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CEO Celebrity Status and Readability of Financial Statements

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Chapter 1: Introduction

The importance and influence of Chief Executive Officer's reputation to firm value and performance has been a great subject of debate in finance. A 2015 survey by Webber Shandwick of over 1700 executives worldwide has shown that CEO reputation is a significant driver of company reputation and value. The survey showed that executives attribute 45% of their company's reputation and 44% of company's market value to the reputation of their CEO, on average. The external visibility of the CEO matters not only to shine a light on the company, but also as a channel through which the firm can tap into external resources, such as representation in other boards. Additionally, the efficient contracting hypothesis argues that CEOs with high reputation are more prone to make decisions that favor the company's interests (Saidu, 2019).

With the established relevance of CEO reputation, there is a growing body of financial literature that has addressed the many ways in which celebrity CEOs affect firm performance. One such stream of research has been dedicated to examining relationships between celebrity CEOs and financial reporting quality. There is significant evidence that celebrity CEOs influence earnings management and disclosures (Malmendier and Tate, 2009; Koh, 2011). A particularly interesting finding by Francis et al. (2008) is a positive correlation between celebrity CEOs and poor earnings quality, which is justified in two ways: first through CEO's use of own power to manipulate earnings, and second though the need for poor performing firms to hire better CEOs using celebrity status as a measure of high talent (Baik et al., 2011; Goodman et al., 2014). The readability of financial statements has equally gained significant attention as a quality factor in financial report literature. There is evidence supporting the argument that financial statement readability influences investors' choice and degree of their involvement in a company (Miller, 2010; Guay et al., 2015). There is, however, little evidence in the literature addressing the question of how celebrity CEOs influence the readability of financial statements.

Financial statement readability is understood as the investors' ability to easily understand and interpret relevant financial information in a company's financial statements (Loughran and McDonald, 2016). Better financial statement readability is favorable to a firm as it allows investors to analyze the firm and make sound investment decisions easily and more effectively, benefiting the firm in different ways, such as stock price appreciation or positive earnings (Li, 2008; Miller, 2010). On the contrary, complex and difficult-to-read financial statements may push some investors away, due to the lack of a clear understanding of a firm's current financial condition and performance. Consequently, poor financial readability may lead to higher stock price volatility, higher analyst forecast error, reduction in trading activity, and higher need to issue additional voluntary disclosures to clarify the intended message from the financial statements (Lawrence, 2011; Guay et al., 2015). From the ex-ante perspective, evidence also shows that better readability of 10-k reports may serve as a metric for CEO evaluations, increasing the likelihood of a CEO winning a prestigious award, especially in large firms (Christensen et al., 2019). However, there seems to be no prior study in the literature addressing the consequential influence of CEO celebrity on readability of financial statements. Hence, hypothesize that CEO celebrity status may play a preponderant role in the readability of financial statements.

In this paper, we study how celebrity CEOs influence the readability of their companies' financial statements, especially after a CEO wins an award. With a sample of 15,505 firm-year observations, representing 2,190 unique firms, we use CEO award-winnings from prestigious media outlet rankings to measure CEO celebrity status. We consider popular measures of

readability in the finance literature, including the 10-k file size, Fog index, the Flesch, the Kincaid, as well as textual measures such as words per sentence, average number of syllables per word, and number of complex words.

We also control for firm characteristics and CEO characteristics that are shown in the literature to likely influence the readability of financial statements. Our results indicate that celebrity CEOs improve the readability of financial statements. 10-k file size, along with other measures of readability improve within the first 3 years after a CEO wins an award, making financial statements more readable, and the results are statistically significant.

Our study contributes to the financial literature in at least two fundamental ways. First, it adds insights to the growing literature addressing the influence of CEO characteristics on firm performance. An important implication of this research contribution, for instance, is the additional support it may offer to the matching explanation, according to which companies with poor financial readability and reporting practices are more likely to hire celebrity CEOs in hopes that the CEO's celebrity status is also a potential reflection of their higher skills and talents (Francis et al. 2008). If financial report readability does in fact improve significantly after a CEO wins an award, then award-winning CEOs may indeed become targets for poor performing companies, under the premise that these famous CEOs are better suited or qualified to address the deficiencies of the firm. Second, this study contributes to the existing and growing literature that explores the role of media on corporate finance and firm performance. Malmendier and Tate (2009) argue that media coverage may negatively affect corporate finance and firm performance. Increase in CEO status through media coverage incites CEOs to act in ways that deteriorate firm value, with evidence appointing to lower performance, more engagement in self-benefiting tasks and little firm value, and higher involvement in earnings management, despite the higher compensation received. However, the evidence in our study supports the good side of media towards firm performance, by showing that increasing the CEO's celebrity status creates an incentive for better communication of the firm's financial information. This evidence also aligns with the view that media coverage can improve firm value by increasing the likelihood that managers forcefully reverse hostile corporate governance policies (Dyck et al., 2008).

The remaining of this paper is organized as follows. Chapter 2 reviews existing literature on the influence of the CEO on firm performance and the readability of financial statements. Chapter 3 describes the methodology used for the study, explaining the variables and the sample data. Chapter 4 presents and analyzes the results from the study. Chapter 5 concludes the study.

