Do Narcissistic CEOs Affect Accounting Irregularities? Evidence from Indonesia

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Abstract Narcissism is related to the need for recognition. Prior studies show that narcissist behavior may influence the CEO's actions engaged in accounting numbers manipulations. This study examines the effect of CEO narcissism on accounting irregularities in Indonesia. Indonesia provides a unique setting to test this issue because narcissistic behavior is an uncommon trait in the country. Consequently, it may influence the motivation of narcissistic CEO to manipulate accounting numbers. We test the issue by measuring CEO narcissism with the characteristics of CEO's photo on the annual report. We then conduct a simple logistic regression on that proxy to the Beneish M-Score as our accounting irregularities measure. In accordance with our expectations, we find no evidence of an association between CEO narcissism and accounting irregularities. This may attribute to the fact that Indonesia's social and cultural aspects lower the incentives for individuals, including CEOs, to engage in narcissistic behavior, thereby decreasing their motivation to use accounting numbers as a venue to get attention and recognition. Interestingly, this study discovered a significant negative relationship between CEO narcissism and accounting irregularities for firms audited by BIG4 auditors. This may indicate that BIG4 auditors can significantly mitigate the intentions and activities of narcissistic CEOs in manipulating accounting numbers to get better publicity.

Keywords CEO Narcissism, Accounting Irregularities, Indonesia, Narcissism

1. Introduction

In their seminal paper, Hambrick and Manson [1] suggested that organizational behavior outcomes portray their executives' characteristics. Since then, there is a stream of research that has tried to prove this theoretical concern. Sunder, Sunder, and Zhang [2] examined the relationship between CEOs' hobbies and corporate innovation. They found a positive relationship between CEOs' hobbies of flying an airplane with the number of patents and the number of patents' citations in a given year. In a different issue, Huang, Rose-Green, and Lee [3] discovered that firms with older CEOs have a higher quality of financial reporting. In examining the tenure issue, Ali and Zhang [4] revealed that overstatements of earnings are higher during the first three years of CEOs' service compared to their later years. They also found that monitoring mechanisms such as institutional ownership, analysts following, independent boards, and audit committee characteristics influence that relationship.

Using a specific personal characteristic of the CEO, Malmendier and Tate [5] discovered that overconfident CEOs tend to invest more when they have more cash. Kim, Wang, and Zhang [6] established a positive relationship between overconfident CEOs with stock price crash risks. They suggested that it supports the argument that overconfident CEOs tend to overestimate the predictions of returns on their investments and frequently justify negative feedback. Consequently, there is a possibility of keeping bad investments longer, leading to the accumulation of

mediocre performance and stock price crash risk. Kubick and Lockhart [7] found other consequences of overconfident CEOs. Specifically, they noticed a higher level of tax aggressiveness during the year after CEOs win a prestigious award.

Another stream of research explores a different set of personal characteristics, namely narcissism. While overconfidence and narcissism are frequently interchanged, those two terms are different in a number of ways. For example, Olsen, Dworkis, and Young [8] argued that overconfident individuals tend to overestimate their abilities. Moreover, it may also be related to overestimating others' capabilities. This is different from narcissism, where a narcissistic individual will focus on oneself and have little care for others. Exploiting that characteristic, Olsen *et al.* [8] exposed a positive relationship between CEOs' narcissism and earnings per share and share price.

Hogan and Kaiser [9] and Olsen *et al.* [8] postulated that narcissism is related to positive characteristics such as confidence, charisma, authority, and superiority. On the other hand, narcissism is also correlated with negative traits such as arrogance, self-importance, exhibitionism, entitlement, inability to learn from mistakes, and self-admiration [8,9,10]. Furthermore, narcissism is commonly understood as a need for recognition and praise [11]. In that case, Campbell, Reeder, Sedikides, and Elliot [12] and Wallace and Baumeister [13] argued that reckless actions may result from narcissistic characteristics, especially in an attempt to pursue opportunities.

