

# CEO masculinity and CSR disclosure: evidence from Indonesia

CEO  
masculinity  
and CSR  
disclosure

Mohammad Nasih, Nadia Anridho and Nadia Klarita Rahayu  
*Department of Accounting, Universitas Airlangga, Surabaya, Indonesia, and*  
John Nowland  
*Department of Accounting, Illinois State University, Normal, Illinois, USA*

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## Abstract

**Purpose** – The authors analyzed the relationship between chief executive officer (CEO) facial masculinity and the level of corporate social responsibility disclosure (CSR).

**Design/methodology/approach** – The authors conducted research for 2011–2019, covering companies listed on the Indonesian Stock Exchange. This study used an ordinary least squares regression, the coarsened exact matching (CEM) and propensity score matching (PSM) procedure in testing the hypothesis.

**Findings** – Based on the results of analysis, it is known that CEO facial masculinity is negatively related to corporate CSR disclosure levels. However, this negative relationship can be mitigated through governance mechanisms: the audit committee.

**Research limitations/implications** – This paper provides implications in the field of research, especially regarding the biological attributes of CEOs in relation to CSR.

**Originality/value** – As many previous studies focused on the managerial aspect of the CEO, this study focused on the biological aspect of CEO. To the authors' knowledge, this study is among the first to attempt to investigate this issue in an emerging market.

**Keywords** CEO masculinity, CSR, Disclosure, Accountability

**Paper type** Research paper

## 1. Introduction

The principles of corporate social responsibility (CSR) have long been part of the company's business practices. However, the concept still has diversity in terms of both use and application. CSR is considered contrary to sound business practices and reduces the focus on wealth creation for skeptics (Clement-Jones, 2005). On the other hand, CSR is considered important in successful business operations and is an opportunity for businesses to think about narrow economic returns and consider broader social concerns (Maury, 2021; Achi *et al.*, 2022).

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*Erratum:* It has come to the attention of the publisher that the article Nasih, M., Anridho, N., Rahayu, N.K. and Nowland, J. (2023), "CEO masculinity and CSR disclosure: evidence from Indonesia", *Asian Journal of Accounting Research*, Vol. 8 No. 2, pp. 157-169. <https://doi.org/10.1108/AJAR-04-2022-0119>, was originally published with the tables/figures presented as supplementary material via external links; these have now been amended and the supplementary material is hosted alongside the article to ensure that it remains accessible in perpetuity.



Despite the controversy over the existence of CSR (Salehi *et al.*, 2018; Amorelli and García-Sánchez, 2020; Batra *et al.*, 2022), research related to CSR still needs to be developed further.

Previously, there have been many studies analyzing the determinants of CSR disclosure (Gamerschlag *et al.*, 2011; Chan *et al.*, 2014). However, the growing literature from accounting, finance and economics mainly focuses on CEO characteristics such as busyness level (Ratri *et al.*, 2021), CEO power (Rashid *et al.*, 2020) and CEO narcissism (Al-Shammari *et al.*, 2019) with CSR. These CEO characteristics can influence the strategy they will choose. A set of attributes reflecting the CEO's cognitive framework and behavioral preferences better than a single characteristic (Garcés-Galdeano and García-Olaverri, 2019; Wang *et al.*, 2016), meaning that identification can help us to understand and predict his decisions.

Previous research found that both biological traits (Kamiya *et al.*, 2019; Mayew and Venkatachalam, 2012) and psychological traits (Malmendier and Tate, 2005) have significant explanatory power for variations in company policies and risks. This study focuses on the facial features of the chief executive officer (CEO) in examining the relationship between CEO masculinity and corporate social responsibility disclosure (CSR), which is usually proxied through the facial width-to-height ratio (fWHR). fWHR previously found has been associated with high testosterone levels among men and behavioral traits such as increased risk tolerance, aggression and sensation (Campbell *et al.*, 2010; Carré and McCormick, 2008; Carré *et al.*, 2009; Lefevre *et al.*, 2013; Ormiston *et al.*, 2017).