Ch2: Literature review and hypothesis development

2.1 CEO Celebrity and firm performance

There are many studies examining the relationship between CEO characteristics (celebrity status, skills, experience, tenure, power, etc.) and determinants of firm performance, such as cost of capital, stock price, earnings quality, and financial report quality. Achieving a celebrity status is often, though not always, the result of good professional performance, and CEOs enjoy such status for the increased personal prestige and benefits. For instance, extensive literature shows a positive correlation between celebrity CEOs and increased compensation (Milburn, 2003; Wade et al., 2006; Malmendier and Tate, 2009). Companies, on their end, can recruit celebrity CEOs in

hope that along with prestige comes experience and competencies to improve the firm performance. Sometimes firms can also hire celebrity CEOs for the external resources (such as industry connections) the CEOs can bring to grow the firm's business. However, research also shows that CEO celebrity status can have both positive and negative effects in the firm's internal performance(Hamilton and Zeckhauser, 2004; Bebchuk et al., 2009; Nguyen, 2015). Thus, investigating the effects of CEO celebrity status on firm performance adds invaluable input for the board of directors and other investors when planning the replacement of, or endorsing, a CEO.

Malmendier and Tate (2009) find that award-winning CEOs perform poorly after winning an award, in terms of stock price, business performance, and when compared to similar non-award-winning CEOs. According to the authors, award-winning CEOs tend to experience increased compensation and enjoy more leisure time with activities outside the firm, such as writing books and seating on outside boards, after achieving celebrity through an award. Celebrity CEOs also become more likely to engage in earnings management, which is detrimental and deceiving to stakeholders, and such phenomenon is especially common in poorly governed firms. Despite the empirical support that CEOs experience increased benefits through celebrity (Wade et al., 2006; Nguyen, 2015), such perks are not necessarily exempt from scrutiny. Wade et al. (2006) also find that celebrity CEOs may experience greater volatility in compensation depending on firm performance, relative to their non-celebrity counterparts. Industry analysts and stakeholders are prone to pay greater attention to the activities and decisions from celebrity CEOs, as such decisions tend to have significant impact on firm performance, and occasionally influence the CEO's fate within the company, through more rigorous evaluations, and receiving greater compensation when the firm performs well, or lower compensation when the firm performs poorly. Additional evidence shows that the very increase in CEO compensation negatively impacts the readability of financial statements as well, because highly compensated CEOs may attempt to decrease litigation risk or justify the high compensation by adding more nuances and caveats to financial disclosures, thus increasing their complexity (Do, 2020).

However, opposing evidence shows that celebrity CEOs positively impact firm performance in several aspects. Koh (2011) finds that celebrity CEOs positively influence the firm's financial practices. By studying award-winning CEOs and their reporting practices and firm performance, the findings reveal that celebrity CEOs become more punctual in reporting economic losses, and report positive returns and higher ROA, which is favorable to stakeholder's interests and future investment decisions. Additional supporting evidence shows that firms whose CEOs receive significantly high media coverage experience increased firm value, outperforming firms with low media coverage (Deephouse, 2000; Nguyen, 2015). A particularly notable finding by Francis et al. (2008) is the negative relationship between highly reputed CEOs and reported earnings quality. Whereas such result contradicts the efficient contracting view that celebrity CEOs work towards good earnings quality (Fama, 1980; Kreps, 1990), the evidence also points out that the negative relationship is not necessarily due to the CEO's poor performance. It is rather because poorly performing companies tend to seek highly reputed CEOs, in hope that the CEO's superior talents (reflected in great reputation or celebrity status) will improve the company's financial performance. In this view, denominated the matching hypothesis, celebrity CEOs are perceived to be better managers that can improve the earnings quality of a firm, and for this reason, they are highly sought by underperforming companies (Francis et al., 2008).

2.2 CEO characteristics and financial statement quality

A stream of literature has been also dedicated to the study of CEO characteristics that tend to be antecedents of celebrity, such as skills and experience, and characteristics that can be hybrid (either antecedents or byproducts) to celebrity, such as overconfidence, and their impact on the quality of financial reports. On the antecedent side, for instance, evidence indicates that CEO age has a positive impact of the readability of Management Discussion and Analysis (MD&A) section of annual reports (Xu et al., 2018). Older CEOs are understood to have better communication skills, through years of experience, and thus able to express complex business problems using more readable language. Additional evidence shows a positive relationship between CEOs with a business degree and readability of financial reports (Tuo et al., 2019). Furthermore, Brockman et al (2019) find that CEO with internal experience (i.e., CEOs promoted from within the firm) issue more accurate earnings forecast than inexperienced or externally hired CEOs. Thus, many CEO characteristics that antecede celebrity status are building blocks for the CEO's reputation and play important roles on the course of the firm's performance.

Overconfidence is a particularly notable CEO behavior from the hybrid side (i.e., CEO characteristics that can lead to, or result from, CEO celebrity), as it can have positive or negative repercussions to firm performance and financial report quality. Evidence indicates a positive relationship between elevated CEO overconfidence and financial report readability, as reports from overconfident CEOs tend to be shorter and smaller, thus reducing clutter (Do, 2020). On the other hand, overconfident CEOs have also shown to overestimate expected returns, overpay for acquisitions, invest in doubtful projects, pursue risky initiatives that can harm the firm, and adopt significantly more tax aggressive policies for the firm (Wade et al., 2008; Kubick and Lockhart, 2017).