As narcissism is related to the need for recognition and praise [11], accounting irregularities may be a venue that narcissistic individuals can use. Essentially, accounting irregularities are actions used to cover financial statements' negativity to present a better portrayal of companies. Several behaviors, such as misappropriating financial data and omitting information related to accounting number are attributed to that action (Statement on Auditing Standards No. 53). As investors rely on the disclosure of financial statements, manipulating financial statements that result in a better company profile may be an opportunity for narcissistic CEOs to improve their self-image and get more attention. In this study, we investigated the influence of narcissism on accounting irregularities in Indonesia's particular setting.

Indonesia may provide a unique setting to test the above argument because narcissistic behavior is an uncommon trait in Indonesia. Individuals who brag about their success might get a bad assessment from society. Indeed, Prabowo [14] claimed that narcissistic behavior is one of the indicators of corrupt public officials in Indonesia. Moreover, in a developing country like Indonesia, a financial statement is an essential source of information for investors. In this case, financial statements may get very great attention from investors. Hence, narcissistic CEOs who try to use accounting to create a better self-image and

get more attention may face the risk of getting a refusal from investors. Instead of getting their desire, narcissistic CEOs may get contrary results, such as a bad public image. Consequently, that will lower the incentive for individuals, including narcissistic individuals, to engage in that activity.

Several studies have examined CEO narcissism in an Indonesian setting. For example, Razak, Ramly, and Badollahi [15] noticed a positive relationship between CEO narcissism and firm value. Related to accounting numbers, Rispantyo [16] examined the relationship between CEO narcissism and earnings quality using a sample of manufacturing companies in Indonesia. Rispantyo [16] revealed that narcissism is negatively related to the quality of accrual earnings. While one can argue that earnings quality is similar to accounting irregularities, this study provides a specific and direct examination of accounting manipulation issues, namely accounting irregularities. Moreover, this research provides a broader analysis on the subject by examining a more extensive and comprehensive sample. Hence, this study will show a more thorough examination compared to the existing studies in Indonesia.

Using Olsen and Stekelberg's [17] specification in measuring CEO narcissism for 435 firm-years during the 2014–2017 period, we failed to find a significant relationship between CEO narcissism and accounting irregularities. This may support our argument that Indonesia's social and cultural aspects lower the incentives for individuals, including CEOs, to engage in narcissistic behavior, thereby decreasing their motivation to use accounting numbers as a venue to get attention and recognition. Our results are robust after we mitigated endogeneity concerns using propensity score matching (PSM) and used alternative accounting irregularities measures. Interestingly, in our additional analysis, we discovered a significant negative relationship between CEO narcissism and accounting irregularities for firms audited by BIG4 auditors. Francis and Yu [18] found a negative relationship between BIG4 auditors and aggressive earnings management behavior. Hence, our results may indicate that BIG4 auditors can significantly mitigate the intentions and activities of narcissistic CEOs in manipulating accounting numbers to get better publicity. Furthermore, we also noticed a significant negative relationship between CEO narcissism and accounting irregularities for less popular CEOs.

Our paper provides several contributions. First, we extend prior literature on the effects of CEO characteristics on firm behavior [2,8,13,19,20,21]. Second, we elaborate on previous studies in Indonesia that examine CEOs' narcissistic effects [15,16]. Specifically, by examining the issue using all firms listed in Indonesian market for the period of 2014 – 2017, our study provides a more comprehensive examination. As such, this study provides insights for a number of stakeholders concerning the effect of CEO personal traits such as narcissism on firm

performance. Third, as we noticed a significant relationship between narcissism and accounting irregularities in our additional analysis, this may provide an opportunity that other sub-samples may warrant further explorations. Fourth, we expound on previous literature related to accounting irregularities [22-28, 72] in a developing market setting, namely Indonesia.

The paper is structured as follows: Section 2 details the hypothesis development on the relationship between CEO narcissism and accounting irregularities. Next, the sample and research design are presented in Section 3. Section 4 presents the statistical characteristics of the sample and the result generated from our baseline model. It also shows the robustness test using an alternative measurement of accounting irregularities and several sub-sample analyses. Finally, we conclude the paper in Section 5.

2. Hypothesis Development

Previous studies have already examined narcissism as one of the executive traits [13,19,20,21]. O'Reilly, Doerr, Caldwell, and Chatman [29] established that executives' narcissism is positively related to compensation due to their ability to influence others. Aktas, De Bodt, Bollaert, and Roll [30] found a relationship between CEO narcissism and the takeover process. Specifically, they discovered that acquirer CEO narcissism is related to higher takeover initiation and faster negotiation. However, both acquiring and targeting CEOs' narcissism is connected to a lower probability of takeover deals.

