, the average personality traits in the various industries are very similar to the average personality traits reported in Table 2.

\*\*\* Please insert Table 2 here \*\*\*

Table 1 shows that female CEOs are more open to experience, more conscientious, more agreeable, and less neurotic than their male peers (with differences in conscientiousness and neuroticism being particularly robust). These differences in combination with the differences in personality traits across industries in Table 2 indicate that the average female CEO should be particularly well positioned in terms of personality traits in Discretionary, Staples, Health, and Communication but less well positioned in Energy, Materials, and Industrials. Table 3, Columns 1-4, indicate this positioning for the four personality traits where differences between the personality traits of female and male CEOs are significant in Table 1 (i.e., all personality traits except extraversion). A F(M) indicates an alignment between personality traits found in the industry and female (male) CEO personality traits.

\*\*\* Please insert Table 3 here \*\*\*

Table 3, Columns 5-9, examine to what extent the match between industry personality traits and female CEO personality traits as indicated by Fs and Ms in Columns 1-4 of Table 3 aligns with the actual occurrence of female CEOs in the specific industry. Thus, Table 3, Column 7, reports

the relative occurrence of female CEOs in the specific industry based on the total number of firm-year observations for the industry (Column 5) and the number of firm-year observations for the industry that involves a female CEO (Column 6). Thus, Table 3, Column 7, shows a low of 1.30% for Materials and a high of 8.45% for Staples. These two extremes are fully aligned with our expectations given the CEO personality traits dominating the industries and the gender differences in CEO personality traits (i.e., four Ms in Columns 1-4 for Materials and four Fs in Column 1-4 for Staples). Table 3, Column 8, reports the relative under- or overrepresentation of female CEOs as a deviation in percentage points from the overall average female CEO representation of 3.46%. Table 3, Column 8, shows that female CEOs are relatively underrepresented in Materials, Industrials, Health, and IT and relatively overrepresented in Discretionary and Staples. Energy and Communication are the industries with the smallest number of observations and these industries do not show significant under- or overrepresentation of female CEOs.

Table 3, Column 9, summarizes to what extent the relative under- or overrepresentation of female CEOs in the specific industry (i.e., Column 8) can be explained by CEO personality traits. *First*, Energy and Communication are the two industries with the lowest number of firm-year observations, and the relative under- and overrepresentation of female CEOs in Energy (-0.63% points) and Communication (+0.77% points) are not statistically significant. Thus, we abstain from commenting on these industries. *Second*, the relative underrepresentation of female CEOs in Materials (-2.16% points) and Industrials (-0.65% points) and the relative overrepresentation of female CEOs in Discretionary (+2.60% points) and Staples (+4.99% points) are in line with what would be expected based on the personality traits of female CEOs and the personality traits in the specific industries. Thus, the CEO personality traits in Materials and Industrials show relatively

low values for openness to experience, conscientiousness, and agreeableness and relatively high values for neuroticism. This is exactly opposite of the personality traits of female CEOs who – compared to their male peers – show relatively high values for openness to experience, conscientiousness, and agreeableness and relatively low for neuroticism. The opposite holds true for Discretionary and Staples where there is a perfect alignment between the personality traits in the industry and the personality traits of female CEOs. *Third*, However, Health presents an immediate puzzle. The match between the personality traits in Health and the personality traits of female CEOs seems to be perfect. Still female CEOs are relatively underrepresented in Health (-1.82% points). In our discussion, we elaborate on the potential reasons for the underrepresentation of female CEOs in Health. *Fourth*, the relative underrepresentation of female CEOs in IT (-1.04% point) is not in full alignment with differences in personality traits. Most personality traits favor female CEOs, but conscientiousness – which together with neuroticism shows particularly robust and significant gender differences – favors male CEOs. In conclusion, differences in CEO personality traits seem to matter in explaining CEO gender diversity across industries with Health being the main exception.

## **5. Discussion**

Our findings indicate that female CEOs cluster in industries that have CEO personality traits which align with the personality traits of female CEOs. However, there is one notable exception. Health is dominated by CEOs who are significantly more open to experience, more conscientious, more agreeable, and less neurotic than the average CEO in our sample. This personality profile is the exact same profile as our female CEOs. Still, female CEOs are underrepresented in Health. This

poses a challenge to our general intuition. Thus, we take the liberty to pinpoint one aspect of firm characteristics that may explain the apparent paradox that Health (and to some extent IT) presents.

Health and IT deviate from other industries in one important aspect. While the other industries (Energy, Materials, Industrials, Discretionary, Staples, and Communication) all have average R&D expenditures scaled by total assets in the range of 0%-2% per year, the similar range for Health and IT is 8-9%. This may matter for female CEOs in two ways. *First*, the underrepresentation of women in STEM (science, technology, engineering, and mathematics) in education and well as in the workforce is an established fact (Ceci et al., 2009; Williams, 2015; Coenen et al., 2021; Stewart-Williams and Halsey, 2021). Thus, the feeding channel into higher positions in R&D intensive industries is less apparent for women than for men. McLean et al. (2023) show that this underrepresentation of women in STEM occupations can be explained by inherited beliefs about gender roles. *Second*, women tend to be less overconfident and less narcissistic than men in the general population (Beyer and Bowden, 1997; Grijalva et al., 2015). This is also true in our sample of CEOs, where 1) female CEOs are overconfident in 36% of their firm-year observations while the corresponding number for male CEOs is 47% (as measured by stock option exercise, in line with Malmendier and Tate, 2005, and Campbell et al., 2011) and 2) female CEOs have an average narcissism score of 0.21 compared to 0.24 for male CEOs (as measured by first-person singular pronouns compared to first-person singular and plural pronouns, FSP, in CEO speech in Q&A sessions). Such lower degrees of overconfidence and narcissism may matter in relation to R&D intensive industries. Thus, Hirshleifer et al. (2012) find that overconfident CEOs invest more in innovation and obtain more patents and patent citations. Furthermore, Ham et al. (2018) find that more narcissistic CEOs invest more in R&D than their



less narcissistic peers. Thus, the R&D intensive character of Health may explain the apparent paradox of the underrepresentation of female CEOs in Health.

Our findings indicate that female CEOs deviate from male CEOs in terms of personality traits. Hambrick and Mason (1984) and Bertrand and Schoar (2003) show that managers affect corporate policies. In this line of reasoning, CEO personality traits have been shown to be associated with corporate outcomes (Chatterjee and Hambrick, 2007; Nadkarni and Herrmann, 2010; Malhotra et al., 2018; Green et al., 2019; Aabo et al., 2023 and 2024). Although beyond the scope of this paper, it is obvious to ask if female CEOs deviate from their male peers in terms of corporate performance and risk. In our online appendix (Table A.6), we show that CEO gender does not seem to be directly related to corporate performance (ROA, stock return, and Tobin's Q) or to corporate risk (ROA volatility, stock return volatility, and risky expenditures). Furthermore, we find only limited indication that the combination of CEO gender and specific personality traits has robust corporate performance or risk implications. The lack of direct corporate performance implications is in line with the lack of consensus in the previous literature (see Hoobler et al., 2018, for a meta-analysis) but is potentially puzzling given that female CEOs show more leader-like personality traits (especially more conscientiousness and less neuroticism). However, female CEOs are not operating on a level playing field (Adams and Funk, 2012; Glass and Cook, 2016; Dwivedi et al., 2018), which may explain the insignificant association between CEO gender and corporate performance. We abstain from addressing implications of CEO gender on other corporate outcomes such as ESG performance (Aabo and Giorici, 2023) and compensation (Elkinawy et al., 2023). These are avenues for future research.

Our findings are based on U.S. firms. However, we expect the general findings – although not necessarily the exact magnitudes – to be transferable to an international setting. An empirical test of the transferability of our findings to a non-U.S. setting is beyond the scope of this paper but is a relevant avenue for future research.