A stream of literature has also studied the quality of financial disclosers as a prior determinant of CEO celebrity status. Cristensen et al. (2019) find that better financial disclosure quality, as measured either by better communication indicators (greater disclosure index or greater management forecast accuracy) can increase the probability of a CEO winning an award. Clear and concise reporting is certainly appreciated by stakeholders and can thus become a differentiating factor of an outstanding CEO from its competing peers. However, evidence of whether celebrity status itself can lead CEOs into producing better readable statements remains scant, and thus an open question to empirical research. Based on these reasonings, we propose the following hypotheses:

Hypothesis 1a: CEO celebrity status is positively associated with the readability of a firm's financial statements.

Hypothesis 1b: CEO celebrity status is negatively associated with the readability of a firm's financial statements.

Chapter 3: Research Design, Data & Methodology

We examine the impact of celebrity CEOs on 10-K report readability. We expect award-winning CEOs to protect their reputation by providing more readable reports.

3.1 Measures of financial statement readability and research design

One of the most popular readability measures across all fields is the Fog index, developed by Robert Gunning (1952). It relies on the average number of words per sentence and the percentage of complex words to capture text complexity. The Fog index thus indicates the number of years of formal education a reader needs to understand the text in first reading. This index has been used widely in measuring financial report readability (e.g., Li, 2008; Biddle et al., 2009; Miller, 2010; Lehavy et al., 2011; Dougal et al., 2012) and is calculated as follows:

FOG = (WORDS_PER_SENTENCE + COMPLEX_WORDS) * 0.4,

Additional measures of readability are Flesch reading ease level (FLESCH) and Flesch-Kincaid grade level score (KINCAID). Since FLESCH, based on a 100-point scale, estimates the ease of reading, a higher FLESCH means a more readable text. On the other hand, both FOG and KINCAID are measures of the education level appropriate for comprehending a document, thus a higher FOG or KINCAID means that the report is less readable.

FLESCH = 206.835 – (1.015 * WORDS_PER_SENTENCE) – (84.6 * AVG_SYLLABLES)

KINCAID = (11.8 * AVG_SYLLABLES) + (0.39 * WORDS_PER_SENTENCE) – 15.59

However, Loughran and McDonald (2014) point out several issues related to the Fog index in capturing the readability of financial documents. Particularly, while the first component of the index, the average words per sentence, has reasonable correlations with other measures of readability, the second component, complex words, is a poorly specified measure in business documents. It is attributed to the fact that business text commonly uses multisyllable financial terms such as corporation, company, agreement, management, and operations. These words are presumably not difficult for investors to comprehend but leads to an increase in the Fog index, implying that the financial reports are less readable. Loughran and McDonald (2014) document that all of the top quartile of multisyllable words in their 10-K sample would likely to be familiar to a typical investor or analyst and that only 52 complex words out of more than 45,000 complex words account for more than 25% of the complex word count. They therefore propose the use of the 10-K file size in measuring readability of financial text, a simple measure which can avoid the imprecision of parsing algorithms and is shown to be highly correlated with alternative measures of readability.

In this paper, we measure the degree of readability using 10-K file size, the Fog index, Flesch index, and Flesch-Kincaid index. The 10-k file size measures the gross file size in megabytes of 10-k filings downloaded from Edgar. The log transformation, henceforth ln(FILE_SIZE), helps address skewness in the data, adjusting it for a better application of normality assumptions from the regression models. For expositional clarity, we replace FLESCH by NEG_ FLESCH, which is equal to -1 * FLESCH. A higher NEG_ FLESCH thus means a less readable text.

3.2 CEO control variables

To control for the impact of celebrity CEOs on readability of financial statements, we constructed the dummy variable AWARD, equal to one for any of the following 3 years after the CEO wins an award, and zero otherwise. To control for other CEO characteristics, we account for variables such as FEMALE, a gender dummy equal to 1 if the CEO is female, and zero otherwise, AGE, TENURE, and OWNERSHIP. AGE measures the CEO's age in years. TENURE measures the number of years the CEO has been within the referenced position. OWNERSHIP (%), measured by the number of CEO-owned shares (excluding options) of the company, and divided by the number of common shares outstanding at the end of the year. The CEO variables considered aggregately capture key features that usually contribute to the reputation of a CEO in a company.

3.3 Firm characteristics

Our study also includes firm control variables that can contribute to assessing a CEO's celebrity status. Firm variables considered include a log transformation of firm value [ln(FIRM_VALUE)], market-to-book ratio (MTB), Leverage, profit ratio (PROFIT), LOSS (a dummy variable equal to 1 if the firm has negative net income), research and development (R&D), and the ratio of fixed assets to total assets (FIXED_ASSETS).

3.4 Sample data

Our data collection process starts with the universe of S&P 1500 firms in ExecuComp during the period 2005-2018. We collect data on many CEO awards such as CEO of the Year, Top CEOs, World's Best CEOs, and Businessperson of the Year. We then download all 10-K filings from Edgar for the sample period, measure their readability using parsing algorithms, and merge this data set with the main sample using the CIK. Finally, firms are required to have financial information in the COMPUSTAT. The final sample consists of 15,505 firm-year observations, representing 2,190 unique firms. Variables are winsorized at the 1% cutoff at both tails to limit the influence of outliers. Industry and year fixed effects are included in all models to control for industry effects and macroeconomic effects. We use ordinary least squares (OLS) methodology for regression modeling of the intended hypothesis.