Petrenko, Aime, Ridge, and Hill [31] argued that corporate social responsibility (CSR) is a venue for narcissistic CEOs to gain attention and an image. Indeed, they found that CEO narcissism leads to higher CSR activities. In a similar vein, Al-Shammari, Rasheed, and Al-Shammari [32] noticed that CEO narcissism is positively related to CSR. Specifically, they established that there is a positive relationship for externally oriented CSR. In contrast, they revealed that CEO narcissism is not associated with internally oriented CSR. This result may support the argument that CSR is a venue for narcissistic CEOs to get attention and build their self-image in society.

While narcissism is related to several positive traits such as confidence, charisma, authority, and superiority [8,9] that may lead individuals to be chosen as leaders, it is also correlated with negative traits such as arrogance, self-importance, exhibitionism, entitlement, an inability to learn from mistakes, and self-admiration [8-10]. Furthermore, narcissism is commonly understood as a need for recognition and praise [11] that may lead to a reckless action in pursuing goals or opportunities [12,13].

All of those attached characteristics may affect the behavioral patterns of CEOs. Hambrick and Masson [1] argued that personal cognitive bases and values are screens of how individuals process and select information. In this case, Hambrick [33] suggested that executives'

personalities, experiences, and values influence their decision-making process. This includes the way executives interpret situations and also their chosen policies. Kets de Vries and Miller [34] put forward that narcissistic executives tend to execute self-beneficial actions regardless of the organization's interests. Therefore, in this situation, narcissistic CEOs concerned about their self-image may engage in acquiring a favorable position without considering its impact on shareholders.

Duchon and Drake [35] and Amernic and Craig [36] stated that narcissistic individuals may engage in unethical behavior in their pursuance of achieving their goals. In that sense, Capalbo, Frino, Lim, Mollica, and Palumbo [37] argued that narcissistic CEOs are over-confident and accept any actions, including unethical behavior, to achieve their goals. They noticed that companies led by narcissistic CEOs have higher earnings management through accruals. Kontesa, Brahmana, and Tong [38] revealed that narcissistic CEOs are positively related to earnings management. They argued that it is a result of the attention and admiration-seeking of narcissistic CEOs. Hence, narcissistic CEOs engage in actions that result in a higher personal reputation regardless of the effects of those actions on the companies.

Lin, Lin, and Fang [39] postulated that narcissistic CEOs try to get public attention to protect their social image. In that situation, narcissistic CEOs may be motivated to pursue that goal by manipulating accounting numbers in financial reports. In supporting their argument, Lin *et al.* [39] found that pressure to meet the earnings threshold creates an incentive for narcissistic CEOs to engage in earnings management activities. It provides evidence that narcissistic CEOs use earnings management as compensation for their performance. Furthermore, they claimed that achieving positive earnings and meeting analysts' forecasts are the central pressures on the positive relationship between narcissism and earnings management.

In an experimental study, Hales, Hobson and Resutek [40], found that assurance of a higher social status is one the most critical motivations associated with a narcissistic individual to manipulate public reports. Accounting irregularities are generally associated with a deliberate manipulation of accounting numbers. Essentially, accounting irregularities are actions used to cover financial statements' negativity to present a better portrayal of companies. Several behaviors, such as misappropriating financial data and omitting information related to accounting number are attributed to that action (Statement on Auditing Standards No. 53). Generally, investors rely heavily on the disclosure of financial statements. Hence, manipulating financial statements that result in a better company profile may be an opportunity for narcissistic CEOs to improve their self-image and get more attention.

However, Indonesia may provide a unique setting to test the above argument because narcissistic behavior is an uncommon trait in Indonesia. Moreover, individuals who

brag about their success might get a wrong assessment from society. In a developing country like Indonesia, a financial statement is an essential source of information for investors. In this case, financial statements may get great attention from investors. Hence, narcissistic CEOs who try to use accounting to create a better self-image and get more attention may face the risks of getting a refusal from investors. Instead of getting their desire, narcissistic CEOs may get contrary results, such as a bad public image. Consequently, those results will lower the incentives for individuals, including narcissistic individuals, to engage in that activity. Based on the above premises, the following null hypothesis is put forth:

H_0 : There is no association between CEOs' narcissism and accounting irregularities in Indonesia.