## **6. Conclusion**

We study non-financial S&P 1500 firms from 2007 to 2020. We show that 1) female and male CEOs differ in terms of personality traits, 2) industries differ in terms of CEO personality traits, and most importantly 3) female CEOs tend to cluster in industries that have CEO personality traits which align with the personality traits of female CEOs. Thus, we show that female CEOs are relatively overrepresented in industries where there is alignment between the CEO personality traits of the industry and the personality traits of female CEOs (except for Health), and that female CEOs are relatively underrepresented in industries where there is alignment between the CEO personality traits of the industry and the personality traits of male CEOs. These findings highlight one of the potential, industry-related barriers towards higher female participation in the upper echelons in the corporate world.

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**Table 1: Gender differences in CEO personality traits**

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|                        | Female CEOs: |      |           | Male CEOs: |      |          | Difference: |          |
|------------------------|--------------|------|-----------|------------|------|----------|-------------|----------|
|                        | Count        | Mean | Std. Dev. | Count      | Mean | Std. Dev | Mean        | t-stat   |
| Openness to experience | 382          | 4.85 | 0.49      | 10,665     | 4.66 | 0.57     | 0.18        | 7.13***  |
| Conscientiousness      | 382          | 5.49 | 0.57      | 10,665     | 5.08 | 0.5      | 0.41        | 13.71*** |
| Extraversion           | 382          | 4.79 | 0.63      | 10,665     | 4.75 | 0.84     | 0.04        | 1.15     |
| Agreeableness          | 382          | 4.41 | 0.73      | 10,665     | 4.08 | 0.81     | 0.32        | 8.46***  |
| Neuroticism            | 382          | 2.96 | 0.6       | 10,665     | 3.26 | 0.64     | -0.30       | -9.18*** |

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Notes: This table presents the results of univariate tests examining gender differences in CEO traits and biases. Two-sample unpaired t-tests are used to test for differences in means. Significance levels are denoted as \*\*\*, \*\*, and \*, representing significance at the 1%, 5%, and 10% levels, respectively.

**Table 2: Industry differences in CEO personality traits**

|               | Openness to<br>experience | Conscientiousness | Extraversion     | Agreeableness    | Neuroticism      |
|---------------|---------------------------|-------------------|------------------|------------------|------------------|
| Total         | 4.67                      | 5.10              | 4.75             | 4.10             | 3.25             |
| Energy        | 3.74<br>-0.92***          | 4.54<br>-0.56***  | 3.03<br>-1.72*** | 2.83<br>-1.27*** | 4.55<br>1.30***  |
| Materials     | 4.19<br>-0.47***          | 4.87<br>-0.23***  | 4.51<br>-0.24*** | 3.4<br>-0.70***  | 3.57<br>0.32***  |
| Industrials   | 4.38<br>-0.29***          | 4.89<br>-0.21***  | 4.73<br>-0.02**  | 3.73<br>-0.37*** | 3.52<br>0.27***  |
| Discretionary | 4.86<br>0.19***           | 5.39<br>0.29***   | 4.77<br>0.02     | 4.13<br>0.03**   | 2.99<br>-0.26*** |
| Staples       | 4.83<br>0.17***           | 5.51<br>0.41***   | 4.95<br>0.20***  | 4.28<br>0.18***  | 3.11<br>-0.14*** |
| Health        | 5.25<br>0.59***           | 5.55<br>0.45***   | 5.13<br>0.38***  | 4.95<br>0.85***  | 2.65<br>-0.60*** |
| IT            | 4.77<br>0.11***           | 4.85<br>-0.25***  | 5.01<br>0.26***  | 4.49<br>0.39***  | 3.15<br>-0.10*** |
| Communication | 5.19<br>0.53***           | 5.06<br>0.04**    | 5.34<br>0.59***  | 4.39<br>0.29***  | 2.95<br>-0.30*** |

Notes: The table presents the test for differences in average personality traits across industries. Means are stated for each industry. The deviations of each industry from the overall mean are denoted with \*\*\*, \*\*, and \*, representing significance at the 1%, 5%, and 10% levels, respectively. The differences are calculated as the industry mean minus the overall mean. The differences are reported as percentage points, denoted with \*\*\*, \*\*, and \*, representing significance at the 1%, 5%, and 10% levels, respectively.

**Table 3: Personality trait alignment and relative over- and underrepresentation of female CEOs in industries**

|               | Openness<br>to experience<br>(1) | Conscien-<br>tiousness<br>(2) | Agreeableness<br>(3) | Neuroticism<br>(4) | Total<br>obs.<br>(5) | Female<br>obs.<br>(6) | Female<br>%<br>(7) | Diff. in<br>%-points<br>(8) | Alignment<br>(9) |
|---------------|----------------------------------|-------------------------------|----------------------|--------------------|----------------------|-----------------------|--------------------|-----------------------------|------------------|
| Total         |                                  |                               |                      |                    | 11,047               | 380                   | 3.46%              |                             |                  |
| Energy        | M                                | M                             | M                    | M                  | 741                  | 21                    | 2.83%              | -0.63                       | Diff. n.s.       |
| Materials     | M                                | M                             | M                    | M                  | 925                  | 12                    | 1.30%              | -2.16***                    | YES              |
| Industrials   | M                                | M                             | M                    | M                  | 2,560                | 72                    | 2.81%              | -0.65*                      | YES              |
| Discretionary | F                                | F                             | F                    | F                  | 1,996                | 121                   | 6.06%              | 2.60***                     | YES              |
| Staples       | F                                | F                             | F                    | F                  | 734                  | 62                    | 8.45%              | 4.99***                     | YES              |
| Health        | F                                | F                             | F                    | F                  | 1,642                | 27                    | 1.64%              | -1.82***                    | NO               |
| IT            | F                                | M                             | F                    | F                  | 2,023                | 49                    | 2.42%              | -1.04**                     | (NO)             |
| Communication | F                                | F                             | F                    | F                  | 426                  | 18                    | 4.23%              | 0.77                        | Diff. n.s.       |

Notes: Columns 1-4, a F(M) indicates an alignment with female (male) CEO personality traits in the specific industry based on Tables 1 and 2 for the four personality traits (openness to experience, conscientiousness, agreeableness, and neuroticism) that deviate between female and male CEOs in Table 1. Columns 5-7 calculate the representation of female CEOs in each industry. Column 8 presents univariate tests for differences in the proportion of female CEO observations in industries. The differences are calculated as the industry proportion of female CEOs (column 7) minus the overall proportion of female CEOs (3.46%). The differences are reported as percentage points, denoted with \*\*\*, \*\*, and \*, representing significance at the 1%, 5%, and 10% levels, respectively. Finally, Column 9 indicates alignment between industry personality traits (Table 2), female CEO personality traits (Table 1), and the over- and underrepresentation of female CEOs in the industry (Column 8).

# **Online appendix**

**Table A.1: CEO personality traits**

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|     | Mean | Std. Dev. | Min  | p25  | p50  | p75  | Max  |
|-----|------|-----------|------|------|------|------|------|
| OPE | 4.67 | 0.57      | 1.75 | 4.25 | 4.74 | 5.08 | 6.09 |
| CON | 5.10 | 0.51      | 2.21 | 4.74 | 5.06 | 5.45 | 6.86 |
| EXT | 4.75 | 0.84      | 1.00 | 4.37 | 4.90 | 5.30 | 7.00 |
| AGR | 4.10 | 0.81      | 1.00 | 3.55 | 4.14 | 4.66 | 7.00 |
| NEU | 3.25 | 0.64      | 1.00 | 2.89 | 3.22 | 3.58 | 6.35 |

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Notes: This table presents descriptive statistics of CEO personality traits for the 11,047 firm-year observations.