The CEO has an important role, where the CEO is the most powerful person in an organization. The strategic decisions and policy choices are decided by the CEO (Li *et al.*, 2016, 2018). The CEO certainly has a vital role in determining the company's reporting, including CSR reporting, because he is the most powerful person in the company. Many previous studies have explained the influence of personal preferences on corporate outcomes through upper echelons theory (Hambrick and Mason, 1984; Cronqvist *et al.*, 2012; Graham *et al.*, 2013; Malmendier *et al.*, 2011). In many studies examining the role of CEOs in CSR disclosure in developed countries (Jiraporn and Chintrakarn, 2013; Sheikh, 2019; Harper and Sun, 2019; Li *et al.*, 2018), research that discusses the role of the biological aspect of CEOs, especially CEOs masculinity, is still limited. Therefore, we complement this research by providing additional evidence, especially concerning CSR.

Previously, many studies have analyzed the relationship between CEO facial masculinity concerning the company. For example, Wong *et al.* (2011) found that CEO masculinity measured by fWHR is positively related to firm profitability. Conversely, Jia *et al.* (2014) found that CEO fWHR is positively related to the incidence of financial reporting errors. Companies with higher returns are driven by more masculine CEOs (Kamiya *et al.*, 2019). CEO with higher masculinity is also positively related to bank risk-taking (Ahmed *et al.*, 2019). Furthermore, Ahmed *et al.* (2019) documented that CEO-led banking firms with high levels of masculinity generate volatile stock returns and higher levels of idiosyncratic risk.

We complement previous studies by examining the biological aspect of CEOs. We analyze whether the masculinity of the CEO's face is related to the level of CSR of companies, especially in Indonesia. In this study, we use a sample of companies registered in Indonesia from 2011 to 2019. We perform an ordinary least square regression using industry and year fixed effects. In addition, we also conducted a robustness test by conducting coarsened exact matching (CEM) and propensity score matching (PSM). We document a result supporting our research hypothesis. Our result shows that there is a negative relationship between CEO facial masculinity and CSR.

We provide additional evidence for research related to corporate disclosure by involving psychological attributes by analyzing the relationship between masculinity and CSR disclosure. Our research is expected to add to the understanding of how the biological attributes of leaders with masculine facial features affect outcomes in governance contexts. If previously the economic signal affects perception because it correlates with important and

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difficult attributes to observe (Connelly *et al.*, 2011), then biological signals can affect perception in different ways. Biological signals are believed to correlate with individual attributes throughout evolutionary history (Li *et al.*, 2018). This is a novelty in considering biological attributes in accounting research.

We explain the existing literature and develop our hypotheses in section 2. Next, we describe the research design and sample selection procedures in Section 3. We discuss the overall results of our analysis and discussion in Section 4. Finally, we conclude our research results and explain our paper limitations in Section 5.

## 2. Literature review and hypothesis development

### 2.1 *Upper echelons theory*

Hambrick and Mason (1984) believe that top-level characteristics of managers make a difference in how to do and run. Hambrick and Mason (1984) developed the upper echelon theory, suggesting that the characteristics of the top management team are determinants of strategy choice. Several propositions developed by Hambrick and Mason (1984) suggest that organizational outcomes can be predicted from a managerial background. As a result of this discussion, it is reasonable to assume that certain management characteristics are related to the internal strategic decisions that firms make on an investment. In particular, CEO characteristics capture most of the theoretical relevance of the upper echelon theory. Our emphasis, then, will be directed to the CEO's characteristic, that is, CEO masculinity, because the CEO is the party who may take on an important role in the top management team to decide on strategies such as CSR.

Just as CEO masculinity influences risk-taking in corporate decisions, CSR decisions may also be influenced by risk preferences. Organizational achievements are a "reflection" of the values and cognitive biases of individual executives that significantly influence company policies and activities. Many studies provide evidence that CEOs significantly influence company decisions related to financial reporting and company performance (Plöckinger *et al.*, 2016). Based on this theory, this study highlights the role of CEO masculinity in influencing company policies, especially CSR.