To measure the CEO's celebrity status, we create the variable AWARD, which equals one for any years within the three-year period (years t+1, t+2, and t+3) after the CEO wins an award (year t), and zero otherwise. We expect celebrity CEOs to protect their reputation by providing more readable reports.

Chapter 4: Results

4.1 Descriptive statistics

Table 1 shows the summary statistics for the variables in the study. Out of the 15,505 firm-year observations, the average fog index in 19.75 (which is consistent with Ertugrul et al. (2017) who report a mean Fog index of 19.55) indicating that a reader needs an average of 19.75 years of education, well above a college degree, to understand the text in a 10-k file. The Flesch index is also significantly low, averaging 26.70 on a 100-point scale, thus indicating significant challenge in reading a financial report. The Kincaid level grade average is 15.63, showing that an average reader would need just about a college degree of education to read a report. The average 10-k file

also contains 24.54 words per sentence, 24.84% complex words, and 1.83 syllables per word. The average 10-k file size is 2.1 megabytes. The average CEO age is 56.23 years, and the average CEO tenure with a firm is 7.52 years. The CEO owns 1.82% of common shares outstanding for the firm, on average.

4.2 Results of CEO award-winning and financial report readability

In this section we analyze the hypotheses regarding the relationship between CEO awards and financial report readability. We use the model below to analyze the impact of CEO awards on the set of readability metrics, controlling for CEO characteristics as well as firm factors.

$$\begin{aligned}\text{Readability}_{i,t} = {} & \beta_0 + \beta_2\,\text{AWARD}_{i,t} + \beta_2\,\text{FEMALE}_{i,t} + \beta_2\,\text{AGE}_{i,t} + \beta_2\,\text{TENURE}_{i,t} \\ & + \beta_2\,\text{OWNERSHIP}_{i,t} + \beta_1\,\ln(\text{FIRM\_VALUE})_{i,t} + \beta_2\,\text{MTB}_{i,t} + \beta_3\,\text{LEVERAGE}_{i,t} \\ & + \beta_4\,\text{PROFIT}_{i,t} + \beta_5\,\text{LOSS}_{i,t} + \beta_6\,\text{R\&D}_{i,t} + \beta_7\,\text{FIXED ASSETS}_{i,t} + \epsilon_{i,t}\end{aligned}$$

Where Readability is measured by ln(FILE_SIZE), FOG, NEG FLESCH, and KINCAID.

Table 3 shows the results for the full sample. Panel A shows that award-winning CEOs tend to provide more readable report after receiving an award (within 3 years after receiving an award). OLS results point to a significant positive influence of a CEO's winning an award to all measures of financial readability considered. Ln(FILE_SIZE), FOG, NEG_FLESCH and KINCAID reduce significantly after a CEO wins an award. The effect is strongest on NEG_FLESCH, at a 1% significance level, whereas the impact on ln(FILE_SIZE) is significant at 5% significance level, and significant at 10% level for FOG and KINCAID. To further examine the impact of CEO reputation on each component of the readability measure, we decompose readability into WORDS_PER_SENTENCE**,** COMPLEX_WORDS, and AVG_SYLLABLES.

Results in Panel B show that award-winning CEOs tend to use fewer complex words when writing 10-K reports. These results may be because freshly awarded CEOs try to preserve their reputation by taking initiatives that favor the firm's performance, as firms with award-winning CEOs also get better evaluated by the stock market, especially in the period immediately after the CEO wins the award (Wade et al., 2008). It may also be the case that award-winning CEOs try to ensure that they win more awards in the future by improving readability of financial reports, since better readable reports are likely to increase the chances that CEOs win awards (Christensen et al., 2019). Overall, the evidence confirms the hypothesis that celebrity CEOs positively influence the readability of financial statements after winning an award.

4.3 Robustness check

To correct for the potential that award-winning CEOs may not be randomly appointed if they self-select into certain types of firms, we use the propensity score matching method. We begin with a logistic regression which includes firm characteristics that may explain the decision to hire a prestigious CEO.

$$\begin{aligned}\text{Prob}_{i,t}\,(\text{AWARD} = 1) = {} & \beta_0 + \beta_1\,\ln(\text{FIRM\_VALUE})_{i,t} + \beta_2\,\text{LEVERAGE}_{i,t} + \beta_3\,\text{MTB}_{i,t} + \beta_4\,\text{R\&D}_{i,t} \\ & + \beta_5\,\text{DIV}_{i,t} + \beta_6\,\text{CAPEX}_{i,t} + \beta_7\,\text{PROFIT}_{i,t} + \epsilon_{i,t}\end{aligned}$$

We then use a matching algorithm that does not allow for replacement to avoid the potential issue that replaced observations with extreme propensity scores are matched many times and, thus,

are heavily weighted (Lawrence et al., 2011).[1] Particularly, we match award-winning CEO firms (treated firms) with non- award-winning CEO firms (control firms) using the estimated propensity scores. This method circumvents the effects of sample selection bias.