**Table A.2: Descriptive statistics of CEO and firm variables**

|                       | Mean             | Std. Dev.        | Min          | p1           | p25           | p50             | p75             | p99               | Max               |
|-----------------------|------------------|------------------|--------------|--------------|---------------|-----------------|-----------------|-------------------|-------------------|
| <b>CEO variables</b>  |                  |                  |              |              |               |                 |                 |                   |                   |
| FEMALE                | 0.03             | 0.18             | 0.00         | 0.00         | 0.00          | 0.00            | 0.00            | 1.00              | 1.00              |
| AGE                   | 56.29            | 6.88             | 29.00        | 41.00        | 52.00         | 56.00           | 61.00           | 75.00             | 85.00             |
| TENURE                | 8.29             | 7.36             | 0.00         | 0.51         | 3.04          | 6.09            | 11.16           | 34.49             | 50.73             |
| CHAIRMAN              | 0.50             | 0.50             | 0.00         | 0.00         | 0.00          | 1.00            | 1.00            | 1.00              | 1.00              |
| STCKOWN               | 0.02             | 0.08             | 0.00         | 0.00         | 0.00          | 0.00            | 0.01            | 0.30              | 2.63              |
| OPTOWN                | 0.01             | 0.02             | 0.00         | 0.00         | 0.00          | 0.00            | 0.01            | 0.08              | 1.20              |
| FOUNDER               | 0.08             | 0.28             | 0.00         | 0.00         | 0.00          | 0.00            | 0.00            | 1.00              | 1.00              |
| <b>Firm variables</b> |                  |                  |              |              |               |                 |                 |                   |                   |
| ROA                   | 0.10             | 0.11             | -1.40        | -0.25        | 0.06          | 0.10            | 0.15            | 0.38              | 0.78              |
| <i>TQ</i>             | <i>2.16</i>      | <i>1.52</i>      | <i>0.40</i>  | <i>0.74</i>  | <i>1.29</i>   | <i>1.72</i>     | <i>2.48</i>     | <i>8.50</i>       | <i>20.92</i>      |
| logTQ                 | 0.62             | 0.51             | -0.91        | -0.31        | 0.25          | 0.54            | 0.91            | 2.14              | 3.04              |
| TSR                   | 0.16             | 0.60             | -0.99        | -0.70        | -0.11         | 0.11            | 0.35            | 1.64              | 25.08             |
| <i>RISKYEX</i>        | <i>0.09</i>      | <i>0.14</i>      | <i>-0.44</i> | <i>0.00</i>  | <i>0.03</i>   | <i>0.05</i>     | <i>0.10</i>     | <i>0.67</i>       | <i>3.07</i>       |
| logRISKYEX            | 0.08             | 0.10             | -0.57        | 0.00         | 0.03          | 0.05            | 0.10            | 0.51              | 1.40              |
| <i>ROAvol</i>         | <i>0.03</i>      | <i>0.04</i>      | <i>0.00</i>  | <i>0.00</i>  | <i>0.01</i>   | <i>0.02</i>     | <i>0.03</i>     | <i>0.19</i>       | <i>0.50</i>       |
| logROAvol             | -4.21            | 1.07             | -8.87        | -6.88        | -4.88         | -4.19           | -3.50           | -1.67             | -0.70             |
| <i>TSRvol</i>         | <i>0.43</i>      | <i>0.29</i>      | <i>0.02</i>  | <i>0.15</i>  | <i>0.27</i>   | <i>0.37</i>     | <i>0.52</i>     | <i>1.29</i>       | <i>5.12</i>       |
| logTSRvol             | -0.97            | 0.48             | -4.06        | -1.92        | -1.32         | -1.01           | -0.66           | 0.26              | 1.63              |
| <i>TA</i>             | <i>10,850.56</i> | <i>29,375.65</i> | <i>7.70</i>  | <i>95.82</i> | <i>839.98</i> | <i>2,371.86</i> | <i>7,858.00</i> | <i>148,188.00</i> | <i>551,669.00</i> |
| logTA                 | 7.90             | 1.62             | 2.04         | 4.56         | 6.73          | 7.77            | 8.97            | 11.91             | 13.22             |
| FIRMAGE               | 26.88            | 14.84            | 0.00         | 3.00         | 15.00         | 23.00           | 40.00           | 57.00             | 74.00             |
| LEVERAGE              | 0.54             | 0.26             | 0.00         | 0.09         | 0.38          | 0.53            | 0.66            | 1.30              | 4.35              |
| RD                    | 0.04             | 0.07             | 0.00         | 0.00         | 0.00          | 0.01            | 0.04            | 0.33              | 0.86              |
| <i>CURRATIO</i>       | <i>2.40</i>      | <i>1.87</i>      | <i>0.07</i>  | <i>0.46</i>  | <i>1.35</i>   | <i>1.93</i>     | <i>2.85</i>     | <i>9.20</i>       | <i>66.09</i>      |
| logCURRATIO           | 0.68             | 0.61             | -2.66        | -0.78        | 0.30          | 0.66            | 1.05            | 2.22              | 4.19              |
| SALESGROW             | 0.10             | 1.96             | -1.00        | -0.48        | -0.02         | 0.05            | 0.14            | 0.97              | 197.78            |
| PPE                   | 0.25             | 0.22             | 0.00         | 0.01         | 0.09          | 0.18            | 0.34            | 0.89              | 0.97              |

Notes: This table presents descriptive statistics for firm and CEO characteristics for the 11,047 firm-year observations. Some variables are log-transformed and winsorized when used in the regression analysis. Variables that are not used in the regression analysis are indicated in italics.