### 2.2 *Indonesian setting*

Indonesia implements a two-tier board system. With this system, companies in Indonesia are required to have a board of directors and a board of commissioners as regulated in OJK Regulation No. 33/POJK.04/2014. The board of responsibility is the body that is fully responsible for the public company's management. On the other hand, the supervisory process is carried out by the board of commissioners. The process of selecting and dismissing directors is carried out through the mechanism of the general meeting of shareholders. Membership of the board of directors in public companies is regulated with at least two members. Subsequently, one elected board of directors is appointed as president director or CEO. The process of appointment, dismissal or replacement of members of the board of directors is carried out through the mechanism of the general meeting of shareholders by considering recommendations from the board of commissioners or the committee that carries out the nomination function.

The two-tier board system is characterized by the existence of separate supervisory and management bodies. The former is often referred to as the supervisory board or the board of commissioners in Indonesia, and the latter as the executive board or the board of directors in Indonesia. Under this system, the executive board/BoD is responsible for the company's day-to-day management and will be supervised by the supervisory board/board. These two bodies have different authorities, and compositions cannot be mixed, that is, members of the board of directors cannot sit on the board of commissioners, and vice versa. The advantage of a two-tier system is a precise oversight mechanism, but it has been criticized for inefficient decision-making [1].

### 2.3 CSR disclosure in Indonesia

According to [Johnson \(2003\)](#), CSR is a form of the company's efforts and commitment to positively impact the community and other stakeholders in its business activities. The company is expected to be able to generate products that provide benefits not only for the community but also for the environment. Previously, the Indonesian government had developed a set of rules to make business people aware of CSR. One of the important points is the obligation to disclose social and environmental responsibilities, especially for companies, in the form of limited liability companies with activities directly related to natural resources as stated in the Article 74 of Law Number 40 of 2007. Furthermore, this limited liability company includes government and domestic and foreign companies that are required to comply with this regulation. In addition, all public companies are also required to disclose CSR-related activities and costs in their financial statements. This obligation is regulated by the Capital Market and Financial Institution Supervisory Agency in Regulation No. 2006 XK6. This authority and responsibility rest with the president, director or CEO. Thus, the controlling role of the CEO becomes important and large in ensuring that companies are aware of CSR disclosures.

In Indonesia, CSR disclosure in sustainability reports is still done voluntarily by management. All public companies that are financial services institutions are only required to implement sustainable finance as regulated in OJK Regulation No. 51/Pojk.03/2017. To facilitate this, the Indonesian government has established a Corporate Social Responsibility Forum consisting of corporate stakeholders. This formation is stipulated in Regulation of the Minister of Social Affairs of the Republic of Indonesia Number 6 of 2016. With this regulation, it is hoped that it will make it easier for companies to implement corporate CSR. The goal is that companies will pay more attention to their CSR disclosures.

### 2.4 CEO masculinity and CSR disclosure

A lot of previous literature has examined the determinants of CSR disclosure ([Gamerschlag et al., 2011](#); [Chan et al., 2014](#)). However, the growing literature from accounting, finance and economics mainly focuses on CEO characteristics such as busyness level ([Ratri et al., 2021](#)), CEO power ([Rashid et al., 2020](#)), CEO narcissism. ([Al-Shammari et al., 2019](#)) with CSR. According to [Aguinis and Glavas \(2012\)](#), the antecedents of CSR can be grouped into three general levels: institutional, referring to standards or certification ([Christmann and Taylor, 2006](#)), and the socio-cultural context of the country ([Brammer et al., 2007](#)); organization, considering variables such as firm size ([Waddock and Graves, 1997](#)), profitability ([De Villiers et al., 2011](#)) or firm structure and governance ([Gamerschlag et al., 2011](#); [Johnson and Greening, 1999](#)); and individuals, including the values of the CEO or manager with an emphasis on stakeholder interests ([Agle et al., 1999](#)) or employee values and individual concern for CSR issues ([Mudrack, 2007](#)).