Table 4 shows the results for the propensity score matching subsample. The results are consistent with those in Table 3. All measures of readability improve significantly after a CEO wins an award, and most results are statistically significant at the 1% significance level.

The sample in table 5 includes only award-winning CEO firms (3 years before and 3 years after the CEO win an award). Results in table 5 show that CEOs tend to provide more readable reports after winning an award. In particular, the most significant change in readability is observed in file size improvement, for CEOs that were with the firm at least three years before winning an award, and three years after the award. This evidence also strengthens the results from the main model, confirming the incentive that CEOs may have in making financial reports clearer and more concise after winning an award, to live up to the prestige that accompanies an award.

Chapter 5: Conclusion

In this paper, we analyzed the influence of celebrity CEOs on readability of financial statements. We use CEO awards from several media outlets to identify how CEO influence complex measures of readability such as the Fog index, the Flesch and Kincaid, in the first 3 years after the award is granted.

We find that award-winning CEOs improve the readability of financial reports. File size, FOG, NEG FLESCH, and KINCAID all reduce significantly in the years posteriors to the CEO's winning of an award. Text measures such as words per sentence, complex words, and average syllables also improve significantly. Using a propensity score matching technique for robustness testing, we find that the results remain consistent, with improvements in financial report readability after a CEO wins an award.

Our results suggest that CEO celebrity status affects the delivery of financial information from the firm, thus reinforcing existing evidence of CEO characteristics impact on firm performance. Award-winning CEOs may have an additional incentive to safeguard and/or improve the firm's performance, either as a demonstration that they can live up to the expectations that come with high reputation, or as a strategy to guarantee that they can be recognized as highly reputed CEOs. Nonetheless, firms can benefit from taking advantage of the CEO's popularity, as investors tend to react in ways that favor the firm, possibly through better valuation or performance assessment.

[1] The results hold when we match with replacement.

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Appendix A

Table 1. Summary Statistics

Variables	N	Mean	Std. Dev.	Q1	Median	Q3
Proxies of 10-K Readability						
ln(FILE_SIZE)	15,505	0.74	0.65	0.31	0.75	1.17
FOG	15,505	19.75	1.73	18.89	19.84	20.75
FLESCH	15,505	26.70	6.96	22.81	26.45	30.04
KINCAID	15,505	15.63	1.62	14.82	15.71	16.59
WORDS_PER_SENTENCE	15,505	24.54	3.11	22.85	24.67	26.42
COMPLEX_WORDS (%)	15,505	24.84	2.05	23.92	24.90	25.88
AVG_SYLLABLES	15,505	1.83	0.06	1.81	1.84	1.87
CEO Characteristics						
AWARD (%)	15,505	2.35	N/A	N/A	N/A	N/A
FEMALE	15,505	3.97	N/A	N/A	N/A	N/A
AGE	15,505	56.23	7.23	51.00	56.00	61.00
TENURE	15,505	7.52	7.13	2.00	5.00	10.00
OWNERSHIP (%)	15,505	1.82	5.85	0.00	0.00	1.10
Firm Characteristics						
ln(FIRM_VALUE)	15,505	8.21	1.73	7.01	8.11	9.29
MTB	15,505	1.91	1.40	1.10	1.47	2.19
LEVERAGE	15,505	0.22	0.22	0.03	0.19	0.33
PROFIT	15,505	0.12	0.13	0.07	0.12	0.17
LOSS	15,505	0.18	N/A	N/A	N/A	N/A
R&D	15,505	0.22	6.36	0.00	0.00	0.03
FIXED_ASSETS	15,505	0.24	0.24	0.05	0.15	0.37

The table above reports the summary statistics of key dependent and independent variables, for a sample of S&P 1500 US firms. Variable definitions are available in Appendix B

Table 2. Pearson correlations between report readability, CEO characteristics, and salient firm-specific characteristics.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1) ln(FILE_SIZE)	**1**														
2) FOG	**0.08**	**1**													
3) NEG_ FLESCH	**0.07**	**0.94**	**1**												
4) KINCAID	**0.08**	**0.99**	**0.95**	**1**											
5) AWARD	**0.03**	**0.03**	**0.03**	**0.04**	**1**										
6) FEMALE	**0.02**	0.01	**0.02**	0.01	0.00	**1**									
7) AGE	**0.08**	0.00	-0.01	0.00	**0.07**	**-0.05**	**1**								
8) TENURE	**-0.04**	**0.04**	**0.03**	**0.04**	**0.08**	**-0.07**	**0.41**	**1**							
9) OWNERSHIP	**-0.09**	0.02	0.00	0.01	**0.02**	**-0.03**	**0.15**	**0.35**	**1**						
10) ln(FIRM_VALUE)	**0.34**	**0.10**	**0.10**	**0.11**	**0.26**	0.00	**0.12**	**-0.04**	**-0.16**	**1**					
11) MTB	**-0.14**	**0.05**	**0.08**	**0.07**	**0.10**	0.00	**-0.07**	**0.03**	**0.08**	0.01	**1**				
12) LEVERAGE	**0.18**	**-0.02**	**-0.03**	**-0.02**	0.00	0.00	0.01	**-0.07**	**-0.09**	**0.19**	**-0.02**	**1**			
13) PROFIT	**-0.11**	**-0.08**	**-0.05**	**-0.07**	**0.07**	**0.02**	0.02	0.00	**0.02**	**0.14**	**0.27**	**0.04**	**1**		
14) LOSS	**0.00**	**0.03**	0.01	**0.04**	**-0.06**	**-0.02**	**-0.06**	**-0.06**	-0.01	**-0.26**	**-0.10**	**0.10**	**-0.43**	**1**	
15) R&D	**0.00**	**0.02**	**0.02**	**0.02**	0.00	-0.01	0.01	0.01	0.00	**-0.05**	**0.04**	-0.01	**-0.17**	**0.06**	**1**
16) FIXED_ASSETS	**0.08**	**-0.10**	**-0.13**	**-0.09**	-0.01	0.01	**0.04**	**-0.05**	**-0.02**	**0.07**	**-0.14**	**0.24**	**0.11**	**0.03**	**-0.03**