**Table A.3: Means of CEO and firm variables in industries**

| Industries            | Energy           | Materials       | Industrials     | Discretionary   | Staples          | Health           | IT              | Communication    | Overall          |
|-----------------------|------------------|-----------------|-----------------|-----------------|------------------|------------------|-----------------|------------------|------------------|
| <b>CEO variables</b>  |                  |                 |                 |                 |                  |                  |                 |                  |                  |
| AGE                   | 57.22            | 57.50           | 56.58           | 55.83           | 57.08            | 56.03            | 55.40           | 56.30            | 56.29            |
| TENURE                | 7.80             | 7.59            | 8.15            | 7.57            | 8.25             | 8.97             | 9.09            | 8.56             | 8.29             |
| CHAIRMAN              | 0.50             | 0.62            | 0.55            | 0.51            | 0.61             | 0.45             | 0.39            | 0.45             | 0.50             |
| STCKOWN               | 0.01             | 0.01            | 0.03            | 0.03            | 0.02             | 0.02             | 0.02            | 0.02             | 0.02             |
| OPTOWN                | 0.00             | 0.01            | 0.01            | 0.01            | 0.01             | 0.01             | 0.01            | 0.01             | 0.01             |
| FOUNDER               | 0.02             | 0.02            | 0.07            | 0.06            | 0.05             | 0.13             | 0.15            | 0.08             | 0.08             |
| <b>Firm variables</b> |                  |                 |                 |                 |                  |                  |                 |                  |                  |
| ROA                   | 0.04             | 0.10            | 0.11            | 0.13            | 0.15             | 0.08             | 0.09            | 0.09             | 0.10             |
| <i>TQ</i>             | <i>1.42</i>      | <i>1.65</i>     | <i>1.98</i>     | <i>2.21</i>     | <i>2.47</i>      | <i>2.75</i>      | <i>2.35</i>     | <i>1.73</i>      | <i>2.16</i>      |
| logTQ                 | 0.23             | 0.44            | 0.57            | 0.64            | 0.76             | 0.82             | 0.70            | 0.45             | 0.62             |
| TSR                   | 0.01             | 0.15            | 0.15            | 0.20            | 0.15             | 0.18             | 0.19            | 0.13             | 0.16             |
| <i>RISKYEX</i>        | <i>0.17</i>      | <i>0.09</i>     | <i>0.09</i>     | <i>0.08</i>     | <i>0.09</i>      | <i>0.09</i>      | <i>0.08</i>     | <i>0.08</i>      | <i>0.09</i>      |
| logRISKYEX            | 0.15             | 0.08            | 0.08            | 0.08            | 0.08             | 0.08             | 0.07            | 0.07             | 0.08             |
| <i>ROAvol</i>         | <i>0.06</i>      | <i>0.02</i>     | <i>0.02</i>     | <i>0.02</i>     | <i>0.02</i>      | <i>0.03</i>      | <i>0.03</i>     | <i>0.02</i>      | <i>0.03</i>      |
| logROAvol             | -3.31            | -4.25           | -4.41           | -4.18           | -4.60            | -4.17            | -4.07           | -4.65            | -4.21            |
| <i>TSRvol</i>         | <i>0.53</i>      | <i>0.42</i>     | <i>0.39</i>     | <i>0.45</i>     | <i>0.38</i>      | <i>0.40</i>      | <i>0.43</i>     | <i>0.59</i>      | <i>0.43</i>      |
| logTSRvol             | -0.74            | -0.99           | -1.04           | -0.91           | -1.20            | -1.02            | -0.94           | -0.91            | -0.97            |
| <i>TA</i>             | <i>18,468.87</i> | <i>7,296.57</i> | <i>7,549.91</i> | <i>6,517.29</i> | <i>16,102.05</i> | <i>11,961.24</i> | <i>8,494.67</i> | <i>43,312.45</i> | <i>10,850.56</i> |
| logTA                 | 8.71             | 8.13            | 7.81            | 7.75            | 8.53             | 7.63             | 7.54            | 9.04             | 7.90             |
| FIRMAGE               | 27.13            | 31.45           | 30.16           | 24.70           | 33.96            | 23.12            | 23.49           | 25.48            | 26.88            |
| LEVERAGE              | 0.51             | 0.60            | 0.55            | 0.61            | 0.58             | 0.48             | 0.44            | 0.64             | 0.54             |
| RD                    | 0.00             | 0.01            | 0.01            | 0.01            | 0.01             | 0.09             | 0.08            | 0.02             | 0.04             |
| <i>CURRATIO</i>       | <i>1.79</i>      | <i>2.33</i>     | <i>2.15</i>     | <i>1.99</i>     | <i>1.84</i>      | <i>3.13</i>      | <i>3.12</i>     | <i>1.69</i>      | <i>2.40</i>      |
| logCURRATIO           | 0.37             | 0.76            | 0.64            | 0.52            | 0.46             | 0.92             | 0.94            | 0.30             | 0.68             |
| SALESGROW             | 0.06             | 0.04            | 0.05            | 0.06            | 0.06             | 0.33             | 0.09            | 0.08             | 0.10             |
| PPE                   | 0.66             | 0.35            | 0.23            | 0.30            | 0.27             | 0.13             | 0.12            | 0.21             | 0.25             |

Notes: This table presents means for firm and CEO variables in each industry for the 11,047 firm-year observations. Some variables are log-transformed and winsorized. Variables that are not used in the regression analysis are indicated in italics.

**Table A.4: Multivariate analysis – gender differences in CEO personality traits**

|                         | OPE                |                      | CON                 |                     | EXT               |                      |
|-------------------------|--------------------|----------------------|---------------------|---------------------|-------------------|----------------------|
|                         | (1)                | (2)                  | (1)                 | (2)                 | (1)               | (2)                  |
| FEMALE                  | 0.079**<br>(0.038) | 0.064*<br>(0.038)    | 0.177***<br>(0.039) | 0.167***<br>(0.039) | -0.009<br>(0.087) | -0.051<br>(0.082)    |
| AGE                     |                    | -0.007***<br>(0.001) |                     | -0.003**<br>(0.001) |                   | -0.016***<br>(0.003) |
| TENURE                  |                    | 0.001<br>(0.001)     |                     | -0.001<br>(0.002)   |                   | -0.001<br>(0.003)    |
| CHAIRMAN                |                    | -0.022*<br>(0.012)   |                     | -0.001<br>(0.012)   |                   | -0.018<br>(0.022)    |
| wSTCKOWN                |                    | -0.147<br>(0.181)    |                     | -0.303<br>(0.185)   |                   | 0.149<br>(0.372)     |
| wOPTOWN                 |                    | -0.123<br>(0.307)    |                     | -0.276<br>(0.338)   |                   | -0.969<br>(0.637)    |
| FOUNDER                 |                    | 0.001<br>(0.054)     |                     | -0.041<br>(0.044)   |                   | 0.005<br>(0.097)     |
| wROA                    |                    | -0.035<br>(0.041)    |                     | -0.044<br>(0.040)   |                   | 0.078<br>(0.106)     |
| logTQ                   |                    | 0.006<br>(0.011)     |                     | 0.012<br>(0.011)    |                   | -0.052**<br>(0.026)  |
| wTSR                    |                    | -0.002<br>(0.005)    |                     | -0.009*<br>(0.005)  |                   | 0.005<br>(0.011)     |
| logRISKYEX              |                    | -0.001<br>(0.020)    |                     | -0.005<br>(0.019)   |                   | -0.031<br>(0.041)    |
| logROAvol               |                    | -0.001<br>(0.003)    |                     | -0.001<br>(0.003)   |                   | -0.002<br>(0.006)    |
| logTSRvol               |                    | -0.008<br>(0.008)    |                     | -0.013<br>(0.008)   |                   | -0.002<br>(0.018)    |
| logTAlag                |                    | -0.008<br>(0.008)    |                     | -0.001<br>(0.008)   |                   | 0.015<br>(0.018)     |
| FIRMAGE                 |                    | -0.002**<br>(0.001)  |                     | -0.001<br>(0.001)   |                   | 0.003**<br>(0.002)   |
| LEVERAGElag             |                    | 0.030<br>(0.023)     |                     | 0.008<br>(0.023)    |                   | 0.054<br>(0.060)     |
| RD                      |                    | -0.023<br>(0.080)    |                     | -0.083<br>(0.062)   |                   | -0.325<br>(0.254)    |
| logCURRATIOlag          |                    | -0.002<br>(0.009)    |                     | 0.006<br>(0.009)    |                   | 0.024<br>(0.019)     |
| wSALESGROW              |                    | -0.003<br>(0.011)    |                     | 0.004<br>(0.010)    |                   | -0.012<br>(0.024)    |
| PPElag                  |                    | -0.167***<br>(0.059) |                     | -0.024<br>(0.054)   |                   | -0.519***<br>(0.114) |
| <i>Year dummies</i>     | <i>Yes</i>         | <i>Yes</i>           | <i>Yes</i>          | <i>Yes</i>          | <i>Yes</i>        | <i>Yes</i>           |
| <i>Industry dummies</i> | <i>Yes</i>         | <i>Yes</i>           | <i>Yes</i>          | <i>Yes</i>          | <i>Yes</i>        | <i>Yes</i>           |
| <i>N</i>                | <i>11,047</i>      | <i>11,047</i>        | <i>11,047</i>       | <i>11,047</i>       | <i>11,047</i>     | <i>11,047</i>        |
| <i>R</i> <sup>2</sup>   | <i>0.520</i>       | <i>0.545</i>         | <i>0.413</i>        | <i>0.420</i>        | <i>0.370</i>      | <i>0.438</i>         |