3. Sample and Research Design

This section shows the sample and research design. Specifically, in Section 3.1, the measurement of CEO narcissism that was used in the analysis is discussed. Section 3.2 details how the accounting irregularities were measured. The sample selection process is discussed in Section 3.3. Finally, the research design is covered in Section 3.4.

3.1. CEO Narcissism

Olsen and Stekelberg [17] argued that narcissism is related to several characteristics such as self-importance, the need for recognition, a high level of self-concepts, and a strong desire for personal glory. In this case, they examined CEOs' narcissism using a scale to rate the CEOs' photographs based on the photograph size and characteristics in the annual report. We followed Olsen and Stekelberg [17] in measuring CEO narcissism. However, we slightly modified that scale as follows:

1. One point is given if the annual report does not contain a photograph of the CEO.

2. Two points are given if the CEO was photographed together with other executives.
3. Three points are given if the CEO was photographed alone with a size less than or equal to a quarter of a page.
4. Four points are given if the CEO was photographed alone with more than a quarter of a page but less than or equal to a half of a page.
5. Five points are given if the CEO was photographed alone with more than a half of a page but less than a full page.
6. Six points are given if the CEO was photographed alone with a size of the entire page.

3.2. Accounting Irregularities

To measure accounting regularities in the test, we used the accounting irregularities measure, namely by Beneish [41]. This Beneish M-score measure has been extensively used to capture the occurrence of financial statement manipulations [42-44]. A higher Beneish M-score is associated with a higher probability of accounting manipulations. It is calculated as follows:

$$\begin{aligned} \text{MSCORE} = & -4.840 + 0.920\text{DSRI}_{it} + 0.528\text{GMI}_{it} + \\ & + 0.404\text{AQI}_{it} + 0.892\text{SGI}_{it} + 0.115\text{DEPI}_{it} - 0.172\text{SGAI}_{it} + \\ & + 4.679\text{TATA}_{it} + 0.327\text{LVGI}_{it} \end{aligned} \quad (1)$$

where, DSRI is day's sales receivable index; GMI is gross margin index; AQI is assets quality index, SGI represent sales growth index; DEPI is depreciation index; SGAI represents selling, general, and administrative expense index; TATA is total accruals divided by total assets; LVGI refers to the index for leverage. i and t denote firm and year, respectively.

Beneish [41] used a cut-off value of -2.22 to differentiate between manipulator and non-manipulator. Firms with M-Score value greater than that number is classified as manipulator. Hence, to test our hypothesis, we created a dummy variable coded one for firms with score greater than -2.22, and 0 otherwise (MSCORE).

Table 1. Descriptive Statistics

This table shows the descriptive statistics of our sample. The Appendix provides a detailed description of the variables.								
Variable	N	Mean	SD	Min	P25	Median	P75	Max
MSCORE	435	0.405	0.491	0.000	0.000	0.000	1.000	1.000
NARCIStCEO	435	4.251	1.694	1.000	3.000	5.000	6.000	6.000
SIZE	435	15.00	1.600	11.08	13.85	14.99	16.19	18.40
ROA	435	0.078	0.072	0.001	0.031	0.059	0.098	0.372
BUMN	435	0.074	0.261	0.000	0.000	0.000	0.000	1.000
BOARDS	435	0.262	0.084	0.110	0.200	0.250	0.330	0.500
BIG4	435	0.497	0.501	0.000	0.000	0.000	1.000	1.000
AUDCHANGE	435	0.113	0.317	0.000	0.000	0.000	0.000	1.000
CEOAGE	435	54.92	8.904	33.00	50.00	54.00	61.00	77.00
AMNESTY	435	0.400	0.490	0.000	0.000	0.000	1.000	1.000

3.3. Sample Selection Process

While our sample period was 2014–2017, we collected all Indonesian listed firms during the 2012–2017 period¹. This two-year pre-period was required in calculating our accounting irregularity proxies. We then excluded observations based on several criteria. First, we left out all firms in the financial sector because they have different operational system. Second, we retained only firms that reported their financial statements using domestic currency (Rupiahs) to mitigate a currency translation risk. Third, we discounted three delisted firms, namely PT. Bukaka Teknik Utama Tbk (BUKK), PT. Indo Komoditi Korpora (INCF), and PT. Sekar Bumi Tbk (SKBM). Fourth, we disregarded firm-year observations with unavailable information for computing the variables in our tests. These procedures generated 435 firm-year observations for our baseline regression.