The upper echelons theory discusses critical theoretical perspectives that suggest top executives' experiences, values and personalities influence their choices ([Hambrick, 2007](#)). This theory emphasizes the personal/individual attributes involved in the decision-making process. The decision-making process is often thought of only as a producer of information in the decision-making process without considering the "input factors" that may impact cognitive processes ([Bonner, 2008](#)). The role and function of the CEO are closely related to CSR. First, monitoring the decisions and actions of managers is important to check that their behavior is not only in line with shareholder goals but also with the interests of other stakeholders. Secondly, the resources provided by CEOs, especially those that may be based on their attributes and external stakeholders, can drive corporate CSR engagement, becoming a source of strategic legitimacy and long-term value creation.

Companies led by more masculine-faced CEOs have better Return on Asset (ROA), but are more likely to have a higher probability of financial reporting errors (Kim *et al.*, 2022). Research results are supported by findings of Ahmed *et al.* (2019), showing that the masculinity of the CEO's face is positively exposed to bank risk-taking. Specifically, bank CEOs led with more masculine facial features had more volatile stocks and higher levels of idiosyncratic risk. Lu and Teo (2022) also found that managers with masculine faces bear more risk. Higher CEOFWHR is also associated with more aggressive financial management decisions (Mills and Hogan, 2020).

The negative relationship between masculinity and corporate disclosure has previously been found by Van der Laan Smith *et al.* (2005) and Orij (2010). The basis of the relationship between the two is on the premise that the face-to-height ratio has been positively associated with a group of masculine behaviors that may influence the tendency of individuals, especially CEOs, to misreport (Jia *et al.*, 2014). If facial masculinity predicts individuals' risk preferences and these preferences, in turn, are reflected in corporate outcomes as suggested by the upper echelons theory, we should observe a negative relationship between CEO facial masculinity and CSRD.

*H1.* The higher the level of masculinity of the CEO, the lesser will be the corporate social responsibility disclosure.

### 3. Research method

#### 3.1 Sample and data source

All companies listed on the Indonesia Stock Exchange for the 2011–2019 period are included as the sample in the study if the company is also included in the Global Reporting Initiative (GRI) database. We use several data sources: the IDX website, GRI website and OSIRIS. These multiple data sources are used to collect different data. CSRD data are obtained through company reports if the company publishes it, and from the CSR section in its annual report obtained from the IDX website. Data collection related to CSRD is only for companies included in the GRI database. We collect information manually through data collection to get data related to CEO masculinity. Finally, we take data from OSIRIS for financial data and annual reports for data on corporate governance.

Overall, our study consisted of 489 firm-year observations. We apply several criteria for sample selection. First, we only include companies that are entered into the GRI database as a sample. Next, we removed the missing data from the sample. We also perform robustness analysis which consists of CEM and PSM. Potential endogeneity problems are known to be effectively solved by using these two methods. In addition, we also conducted an additional test to examine the relationship between CEO masculinity and CSR disclosure by interacting with the audit committee size and board size variables.

#### 3.2 Operational definition of variables

CSRD is used as a variable in this study. We follow Haniffa and Cooke (2005) in measuring CSRD. CSRD is obtained by using the terms of the GRI index. The score divided by the total score generated in the report will result in CSRD. To find out the number of items disclosed, we go through the summary table of the GRI index, which is available for companies that have separate reports from their annual reports. Furthermore, we also perform content analysis for companies with no shared experience separately. We also use several keywords related to corporate social responsibility to increase the validity of the analysis results that have been used in previous studies (Rao and Tilt, 2016; Gray *et al.*, 1995).

We divide the GRI index into four categories provided by the GRI index: the GRI standards index, GRI G.4 index, GRI G.3.1 index and GRI G.3.0 index. Each index of

differences in the number of works must be presented. The total items required are 123 items for GRI G3.0, 126 items for GRI G3.1, 150 items for GRI G4. Unlike the previous GRI index types, the number of items is divided into two groups for the GRI standards. For the core option, the number of items required is different for each company because the number of specific topics is different for each material topic selected by the company. Furthermore, there are 147 items required for comprehensive options. The terms of each company form the basis for the items selected for each type of GRI index. We use the index applied for the period specified for companies that do not mention the GRI index used.