*f*

**Table A.4 continued**

|                         | AGR                |                      | NEU                  |                      |
|-------------------------|--------------------|----------------------|----------------------|----------------------|
|                         | (1)                | (2)                  | (1)                  | (2)                  |
| FEMALE                  | 0.132**<br>(0.057) | 0.096*<br>(0.054)    | -0.138***<br>(0.043) | -0.126***<br>(0.042) |
| AGE                     |                    | -0.011***<br>(0.002) |                      | 0.004**<br>(0.002)   |
| TENURE                  |                    | -0.001<br>(0.002)    |                      | 0.001<br>(0.002)     |
| CHAIRMAN                |                    | -0.032*<br>(0.017)   |                      | 0.037***<br>(0.013)  |
| wSTCKOWN                |                    | -0.456<br>(0.280)    |                      | -0.403<br>(0.248)    |
| wOPTOWN                 |                    | -0.120<br>(0.599)    |                      | -0.153<br>(0.355)    |
| FOUNDER                 |                    | 0.039<br>(0.069)     |                      | -0.049<br>(0.077)    |
| wROA                    |                    | -0.021<br>(0.072)    |                      | -0.014<br>(0.060)    |
| logTQ                   |                    | 0.010<br>(0.020)     |                      | -0.010<br>(0.014)    |
| wTSR                    |                    | 0.013*<br>(0.008)    |                      | 0.000<br>(0.006)     |
| logRISKYEX              |                    | -0.033<br>(0.026)    |                      | 0.063**<br>(0.028)   |
| logROAvol               |                    | -0.008*<br>(0.004)   |                      | -0.004<br>(0.003)    |
| logTSRvol               |                    | 0.000<br>(0.012)     |                      | -0.018*<br>(0.010)   |
| logTAlag                |                    | -0.020<br>(0.013)    |                      | 0.008<br>(0.011)     |
| FIRMAGE                 |                    | 0.001<br>(0.001)     |                      | -0.002**<br>(0.001)  |
| LEVERAGElag             |                    | 0.035<br>(0.042)     |                      | 0.009<br>(0.034)     |
| RD                      |                    | 0.413**<br>(0.160)   |                      | -0.265*<br>(0.149)   |
| logCURRATIOlag          |                    | 0.018<br>(0.014)     |                      | 0.000<br>(0.011)     |
| wSALESGROW              |                    | -0.017<br>(0.016)    |                      | 0.001<br>(0.011)     |
| PPElag                  |                    | -0.230***<br>(0.076) |                      | 0.179***<br>(0.064)  |
| <i>Year dummies</i>     | <i>Yes</i>         | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           |
| <i>Industry dummies</i> | <i>Yes</i>         | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           |
| <i>N</i>                | <i>11,047</i>      | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>        |
| <i>R</i> <sup>2</sup>   | <i>0.498</i>       | <i>0.543</i>         | <i>0.530</i>         | <i>0.565</i>         |

Notes: This table presents the regression results of gender differences in CEO traits and biases. Model (1) includes CEO gender. Model (2) includes CEO gender, CEO controls, and firm controls. The table presents the results obtained from Random Effects (RE) estimation. A constant term is included in all models. The bottom row provides information on year and industry dummies, N (sample size), and R<sup>2</sup> (coefficient of determination). Standard errors are clustered at firm level, and test statistics are presented in parentheses. "log" indicates logarithmic transformations, "lag" indicates lagged, and "w" indicates winsorized. Significance levels are denoted as \*\*\*, \*\*, and \*, representing significance at the 1%, 5%, and 10% levels, respectively.

**Table A.5: Multivariate analysis – industry differences in CEO personality traits**

|                     | OPE                 |                      | CON                 |                     | EXT                 |                      | AGR                 |                      |
|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|----------------------|---------------------|----------------------|
|                     | (1)                 | (2)                  | (1)                 | (2)                 | (1)                 | (2)                  | (1)                 | (2)                  |
| ENERGY              | 3.733***<br>(0.038) | 3.763***<br>(0.048)  | 4.538***<br>(0.029) | 4.533***<br>(0.040) | 3.020***<br>(0.088) | 3.132***<br>(0.100)  | 2.824***<br>(0.052) | 2.879***<br>(0.064)  |
| MATERIALS           | 4.194***<br>(0.042) | 4.176***<br>(0.041)  | 4.871***<br>(0.037) | 4.861***<br>(0.037) | 4.520***<br>(0.090) | 4.466***<br>(0.086)  | 3.407***<br>(0.082) | 3.362***<br>(0.077)  |
| INDUSTRIALS         | 4.378***<br>(0.029) | 4.327***<br>(0.029)  | 4.894***<br>(0.024) | 4.879***<br>(0.026) | 4.718***<br>(0.043) | 4.606***<br>(0.046)  | 3.727***<br>(0.035) | 3.638***<br>(0.036)  |
| DISCRETIONARY       | 4.864***<br>(0.032) | 4.805***<br>(0.034)  | 5.387***<br>(0.043) | 5.364***<br>(0.046) | 4.790***<br>(0.042) | 4.717***<br>(0.046)  | 4.135***<br>(0.044) | 4.052***<br>(0.046)  |
| STAPLES             | 4.832***<br>(0.047) | 4.801***<br>(0.050)  | 5.511***<br>(0.052) | 5.488***<br>(0.052) | 4.946***<br>(0.079) | 4.851***<br>(0.080)  | 4.282***<br>(0.068) | 4.221***<br>(0.068)  |
| HEALTH              | 5.248***<br>(0.029) | 5.163***<br>(0.032)  | 5.558***<br>(0.027) | 5.541***<br>(0.031) | 5.127***<br>(0.057) | 5.029***<br>(0.059)  | 4.953***<br>(0.056) | 4.805***<br>(0.057)  |
| IT                  | 4.772***<br>(0.033) | 4.682***<br>(0.034)  | 4.853***<br>(0.027) | 4.835***<br>(0.031) | 5.018***<br>(0.043) | 4.889***<br>(0.051)  | 4.498***<br>(0.039) | 4.341***<br>(0.044)  |
| COMMUNICATION       | 5.195***<br>(0.040) | 5.140***<br>(0.043)  | 5.060***<br>(0.046) | 5.044***<br>(0.050) | 5.335***<br>(0.095) | 5.219***<br>(0.094)  | 4.398***<br>(0.090) | 4.333***<br>(0.092)  |
| FEMALE              |                     | 0.063*<br>(0.038)    |                     | 0.167***<br>(0.039) |                     | -0.052<br>(0.082)    |                     | 0.094*<br>(0.054)    |
| AGE                 |                     | -0.006***<br>(0.001) |                     | -0.003**<br>(0.001) |                     | -0.016***<br>(0.003) |                     | -0.011***<br>(0.002) |
| TENURE              |                     | 0.001<br>(0.001)     |                     | -0.000<br>(0.002)   |                     | -0.000<br>(0.003)    |                     | -0.001<br>(0.002)    |
| CHAIRMAN            |                     | -0.022*<br>(0.012)   |                     | -0.001<br>(0.012)   |                     | -0.018<br>(0.022)    |                     | -0.032*<br>(0.017)   |
| wSTCKOWN            |                     | -0.151<br>(0.181)    |                     | -0.304*<br>(0.185)  |                     | 0.147<br>(0.374)     |                     | -0.461*<br>(0.280)   |
| wOPTOWN             |                     | -0.140<br>(0.308)    |                     | -0.280<br>(0.338)   |                     | -1.003<br>(0.636)    |                     | -0.158<br>(0.600)    |
| FOUNDER             |                     | -0.001<br>(0.054)    |                     | -0.042<br>(0.044)   |                     | 0.004<br>(0.098)     |                     | 0.037<br>(0.069)     |
| wROA                |                     | -0.035<br>(0.040)    |                     | -0.044<br>(0.040)   |                     | 0.076<br>(0.106)     |                     | -0.020<br>(0.072)    |
| logTQ               |                     | 0.004<br>(0.011)     |                     | 0.011<br>(0.011)    |                     | -0.054**<br>(0.026)  |                     | 0.007<br>(0.020)     |
| wTSR                |                     | -0.002<br>(0.005)    |                     | -0.008*<br>(0.005)  |                     | 0.005<br>(0.011)     |                     | 0.014*<br>(0.008)    |
| logRISKYEX          |                     | -0.001<br>(0.020)    |                     | -0.005<br>(0.019)   |                     | -0.034<br>(0.042)    |                     | -0.032<br>(0.026)    |
| logROAvol           |                     | -0.001<br>(0.003)    |                     | -0.001<br>(0.003)   |                     | -0.001<br>(0.006)    |                     | -0.008*<br>(0.004)   |
| logTSRvol           |                     | -0.008<br>(0.008)    |                     | -0.013<br>(0.008)   |                     | -0.001<br>(0.018)    |                     | 0.000<br>(0.012)     |
| logTAlag            |                     | -0.012<br>(0.009)    |                     | -0.001<br>(0.009)   |                     | 0.012<br>(0.019)     |                     | -0.023*<br>(0.014)   |
| FIRMAGE             |                     | -0.002*<br>(0.001)   |                     | -0.001<br>(0.001)   |                     | 0.004**<br>(0.002)   |                     | 0.001<br>(0.001)     |
| LEVERAGElag         |                     | 0.029<br>(0.023)     |                     | 0.008<br>(0.023)    |                     | 0.053<br>(0.060)     |                     | 0.035<br>(0.043)     |
| RD                  |                     | -0.030<br>(0.081)    |                     | -0.081<br>(0.062)   |                     | -0.326<br>(0.257)    |                     | 0.378**<br>(0.164)   |
| logCURRATIOlag      |                     | -0.001<br>(0.009)    |                     | 0.006<br>(0.009)    |                     | 0.025<br>(0.019)     |                     | 0.019<br>(0.014)     |
| wSALESGROW          |                     | -0.003<br>(0.011)    |                     | 0.004<br>(0.010)    |                     | -0.011<br>(0.024)    |                     | -0.016<br>(0.016)    |
| PPElag              |                     | -0.162***<br>(0.061) |                     | -0.023<br>(0.055)   |                     | -0.506***<br>(0.117) |                     | -0.210***<br>(0.079) |
| <i>Year dummies</i> |                     | <i>Yes</i>           |                     | <i>Yes</i>          |                     | <i>Yes</i>           |                     | <i>Yes</i>           |
| <i>N</i>            | <i>11,047</i>       | <i>11,047</i>        | <i>11,047</i>       | <i>11,047</i>       | <i>11,047</i>       | <i>11,047</i>        | <i>11,047</i>       | <i>11,047</i>        |