The table above reports Pearson correlations of reference variables in our sample. Variable definitions are available in Appendix B. Bolded values are significant at the 0.05 level or better

Table 3. Relation between CEO awards and annual report readability

Panel A				
Variables	ln(FILE_SIZE)	FOG	NEG_ FLESCH	KINCAID
	(1)	(2)	(3)	(4)
AWARD	**-0.061** **	**-0.168** *	**-1.347** ***	**-0.156** *
	(0.04)	**(0.07)**	**(0.00)**	**(0.07)**
FEMALE	0.039 *	0.110	0.586 **	0.083
	(0.07)	(0.11)	(0.03)	(0.19)
AGE	0.001	-0.008 ***	-0.039 ***	-0.009 ***
	(0.39)	(<.0001)	(<.0001)	(<.0001)
TENURE	-0.003 ***	0.011 ***	0.042 ***	0.011 ***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)
OWNERSHIP	0.000	0.007 ***	0.012	0.007 ***
	(0.74)	(0.00)	(0.22)	(0.00)
ln(FIRM_VALUE)	0.069 ***	0.104 ***	0.500 ***	0.120 ***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)
MTB	-0.037 ***	0.014	0.059	0.014
	(<.0001)	(0.21)	(0.17)	(0.17)
LEVERAGE	0.253 ***	-0.509 ***	-2.122 ***	-0.489 ***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)
PROFIT	-0.193 ***	-0.688 ***	-2.248 ***	-0.656 ***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)
LOSS	0.078 ***	0.134 ***	0.405 ***	0.156 ***
	(<.0001)	(0.00)	(0.01)	(<.0001)
R&D	0.000	0.001	-0.006	-0.001
	(0.54)	(0.75)	(0.43)	(0.76
FIXED_ASSETS	-0.038	-0.281 ***	-1.584 ***	-0.242 **
	(0.29)	(0.01)	(0.00)	(0.02)
Industry & year FE	Yes	Yes	Yes	Yes
R-Squared	0.425	0.186	0.213	0.198
N	15,505	15,505	15,505	15,505

The table above presents the OLS regression results to determine the influence of CEO awards and selected control variables on measures of readability for financial statements. Variable definitions are listed in appendix B. Numbers in parenthesis are p-values. ***, **, and * represent significance at 1%, 5%m and 10%, respectively.

Panel B			
Variables	WORDS_PER_SENTENCE	COMPLEX_WORDS	AVG_SYLLABLES
	(1)	(2)	(3)
AWARD	**0.130**	**-0.549** ***	**-0.017** ***
	(0.43)	**(<.0001)**	**(<.0001)**
FEMALE	0.004	0.273 ***	0.007 ***
	(0.98)	(0.00)	(0.00)
AGE	-0.013 ***	-0.008 ***	0.000
	(0.00)	(0.00)	(<.0001)
TENURE	0.019 ***	0.008 ***	0.000
	(<.0001)	(0.00)	(0.00)
OWNERSHIP	0.021 ***	-0.002	0.000
	(<.0001)	(0.45)	(0.21)
ln(FIRM_VALUE)	0.201 ***	0.058 ***	0.004 ***
	(<.0001)	(<.0001)	(<.0001)
MTB	0.024	0.010	0.000
	(0.23)	(0.42)	(0.27)
LEVERAGE	-0.777 ***	-0.494 ***	-0.016 ***
	(<.0001)	(<.0001)	(<.0001)
PROFIT	-1.379 ***	-0.340 **	-0.010 **
	(<.0001)	(0.02)	(0.02)
LOSS	0.400 ***	-0.065	0.000
	(<.0001)	(0.17)	(0.99)
R&D	0.001	-0.003	0.000
	(0.74)	(0.23)	(0.20)
FIXED_ASSETS	-0.083	-0.620 ***	-0.018 ***
	(0.68)	(<.0001)	(<.0001)
Industry & year FE	Yes	Yes	Yes
R-Squared	0.176	0.186	0.216
N	15,505	15,505	15,505

The table above show the OLS regression results to determine the influence of CEO awards and selected control variables on words per sentence, complex words, and average syllables per word on a 10-k report. Variable definitions are listed in appendix B. Numbers in parenthesis are p-values. ***, **, and * represent significance at 1%, 5%m and 10%, respectively.