Facial masculinity in terms of the ratio of width to height is measured from the photos of Indonesian CEOs. Based on these measures, we can identify the level of aggressiveness of the CEO. We follow [Lefevre et al. \(2013\)](#) and [Jia et al. \(2014\)](#) to measure CEO masculinity as described by fWHR. fWHR is calculated as follows: the horizontal line represents the distance between the upper lip and the highest point of the eyelid (upper face height). The vertical line represents the distance between the left and right regions (bizygomatic width). fWHR was calculated as the ratio of the bizygomatic width to the height of the upper face.

Referring to previous research ([Haniffa and Cooke, 2005](#); [Rao and Tilt, 2016](#); [Muttakin et al., 2018](#); [Laksmiana, 2008](#); [Jizi et al., 2014](#); [Hussain et al., 2018](#)), we used several control variables whose explanations can be seen in the Appendix. To accommodate the differences in observations, we added a fixed variable in this study ([Gujarati et al., 2012](#)). We use two types of fixed effects, namely, year fixed effects and industrial fixed effects. We use the fixed-year effect to control for differences in economic conditions during the observation period. Next, we control for differences in the characteristics of each industry in this study using industry fixed effects.

Appendix available in supplementary material to article.

### 3.3 Methodology

We used the ordinary least square (OLS) regression model. In our OLS analysis, we also include the multi-way clustering approach of [Petersen \(2009\)](#) and the fixed-effect model. We formulate the regression model that we will use as written in [equation \(1\)](#). This study expects the CEOfWHR coefficient to be negatively related to CSR disclosure.

$$\begin{aligned} CSR_{i,t} = & \beta_0 + \beta_1 CEOfWHR_{i,t} + \beta_2 AUCOM_{i,t} + \beta_3 INDCOM_{i,t} + \beta_4 BSIZE_{i,t} \\ & + \beta_5 ROE_{i,t} + \beta_6 BIGA_{i,t} + \beta_7 FSIZE_{i,t} + \beta_8 LEV_{i,t} + \beta_9 LOSS_{i,t} + \beta_{10} YEAR \\ & + \beta_{11} INDUSTRY + \varepsilon \end{aligned} \quad (1)$$

## 4. Result

### 4.1 Descriptive statistics

Table 1 reports the descriptive statistics for all variables. The mean values for CSR is 0.448. CEOfWHR has a mean value of 2.245. The mean values for AUCOM, INDCOM and BSIZE are 3.339, 0.368 and 2.411, respectively. For other control variables ROE, FSIZE, LEV and LOSS are 16.763, 30.341, 0.526 and 0.196, respectively.

Table 1 available in supplementary material to article.

Before performing the OLS analysis, we show the correlation coefficients of the variables used in estimating the data. Table 2 show a correlation between CEOfWHR and CSR. In addition, the results show a consistent result with our prediction that there is a relationship between CEO masculinity and CSR. We also find CSR is positively associated with AUCOM, BSIZE and ROE, but negatively associated with INDCOM, LEV and LOSS.

Table 2 available in supplementary material to article.



#### 4.2 CEO masculinity and CSR

Table 3 presents the results of OLS analysis in column (1) and the results for robustness analysis consisting of CEM in column (2) and PSM in column (3). The results in column (1) show a negative relationship between CEOFWHR and CSR, meaning more masculine CEOs have lower CSR. These results support the results of previous studies, which found that CEO masculinity had a negative relationship with the decisions he made, such as bank risk-taking (Ahmed *et al.*, 2019). The positive relationship between CEO facial masculinity and bank risk and disclosure has also been previously documented by Van der Laan Smith *et al.* (2005) and Orij (2010). These results prove that top management's characteristics, in this case, the CEO, have an important role in company decisions, especially in investment efficiency (Hambrick and Mason, 1984).