3.4. Baseline Regression

We estimate our results using a logistic regression, as follows:

$$MSCORE_{i,t} = \beta_0 + \beta_1 NARCISTCEO_{i,t} + \beta_2 CONTROLS_{i,t} + \varepsilon. \quad (2)$$

where, *MSCORE* is the accounting irregularities measured based on the Beneish M-score Beneish [41] in year *t*; *NARCISTCEO* is the CEO narcissism in year *t*, and *Controls* is a set of control variables in year *t*.

We follow the Fraud Diamond concepts in determining the control variables included in our test. First, from the pressure factor [45], we have profitability (*ROA*) measuring the probability of engaging in accounting manipulation due to the profitability level and firm size (*SIZE*) to represent the influence of firm size on accounting irregularities. Evidence on the effect of profitability on earnings management is mixed [46,47]. Second, the opportunity factor is represented by the type of the firm, the independency of the board, and the reputation of auditors as they are related to the monitoring mechanism [48]. Specifically, we employed the ratio of independent directors on the size of the board (*BOARDS*). Previous studies revealed mixed evidence on the influence of board independence on earnings management [49–52]. As such, we expect that the relationship between *BOARDS* and *MSCORE* can be positive or negative. We also used a variable coded one for firms audited by the Big Four audit firms and 0 otherwise (*BIG4*), as Francis and Yu [18] discovered that Big Four audit firms may mitigate the earnings management behaviors. We identified Deloitte, PWC, EY, and KPMG as the Big Four audit firms. Warganegara, Hutagaol, Saputra, and Anggraini [54]

stated that the governance system of state-owned enterprises is more robust compared to Indonesian private firms. Hence, we included a variable coded one for state-owned enterprise and 0 otherwise (*BUMN*).

Third, related to the rationalization, we used a change in auditors [55]. Smaili and Labelle [56] argue that that manipulation of accounting numbers is negatively associated with auditor changes. We, therefore, included a variable coded one for firms that did not replace their external auditors and 0 otherwise (*AUDCHANGE*). We expected that *AUDCHANGE* would negatively affect the *MSCORE*. Fourth, we used the CEO's age (*CEOAGE*) as the absolute value to represent the capability factor [57]. Previous studies [3,58] said there is a negative relationship between the ages of CEOs/CFOs with financial statement fraud.

Furthermore, other past studies [53,59] found a positive association between state tax amnesty programs and accounting irregularities. We then included a variable coded one for firms participating in a tax amnesty program and 0 otherwise (*AMNESTY*). To minimize the influence of industry and year effects on the probability of accounting manipulation, we also included the year and industry fixed effects. All continuous variables are winsorized at the 1st and 99th percentiles to consider for outliers. We provide a specific definitions of all the variables in the Appendix.

4. Empirical Results

We present our empirical results in this section. We provide our sample statistical characteristics in Section 4.1. Section 4.2 presents regression estimations on the relationship between CEO narcissism and accounting irregularities. In Section 4.3, we depict the results after mitigating the possibility of firm self-selection bias related to the firm characteristics in influencing our results.

4.1. Descriptive Statistics

Table 1 shows the summary statistics of our sample. It illustrates that the average of our sample accounting irregularities *MSCORE* is 0.405. It indicates that 40.5% of our sample engage in accounting manipulation activities. Furthermore, Table 1 demonstrates that the values of the mean and median of CEO narcissism measurement (*NARCISTCEO*) are 4.251 and 5.000, respectively. Related to our control variables, the average (median) of profitability (*ROA*) are 7.8% (5.9%). On average, the size (*SIZE*) of our sample is 15.00, while the median of our sample size is 14.99. We also found Big Four audit firms audited 49.7% of our sample, and 11.3% of our sample changed their auditors. Then 7.4% of our samples are state-owned enterprises (*BUMN*). The average age of the CEOs in our sample is 54.92 years old, and 40% of our samples are the participants of the tax amnesty program.