**Table A.5 continued**

|                     | NEU           |               |
|---------------------|---------------|---------------|
|                     | (1)           | (2)           |
| ENERGY              | 4.563***      | 4.525***      |
|                     | (0.066)       | (0.071)       |
| MATERIALS           | 3.571***      | 3.594***      |
|                     | (0.047)       | (0.047)       |
| INDUSTRIALS         | 3.518***      | 3.577***      |
|                     | (0.025)       | (0.027)       |
| DISCRETIONARY       | 2.988***      | 3.038***      |
|                     | (0.039)       | (0.041)       |
| STAPLES             | 3.112***      | 3.162***      |
|                     | (0.058)       | (0.057)       |
| HEALTH              | 2.643***      | 2.732***      |
|                     | (0.046)       | (0.047)       |
| IT                  | 3.146***      | 3.243***      |
|                     | (0.021)       | (0.028)       |
| COMMUNICATION       | 2.951***      | 2.996***      |
|                     | (0.052)       | (0.052)       |
| FEMALE              |               | -0.125***     |
|                     |               | (0.042)       |
| AGE                 |               | 0.004**       |
|                     |               | (0.002)       |
| TENURE              |               | 0.001         |
|                     |               | (0.002)       |
| CHAIRMAN            |               | 0.037***      |
|                     |               | (0.013)       |
| wSTCKOWN            |               | -0.402        |
|                     |               | (0.248)       |
| wOPTOWN             |               | -0.133        |
|                     |               | (0.357)       |
| FOUNDER             |               | -0.047        |
|                     |               | (0.077)       |
| wROA                |               | -0.015        |
|                     |               | (0.060)       |
| logTQ               |               | -0.008        |
|                     |               | (0.014)       |
| wTSR                |               | -0.000        |
|                     |               | (0.007)       |
| logRISKYEX          |               | 0.062**       |
|                     |               | (0.029)       |
| logROAvol           |               | -0.004        |
|                     |               | (0.003)       |
| logTSRvol           |               | -0.018*       |
|                     |               | (0.010)       |
| logTAlag            |               | 0.009         |
|                     |               | (0.012)       |
| FIRMAGE             |               | -0.002**      |
|                     |               | (0.001)       |
| LEVERAGElag         |               | 0.009         |
|                     |               | (0.034)       |
| RD                  |               | -0.241        |
|                     |               | (0.154)       |
| logCURRATIOlag      |               | 0.001         |
|                     |               | (0.011)       |
| wSALESGROW          |               | 0.000         |
|                     |               | (0.011)       |
| PPElag              |               | 0.166**       |
|                     |               | (0.067)       |
| <i>Year dummies</i> |               | <i>Yes</i>    |
| <i>N</i>            | <i>11,047</i> | <i>11,047</i> |

Notes: This table presents the regression results of industry differences in CEO traits and biases. Model (1) includes industries. Model (2) includes industries, CEO gender, CEO controls, and firm controls. The table presents the results obtained from Random Effects (RE) estimation. A constant term is left out in all models. Standard errors are clustered at firm level, and test statistics are presented in parentheses. "log" indicates logarithmic transformations, "lag" indicates lagged, and "w" indicates winsorized. Significance levels are denoted as \*\*\*, \*\*, and \*, representing significance at the 1%, 5%, and 10% levels, respectively.