Table 4. Robustness check – Propensity score matching

Panel A				
Variables	ln(FILE_SIZE)	FOG	NEG_ FLESCH	KINCAID
	(1)	(2)	(3)	(4)
AWARD	**-0.087** *	**-0.452** ***	**-2.276** ***	**-0.414** ***
	(0.09)	**(0.01)**	**(0.00)**	**(0.01)**
FEMALE	-0.210 *	0.600	1.318	0.489
	(0.09)	(0.15)	(0.47)	(0.21)
AGE	0.002	-0.044 ***	-0.206 ***	-0.044 ***
	(0.68)	(0.01)	(0.01)	(0.01)
TENURE	0.002	0.010	0.051	0.013
	(0.65)	(0.57)	(0.52)	(0.43)
OWNERSHIP	-0.003	0.045 *	0.236 **	0.048 **
	(0.68)	(0.06)	(0.02)	(0.03)
ln(FIRM_VALUE)	-0.036 *	0.206 ***	0.667 **	0.208 ***
	(0.09)	(0.00)	(0.04)	(0.00)
MTB	-0.027 *	0.029	0.025	0.017
	(0.08)	(0.59)	(0.91)	(0.73)
LEVERAGE	0.079	-0.390	-1.798	-0.399
	(0.51)	(0.36)	(0.33)	(0.31)
PROFIT	-0.061	-1.748 *	-3.959	-1.519
	(0.84)	(0.10)	(0.39)	(0.12)
LOSS	-0.136	0.216	0.658	0.124
	(0.29)	(0.65)	(0.75)	(0.78)
R&D	0.884 ***	0.084	2.171	0.592
	(0.01)	(0.94)	(0.68)	(0.60)
FIXED_ASSETS	-0.029	0.003	-1.084	0.068
	(0.92)	(0.78)	(0.81)	(0.94)
Industry & year FE	Yes	Yes	Yes	Yes
R-Squared	0.491	0.342	0.338	0.345
N	706	706	706	706

The table above shows regression results of the influence of CEO AWARD on financial statement readability, from the propensity score matching subsample. Results remain consistent with those in table 3.A. Variable definitions are listed in appendix B. Numbers in parenthesis are p-values. ***, **, and * represent significance at 1%, 5%m and 10%, respectively.

Panel B			
Variables	WORDS_PER_SENTENCE	COMPLEX_WORDS	AVG_SYLLABLES
	(1)	(2)	(3)
AWARD	**-0.388**	**-0.741** ***	**-0.022** ***
	(0.15)	**(0.00)**	**(0.00)**
FEMALE	1.229 **	0.272	0.001
	(0.05)	(0.63)	(0.96)
AGE	-0.060 **	-0.051 **	-0.002 ***
	(0.02)	(0.03)	(0.01)
TENURE	0.024	0.002	0.000
	(0.37)	(0.95)	(0.66)
OWNERSHIP	0.061 *	0.052 *	0.002 **
	(0.09)	(0.10)	(0.03)
ln(FIRM_VALUE)	0.463	0.051	0.002
	(<.0001)	(0.60)	(0.42)
MTB	0.054	0.019	0.000
	(0.50)	(0.79)	(0.87)
LEVERAGE	-0.597	-0.378	-0.014
	(0.35)	(0.51)	(0.40)
PROFIT	-3.890 ***	-0.479	0.000
	(0.01)	(0.74)	(1.00)
LOSS	0.128	0.411	0.006
	(0.85)	(0.51)	(0.74)
R&D	1.163	-0.954	0.012
	(0.52)	(0.55)	(0.81)
FIXED_ASSETS	0.882	-0.146	-0.023
	(0.57)	(0.92)	(0.57)
Industry & year FE	Yes	Yes	Yes
R-Squared	0.354	0.327	0.332
N	706	706	706

The table above shows regression results of the influence of CEO AWARD on financial statement readability, from the propensity score matching subsample. Results remain consistent with those in table 3.B. Variable definitions are listed in appendix B. Numbers in parenthesis are p-values. ***, **, and * represent significance at 1%, 5%m and 10%, respectively.

Table 5. Robustness check – Changes in annual report readability after an award

Panel A				
Variables	ln(FILE_SIZE)	FOG	NEG_ FLESCH	KINCAID
	(1)	(2)	(3)	(4)
AWARD	**-0.154** ***	**-0.381**	**-2.501** **	**-0.386**
	(0.01)	**(0.14)**	**(0.03)**	**(0.11)**
FEMALE	-0.181	-0.604	-3.522	-0.545
	(0.21)	(0.35)	(0.23)	(0.37)
AGE	0.006	-0.072 ***	-0.288 ***	-0.067 ***
	(0.22)	(0.00)	(0.00)	(0.00)
TENURE	0.008	-0.027	-0.132	-0.021
	(0.14)	(0.27)	(0.23)	(0.37)
OWNERSHIP	-0.007	0.124 ***	0.546 ***	0.118 ***
	(0.32)	(<.0001)	(0.00)	(<.0001)
ln(FIRM_VALUE)	0.016	0.163	0.496	0.175 *
	(0.50)	(0.14)	(0.32)	(0.09)
MTB	-0.057 ***	0.008	-0.140	-0.003
	(0.01)	(0.93)	(0.74)	(0.97)
LEVERAGE	-0.091	-0.296	-0.537	-0.369
	(0.37)	(0.52)	(0.80)	(0.39)
PROFIT	0.812 *	0.522	5.224	0.840
	(0.06)	(0.79)	(0.55)	(0.64)
LOSS	0.066	1.695 ***	8.167 ***	1.581 ***
	(0.64)	(0.01)	(0.00)	(0.01)
R&D	0.454	2.028	12.623	2.536
	(0.27)	(0.28)	(0.13)	(0.14)
FIXED_ASSETS	-0.817 ***	1.443	5.458	0.927
	(0.01)	(0.33)	(0.41)	(0.50)
Industry & year FE	Yes	Yes	Yes	Yes
R-Squared	0.686	0.458	0.424	0.458
N	552	552	552	552