The results found in this study support the findings of previous studies regarding the relationship between fWHR and risk-taking behavior, which is reflected in decisions related to CSR (Mills and Hogan, 2020; Kim *et al.*, 2022; Lu and Teo, 2022). The relationship between CEO masculinity and CSR disclosure is based on the premise that the face-to-height ratio can represent a group of masculine behaviors that can affect the tendency for individuals, especially in this case, CEOs, to report wrong reports (Jia *et al.*, 2014). Entire groups of masculine behavior tend to be involved in many concrete corporate settings. For the control variables, we found that CSR was positively related to AUCOM, BSIZE, ROE and FSIZE, but negatively related to INDCOM and LEV. In the equation, we control for several board characteristics that might influence corporate governance.

Second, we use a score matching technique (Rosenbaum and Rubin, 1983). We matched firms with masculine CEOs to a set of control firms with non-masculine CEOs to evaluate the effect of treatment. We estimated the equations and applied conditions to the highest propensity caliper to remove different matched pairs if the difference in propensity (probability) scores was greater than 0.001. The results in Table 3, column (2), present the result using the CEM, and the results in Table 3, column (3), present the result using the PSM. We find evidence that support our main findings.

Table 3 available in supplementary material to article.

In the Indonesian context, companies listed on the Indonesian Stock Exchange are required to have an audit committee. The number of members of the audit committee is required as many as three people who are independent parties from outside the company. Previous research found that audit committees (Khan *et al.*, 2013) and even the number of audit committees (Bédard *et al.*, 2004) positively impacted CSR. This is because the audit committee as a form of corporate governance mechanism that involves outside parties can increase what the company does because of the legitimacy of the mechanism. Therefore, we then analyzed the impact of audit committee size, referring to the number of audit committee members on the relationship between CEO masculinity and CSR. The results in Table 4 show that companies with more masculine CEOs and a larger number of audit committees have better CSR. A larger audit committee has the "required strength, diversity of expertise and views to ensure proper monitoring," leading to CSR disclosure (Bédard *et al.*, 2004).

Furthermore, we also analyze the impact of board size on the relationship between CEO masculinity and CSR. Similar to the audit committee, the board size may describe the more expertise and knowledge produced (Dalton *et al.*, 1999), or conversely, too much thought in the board may cause the role performed by the board as not optimal (Said *et al.*, 2009). In Table 4, column 2, we find that companies with a more masculine CEO and a larger BSIZE have lower CSR. This is because a company with a huge number of BSIZE can decrease the quality of financial disclosure because the board will not be able to carry out its role effectively and efficiently (Said *et al.*, 2009).

Table 4 available in supplementary material to article.

We perform an additional test to ensure our findings are robust to various specifications. The results are reported in Tables 5 and 6. First, we split the sample into firms with low growth and high growth industry based on OECD Economic Surveys in Indonesia. We then reestimate the equation to test the relationship between CEO masculinity and CSR. The regression estimates for both samples of low growth and high growth industry. As reported in columns (1) and (2), respectively, the CEO<sub>WHR</sub> is negatively related to CSR. This result implies that the favorable effect of CEO masculinity is robust to both subsamples.

Table 5 available in supplementary material to article.

We also partitioned our sample into four sectoral taxonomies of digital intensity by [Calvino et al. \(2018\)](#), consisting of low, medium low, medium high and high digital intensity, which is presented in Table 6. The high technology industry is characterized by high costs allocated to research and development (R&D), short product life cycles, a highly skilled workforce and strong competition with foreign companies ([Santamaria et al., 2009](#); [Goldman, 1982](#)). Accordingly, [McWilliams and Siegel \(2001\)](#) and [Padgett and Galan \(2010\)](#) assume that the level of CSR depends on the level of R&D and the life cycle of the industry. Regarding this, the results show that the higher the R&D of the industry, the higher the CSR involvement ([Padgett and Galan, 2010](#)). This may also be explained by the fact that the industry is facing more pressure from stakeholders and policies to act responsibly. We find the results for regression estimates, as reported in column (1), on the sample low technology intensity, are consistent with our main result, where CEOs with higher levels of masculinity exhibit lower CSR than CEOs with lower levels of masculinity.