**Table A.6: Multivariate analysis – CEO gender and corporate outcomes**

|                         | wROA                 |                     |                      | wTSR                 |                      |                      | logTQ                |                      |                      |
|-------------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                         | (1)                  | (2)                 | (3)                  | (1)                  | (2)                  | (3)                  | (1)                  | (2)                  | (3)                  |
| FEMALE                  | -0.006<br>(0.005)    | -0.281*<br>(0.163)  | -0.263**<br>(0.133)  | 0.001<br>(0.018)     | -0.213<br>(0.471)    | -0.232<br>(0.409)    | -0.017<br>(0.038)    | -1.550*<br>(0.901)   | -1.462*<br>(0.800)   |
| OPE                     |                      | -0.005<br>(0.009)   | -0.005<br>(0.008)    |                      | 0.016<br>(0.016)     | -0.003<br>(0.015)    |                      | 0.027<br>(0.044)     | 0.018<br>(0.041)     |
| FEMALExOPE              |                      | 0.010<br>(0.020)    | 0.017<br>(0.017)     |                      | -0.065<br>(0.049)    | -0.062<br>(0.046)    |                      | -0.209<br>(0.150)    | -0.135<br>(0.132)    |
| CON                     |                      | 0.005<br>(0.007)    | 0.001<br>(0.007)     |                      | -0.051***<br>(0.013) | -0.034***<br>(0.012) |                      | 0.020<br>(0.038)     | 0.033<br>(0.035)     |
| FEMALExCON              |                      | 0.006<br>(0.017)    | 0.001<br>(0.013)     |                      | -0.023<br>(0.044)    | -0.020<br>(0.040)    |                      | 0.040<br>(0.131)     | 0.021<br>(0.105)     |
| EXT                     |                      | 0.004<br>(0.005)    | 0.002<br>(0.004)     |                      | -0.007<br>(0.006)    | 0.006<br>(0.006)     |                      | -0.049***<br>(0.018) | -0.039**<br>(0.017)  |
| FEMALExEXT              |                      | 0.019*<br>(0.012)   | 0.015<br>(0.009)     |                      | 0.009<br>(0.022)     | 0.005<br>(0.022)     |                      | 0.069<br>(0.071)     | 0.054<br>(0.054)     |
| AGR                     |                      | 0.002<br>(0.006)    | 0.004<br>(0.006)     |                      | 0.027***<br>(0.009)  | 0.021**<br>(0.009)   |                      | 0.054**<br>(0.027)   | 0.028<br>(0.025)     |
| FEMALExAGR              |                      | -0.001<br>(0.013)   | -0.001<br>(0.011)    |                      | 0.106*<br>(0.061)    | 0.108**<br>(0.050)   |                      | 0.243**<br>(0.117)   | 0.189**<br>(0.087)   |
| NEU                     |                      | -0.001<br>(0.007)   | -0.004<br>(0.006)    |                      | 0.000<br>(0.011)     | 0.008<br>(0.011)     |                      | -0.052*<br>(0.029)   | -0.041<br>(0.028)    |
| FEMALExNEU              |                      | 0.022<br>(0.019)    | 0.017<br>(0.016)     |                      | 0.035<br>(0.063)     | 0.033<br>(0.054)     |                      | 0.200*<br>(0.113)    | 0.163<br>(0.101)     |
| NAR                     |                      | -0.013<br>(0.022)   | -0.013<br>(0.020)    |                      | -0.072*<br>(0.041)   | -0.039<br>(0.040)    |                      | -0.017<br>(0.113)    | -0.017<br>(0.097)    |
| FEMALExNAR              |                      | 0.185**<br>(0.085)  | 0.221***<br>(0.072)  |                      | 0.129<br>(0.191)     | 0.191<br>(0.199)     |                      | 1.593***<br>(0.443)  | 1.864***<br>(0.426)  |
| OVER                    |                      | 0.028***<br>(0.003) | 0.025***<br>(0.003)  |                      | 0.070***<br>(0.007)  | 0.066***<br>(0.007)  |                      | 0.165***<br>(0.014)  | 0.175***<br>(0.014)  |
| FEMALExOVER             |                      | 0.007<br>(0.016)    | 0.011<br>(0.013)     |                      | 0.021<br>(0.035)     | 0.024<br>(0.033)     |                      | 0.026<br>(0.082)     | 0.033<br>(0.064)     |
| AGE                     | 0.000<br>(0.000)     |                     | 0.000<br>(0.000)     | -0.001*<br>(0.001)   |                      | -0.001<br>(0.001)    | -0.000<br>(0.001)    |                      | 0.000<br>(0.001)     |
| TENURE                  | 0.000*<br>(0.000)    |                     | -0.000<br>(0.000)    | -0.000<br>(0.001)    |                      | -0.002***<br>(0.001) | 0.005***<br>(0.001)  |                      | -0.001<br>(0.002)    |
| CHAIRMAN                | 0.002<br>(0.003)     |                     | 0.001<br>(0.003)     | 0.011<br>(0.007)     |                      | 0.007<br>(0.007)     | 0.030**<br>(0.013)   |                      | 0.021*<br>(0.012)    |
| wSTCKOWN                | -0.027<br>(0.048)    |                     | -0.009<br>(0.046)    | 0.183**<br>(0.081)   |                      | 0.261***<br>(0.082)  | -0.625**<br>(0.249)  |                      | -0.483**<br>(0.231)  |
| wOPTOWN                 | -0.513***<br>(0.147) |                     | -0.590***<br>(0.144) | 0.712***<br>(0.263)  |                      | 0.180<br>(0.267)     | -4.164***<br>(0.644) |                      | -4.679***<br>(0.643) |
| FOUNDER                 | -0.001<br>(0.008)    |                     | 0.002<br>(0.007)     | -0.006<br>(0.014)    |                      | -0.006<br>(0.014)    | 0.001<br>(0.058)     |                      | 0.020<br>(0.054)     |
| logTAlag                | -0.010***<br>(0.002) |                     | -0.011***<br>(0.002) | -0.012***<br>(0.003) |                      | -0.015***<br>(0.003) | -0.122***<br>(0.012) |                      | -0.126***<br>(0.011) |
| FIRMAGE                 | 0.001***<br>(0.000)  |                     | 0.001***<br>(0.000)  | 0.000<br>(0.000)     |                      | 0.000<br>(0.000)     | 0.002**<br>(0.001)   |                      | 0.003***<br>(0.001)  |
| LEVERAGElag             | -0.004<br>(0.013)    |                     | -0.001<br>(0.013)    | 0.070***<br>(0.016)  |                      | 0.072***<br>(0.016)  | 0.156***<br>(0.040)  |                      | 0.178***<br>(0.039)  |
| RD                      | -0.284***<br>(0.057) |                     | -0.289***<br>(0.058) | 0.228***<br>(0.086)  |                      | 0.176**<br>(0.089)   | 0.646***<br>(0.205)  |                      | 0.575***<br>(0.191)  |
| logCURRATIOlag          | -0.009**<br>(0.004)  |                     | -0.008**<br>(0.004)  | -0.005<br>(0.007)    |                      | -0.005<br>(0.007)    | 0.009<br>(0.017)     |                      | 0.012<br>(0.016)     |
| wSALESGROW              | 0.120***<br>(0.006)  |                     | 0.117***<br>(0.006)  | 0.341***<br>(0.029)  |                      | 0.327***<br>(0.029)  | 0.261***<br>(0.027)  |                      | 0.234***<br>(0.026)  |
| PPElag                  | -0.075***<br>(0.016) |                     | -0.063***<br>(0.016) | 0.031<br>(0.020)     |                      | 0.047**<br>(0.020)   | -0.290***<br>(0.080) |                      | -0.209***<br>(0.080) |
| <i>Year dummies</i>     | <i>Yes</i>           | <i>Yes</i>          | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           |
| <i>Industry dummies</i> | <i>Yes</i>           | <i>Yes</i>          | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           |
| <i>N</i>                | <i>11,047</i>        | <i>11,047</i>       | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>        |
| <i>R<sup>2</sup></i>    | <i>0.148</i>         | <i>0.101</i>        | <i>0.164</i>         | <i>0.234</i>         | <i>0.211</i>         | <i>0.241</i>         | <i>0.157</i>         | <i>0.187</i>         | <i>0.199</i>         |