The table above shows regression results of the influence of CEO AWARD on financial statement readability, for the subsample of firms with award-winning CEOs only, 3 years before and 3 years after the CEO wins as award. Results remain substantially consistent with those in table 3.A. Variable definitions are listed in appendix B. Numbers in parenthesis are p-values. ***, **, and * represent significance at 1%, 5%m and 10%, respectively.

Panel B			
Variables	WORDS_PER_SENTENCE	COMPLEX_WORDS	AVG_SYLLABLES
	(1)	(2)	(3)
AWARD	**-0.150**	**-0.803** ***	**-0.028** ***
	(0.68)	**(0.02)**	**(0.01)**
FEMALE	-0.218	-1.292	-0.039
	(0.81)	(0.14)	(0.14)
AGE	-0.109 ***	-0.072 **	-0.002 **
	(0.00)	(0.02)	(0.02)
TENURE	-0.008	-0.060 *	-0.001
	(0.80)	(0.07)	(0.14)
OWNERSHIP	0.168 ***	0.142 ***	0.004 ***
	(0.00)	(0.00)	(0.00)
ln(FIRM_VALUE)	0.426 ***	-0.019	0.001
	(0.01)	(0.90)	(0.87)
MTB	0.066	-0.045	-0.002
	(0.61)	(0.73)	(0.52)
LEVERAGE	-1.185 *	0.444	0.008
	(0.06)	(0.48)	(0.68)
PROFIT	0.450	0.855	0.056
	(0.87)	(0.75)	(0.48)
LOSS	1.780 **	2.457 ***	0.075 ***
	(0.04)	(0.00)	(0.00)
R&D	3.120	1.950	0.112
	(0.22)	(0.44)	(0.14)
FIXED_ASSETS	0.668	2.938	0.057
	(0.74)	(0.15)	(0.35)
Industry & year FE	Yes	Yes	Yes
R-Squared	0.524	0.415	0.402
N	552	552	552

The table above shows regression results of the influence of CEO AWARD on financial statement readability, for the subsample of firms with award-winning CEOs only, 3 years before and 3 years after the CEO wins as award. Results remain substantially consistent with those in table 3.A. Variable definitions are listed in appendix B. Numbers in parenthesis are p-values. ***, **, and * represent significance at 1%, 5%m and 10%, respectively.

Appendix B

AGE: The age of the CEO.

AVG_SYLLABLES: The average number of syllables per word, collected by parsing the 10-K filings.

AWARD: Equal one for any years within the three-year period (years t+1, t+2, and t+3) after the CEO wins an award (year t), and zero otherwise.

CAPEX: Capital expenditure (data item 30) divided by total assets (data item 6)

COMPLEX_WORDS: The percentage of 10-K complex words. A complex word is defined as one with three or more syllables.

DIV: Dividends of common and preferred stocks (data item 21 + data item 19) divided by total assets (data item 6)

FEMALE: Equal one if the CEO is a female, and zero otherwise.

FILE_SIZE: The gross file size in megabytes of 10-K filings downloaded from Edgar

FIRM_VALUE: The share price (data item 199) ×outstanding shares (data item 54) + book value of total assets (data item 6) - book value of equity (data item 60), in millions of USD.

FIXED_ASSETS: Ratio of net property, plant, and equipment (PPENT) to total assets (AT).

FLESCH: Flesch reading ease level based on a 100-point scale, which estimates ease of reading.

FOG: The index estimates the years of formal education a person needs to understand the text on the first reading.

KINCAID: Flesch-Kincaid grade level score, a measure of the grade school level necessary for understanding a document.

LEVERAGE: Long-term debt (data item 9) / book value of total assets (data item 6).

LOSS: Equal one if the firm has negative net income, and zero otherwise.

MTB: Market value of total assets/book value of total assets. We measure the market value of total assets with FIRM_VALUE.

NEG_FLESCH: -1 * FLESCH

OWNERSHIP: This variable is proxied by the number of shares (excluding options) owned by both the CEO and CFO divided by common shares outstanding at the end of the fiscal year.

PROFIT: The ratio of operating income before depreciation (data item 13) to total assets (data item 6).

R&D: Research and development expense (data item 46) / net sales (data item 12)

TENURE: The number of years the CEO has been in the position.

WORDS_PER_SENTENCE: The average number of words per sentence, collected by parsing the 10-K filings.