Table 6 available in supplementary material to article.

## 5. Conclusion

This study found that CEO masculinity was negatively related to CSR. Based on these results, we support evidence that the face-to-height ratio can be positively associated with a group of masculine behaviors. This finding is robust to several sensitivity tests on endogeneity issues, particularly the CEM and PSM. We further find robust evidence on the negative effect of CEO masculinity on CSR in both subsamples of low and high growth industries. However, analysis on the samples partitioned by low and high growth industries shows that CEO masculinity negatively affects both subsamples. We also find that firms with more masculine CEOs are negatively related to CSR at low-intensity technology.

This study contributes to the literature by providing additional evidence related to biological attributes, such as CEO masculinity. The findings in this study are expected to contribute to individuals serving in top management positions in the company in minimizing the effect of CEO masculinity on decision-making, especially CSR. First, in determining the composition of a company's board, this consideration can be helpful because individual differences can also impact certain biases. In addition, by being aware of certain biases resulting from certain attributes, it is possible to control the decisions taken ([Buss, 2014](#)). For example, when directors are aware that their decisions may be influenced by masculinity, they may finally consider reducing the effects of bias in board decision-making. However, this study has limitations in measuring masculinity, which depends on the results of the images in the report.

Future research may explore different legal and institutional environments since the CEOs' motivation and incentives to report high-quality CSR might vary in different environments. Additionally, future research could explore other CEOs' biological attributes with a qualitative analysis such as interviews with the concerned CEOs. The researcher could also perform an in-depth analysis of how organizational factors moderate this relationship ([Ferris et al., 2003](#)).



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**Note**

1. [https://www.ifc.org/wps/wcm/connect/e66bacdc-07c6-40f3-b094-8d3ca96a77a0/Indonesia\\_CG+Manual\\_2nd\\_Edition.pdf?MOD=AJPERES&CVID=mf8483z](https://www.ifc.org/wps/wcm/connect/e66bacdc-07c6-40f3-b094-8d3ca96a77a0/Indonesia_CG+Manual_2nd_Edition.pdf?MOD=AJPERES&CVID=mf8483z)

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### Supplementary material

The supplementary material for this article can be found online.

### About the authors

Mohammad Nasih is a senior lecturer in the Department of Accounting, Faculty of Economics and Business, Universitas Airlangga, Indonesia. He obtained his doctoral degree in accounting from the Universitas Airlangga in Indonesia, master's degree from Institut Teknologi Bandung in Indonesia and his BA degree in accounting from Universitas Airlangga in Indonesia. His research focuses include corporate governance issues, the accounting impact of political and military connections in business and financial reporting. He has published several articles in top peer-reviewed accounting journals, such as

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*Risks, International Journal of Managerial Finance*. Mohammad Nasih is the corresponding author and can be contacted at: [mohnasih@feb.unair.ac.id](mailto:mohnasih@feb.unair.ac.id)

Nadia Anridho is a senior lecturer in the Department of Accounting, Faculty of Economics and Business, Universitas Airlangga, Indonesia. She obtained his PhD degree (2016) in accounting from the Chinese Culture University in Taiwan, MBA degree from Chinese Culture University in Taiwan and her BA degree in accounting from Universitas Airlangga in Indonesia. His research focuses include corporate governance issues and corporate reporting.

Nadia Klarita Rahayu is a research assistant in the Center for Political Economy and Business Research under Universitas Airlangga. She obtained her master's degree from Universitas Airlangga in Indonesia, and BA degree in accounting from Universitas Airlangga in Indonesia. Her research focuses include corporate governance issues, ESG issues and financial reporting. She has published several articles in accounting journals, such as *Cogent Economics and Finance*.

John Nowland is a professor in the Department of Accounting in Illinois State University. He completed his PhD studies at the University of Queensland in Australia. He has experience working at universities in Australia, Hong Kong and Taiwan. He has also worked in the media, government and banking sectors. His research focuses on corporate governance issues, such as board of director composition and performance.