**Table A.6 continued**

|                         | logROAvol            |                      |                      | logTSRvol            |                      |                      | logRISKYEX           |                     |                      |
|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
|                         | (1)                  | (2)                  | (3)                  | (1)                  | (2)                  | (3)                  | (1)                  | (2)                 | (3)                  |
| FEMALE                  | -0.035<br>(0.067)    | -1.521<br>(1.753)    | -1.308<br>(1.559)    | 0.010<br>(0.027)     | -0.506<br>(0.711)    | -0.633<br>(0.663)    | -0.006<br>(0.005)    | -0.190<br>(0.157)   | -0.229<br>(0.145)    |
| OPE                     |                      | 0.055<br>(0.095)     | 0.048<br>(0.089)     |                      | 0.030<br>(0.031)     | 0.000<br>(0.030)     |                      | 0.007<br>(0.006)    | 0.005<br>(0.006)     |
| FEMALExOPE              |                      | -0.755***<br>(0.262) | -0.693***<br>(0.269) |                      | -0.145<br>(0.145)    | -0.112<br>(0.136)    |                      | 0.001<br>(0.014)    | 0.008<br>(0.011)     |
| CON                     |                      | -0.064<br>(0.078)    | -0.036<br>(0.068)    |                      | -0.075***<br>(0.027) | -0.071***<br>(0.025) |                      | 0.001<br>(0.005)    | -0.003<br>(0.005)    |
| FEMALExCON              |                      | 0.418**<br>(0.193)   | 0.371**<br>(0.174)   |                      | 0.174*<br>(0.103)    | 0.151<br>(0.098)     |                      | 0.026<br>(0.016)    | 0.023<br>(0.016)     |
| EXT                     |                      | -0.130***<br>(0.035) | -0.091***<br>(0.031) |                      | -0.015<br>(0.011)    | -0.004<br>(0.011)    |                      | -0.001<br>(0.002)   | 0.006**<br>(0.002)   |
| FEMALExEXT              |                      | 0.078<br>(0.117)     | 0.074<br>(0.111)     |                      | -0.009<br>(0.046)    | -0.005<br>(0.042)    |                      | 0.010<br>(0.007)    | 0.008<br>(0.007)     |
| AGR                     |                      | -0.083<br>(0.055)    | -0.101**<br>(0.049)  |                      | -0.017<br>(0.018)    | -0.017<br>(0.018)    |                      | -0.005<br>(0.004)   | -0.001<br>(0.004)    |
| FEMALExAGR              |                      | 0.383***<br>(0.113)  | 0.351***<br>(0.108)  |                      | 0.094<br>(0.083)     | 0.090<br>(0.077)     |                      | -0.006<br>(0.010)   | -0.003<br>(0.009)    |
| NEU                     |                      | -0.257***<br>(0.060) | -0.226***<br>(0.053) |                      | -0.056**<br>(0.023)  | -0.068***<br>(0.020) |                      | 0.023***<br>(0.005) | 0.020***<br>(0.005)  |
| FEMALExNEU              |                      | 0.198<br>(0.196)     | 0.147<br>(0.182)     |                      | 0.026<br>(0.092)     | 0.040<br>(0.084)     |                      | 0.007<br>(0.019)    | 0.009<br>(0.018)     |
| NAR                     |                      | 0.012<br>(0.213)     | 0.118<br>(0.187)     |                      | -0.056<br>(0.068)    | -0.004<br>(0.068)    |                      | -0.027<br>(0.017)   | -0.012<br>(0.015)    |
| FEMALExNAR              |                      | 1.185<br>(0.829)     | 1.478*<br>(0.785)    |                      | -0.633<br>(0.501)    | -0.443<br>(0.457)    |                      | -0.012<br>(0.065)   | 0.016<br>(0.056)     |
| OVER                    |                      | 0.013<br>(0.030)     | 0.057*<br>(0.030)    |                      | -0.032***<br>(0.009) | -0.016<br>(0.010)    |                      | 0.018***<br>(0.002) | 0.015***<br>(0.002)  |
| FEMALExOVER             |                      | -0.172<br>(0.117)    | -0.183*<br>(0.109)   |                      | -0.109**<br>(0.049)  | -0.099**<br>(0.046)  |                      | -0.004<br>(0.009)   | 0.004<br>(0.008)     |
| AGE                     | 0.006**<br>(0.002)   |                      | 0.004*<br>(0.002)    | -0.001<br>(0.001)    |                      | -0.001<br>(0.001)    | 0.000<br>(0.000)     |                     | 0.000<br>(0.000)     |
| TENURE                  | -0.004<br>(0.003)    |                      | -0.006**<br>(0.003)  | -0.000<br>(0.001)    |                      | 0.000<br>(0.001)     | -0.000<br>(0.000)    |                     | -0.001**<br>(0.000)  |
| CHAIRMAN                | -0.024<br>(0.028)    |                      | -0.022<br>(0.028)    | -0.020*<br>(0.010)   |                      | -0.015<br>(0.010)    | -0.000<br>(0.002)    |                     | -0.001<br>(0.002)    |
| wSTCKOWN                | 0.216<br>(0.399)     |                      | 0.146<br>(0.405)     | -0.061<br>(0.136)    |                      | -0.130<br>(0.137)    | -0.046*<br>(0.028)   |                     | -0.025<br>(0.027)    |
| wOPTOWN                 | -0.072<br>(1.096)    |                      | -0.286<br>(1.079)    | 0.001<br>(0.331)     |                      | 0.069<br>(0.334)     | -0.072<br>(0.092)    |                     | -0.135<br>(0.092)    |
| FOUNDER                 | -0.084<br>(0.076)    |                      | -0.095<br>(0.078)    | 0.012<br>(0.032)     |                      | 0.002<br>(0.031)     | -0.004<br>(0.005)    |                     | -0.001<br>(0.005)    |
| logTAlag                | -0.167***<br>(0.014) |                      | -0.166***<br>(0.015) | -0.062***<br>(0.007) |                      | -0.061***<br>(0.007) | -0.005***<br>(0.001) |                     | -0.005***<br>(0.001) |
| FIRIMAGE                | -0.003**<br>(0.001)  |                      | -0.003**<br>(0.002)  | -0.005***<br>(0.001) |                      | -0.005***<br>(0.001) | 0.000<br>(0.000)     |                     | 0.000<br>(0.000)     |
| LEVERAGElag             | 0.434***<br>(0.077)  |                      | 0.437***<br>(0.077)  | 0.234***<br>(0.045)  |                      | 0.231***<br>(0.044)  | -0.032***<br>(0.009) |                     | -0.031***<br>(0.008) |
| RD                      | 2.143***<br>(0.278)  |                      | 1.988***<br>(0.290)  | 0.168<br>(0.107)     |                      | 0.124<br>(0.109)     | -0.104***<br>(0.036) |                     | -0.070*<br>(0.038)   |
| logCURRATIOlag          | 0.200***<br>(0.031)  |                      | 0.197***<br>(0.031)  | -0.016<br>(0.013)    |                      | -0.016<br>(0.013)    | 0.004<br>(0.003)     |                     | 0.005<br>(0.003)     |
| wSALESGROW              | -0.110**<br>(0.052)  |                      | -0.119**<br>(0.052)  | -0.099***<br>(0.017) |                      | -0.095***<br>(0.017) | 0.160***<br>(0.012)  |                     | 0.157***<br>(0.012)  |
| PPElag                  | 0.712***<br>(0.120)  |                      | 0.710***<br>(0.122)  | 0.324***<br>(0.046)  |                      | 0.323***<br>(0.046)  | 0.098***<br>(0.008)  |                     | 0.093***<br>(0.008)  |
| <i>Year dummies</i>     | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>          | <i>Yes</i>           |
| <i>Industry dummies</i> | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>           | <i>Yes</i>          | <i>Yes</i>           |
| <i>N</i>                | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>        | <i>11,047</i>       | <i>11,047</i>        |
| <i>R<sup>2</sup></i>    | <i>0.233</i>         | <i>0.137</i>         | <i>0.265</i>         | <i>0.452</i>         | <i>0.374</i>         | <i>0.4z 59</i>       | <i>0.167</i>         | <i>0.064</i>        | <i>0.178</i>         |

Notes: This table presents Random Effects (RE) regressions for corporate performance and corporate risk. Model (1) includes CEO gender and CEO and firm characteristics. Model (2) includes CEO gender and interaction terms. Model (3) includes CEO gender, interaction terms, and CEO and firm characteristics. Industry dummies, year dummies, and a constant term are included in all models. All standard errors are clustered at the firm level. Test statistics are displayed in parentheses. "log" indicates logarithmic transformations, "lag" indicates lagged, and "w" indicates winsorized. Significance levels are denoted as \*\*\*, \*\*, and \*, representing significance at the 1%, 5%, and 10% levels, respectively.