Table 2 shows the correlation of our variables. The

¹ We used this period because it is the last period when we started our study. Additionally, the period covered the years before and after the tax amnesty time (i.e., 2015), which could potentially distort the financial statements [53]. We gathered the annual report from the IDX and the websites of the companies.

Spearman correlation is shown above the diagonal, while the Pearson correlation is displayed below the diagonal. The matrix shows that there is no multicollinearity within our variables.

4.2. Baseline Results

To test our hypothesis, we initially regressed our CEO narcissism measurement (*NARCISTCEO*) on the accounting irregularities measurement (*MSCORE*). We reported the baseline results in Table 3. Initially, we regressed *NARCISTCEO* on *MSCORE* without including control variables and fixed effects. Column 1 of Table 3 shows the results. We noticed that *NARCISTCEO* is negatively related to *MSCORE* (-0.116) and significant at the 5 percent level. This result holds when we include both year and industry-fixed effects in the regression estimation. Specifically, Column 2 of Table 3 depicts that CEO narcissism is negatively (-0.145) related to accounting irregularities at the 5 percent significant level. These

results indicate that firms with a higher degree of CEO narcissism tend to have a lower probability of accounting irregularities.

Column 3 of Table 3 reports the results of a comprehensive model where we included all the control variables fixed effects. We found that *MSCORE* increases by the decrease of *NARCISTCEO*. However, the coefficient is not significant at the convenient level. Our results, therefore, support our hypothesis that CEO narcissism is not related to the accounting irregularities. This may be related to Indonesia's social environment, where narcissistic behavior is an uncommon trait in Indonesia. Accordingly, our result is contradictory with the results of previous studies such as [37-39].

Related to control variables, we found that *SIZE*, *BOARDS*, *BIG4*, *AUDCHANGE*, and *CEOAGE* are negatively related to *MSCORE*, while *ROA*, *BUMN*, and *AMNESTY* are positively related to *MSCORE*. However, *BIG4* is the only variable with a significant relationship with *MSCORE*.

Table 2. Correlation Matrix

This table shows the correlation estimate of our variables.										
	1	2	3	4	5	6	7	8	9	10
1.MSCORE		-0.11*	-0.07	0.01	0.02	-0.01	-0.13*	0.02	0.01	0.10*
2.NARCISTCEO	-0.09*		0.41*	0.15*	0.21*	-0.01	0.32*	-0.05	-0.20*	0.02
3.SIZE	-0.08	0.41*		0.17*	0.31*	-0.16*	0.50*	-0.11*	-0.02	-0.14*
4.ROA	-0.02	0.11*	0.14*		-0.06	0.01	0.30*	-0.00	-0.10*	-0.06
5.BUMN	0.02	0.21*	0.30*	-0.07		-0.26*	0.02	0.12*	0.07	-0.01
6.BOARDS	-0.02	-0.04	-0.17*	0.05	-0.25		-0.11*	0.11*	-0.15*	-0.09
7.BIG4	-0.13	0.31*	0.51*	0.31*	0.02	-0.11*		-0.16*	-0.01	-0.27*
8.AUDCHANGE	0.02	-0.06	-0.12*	-0.01	0.12*	0.13*	-0.16*		-0.03	0.09*
9.CEOAGE	-0.01	-0.21	0.02	-0.11*	0.05	-0.15*	-0.02	-0.06		-0.03
10.AMNESTY	0.10*	0.03	-0.15*	-0.11*	-0.01	-0.08	-0.27*	0.09*	-0.05	

* Indicates a statistical significance at the 5-percent level.

Table 3. CEO Narcissism and Accounting Irregularities

	<i>MSCORE</i>		
	1	2	3
<i>NARCISTCEO_t</i>	-0.116** (0.058)	-0.145** (0.065)	-0.115 (0.075)
<i>SIZE_t</i>			-0.022 (0.085)
<i>ROA_t</i>			1.977 (1.651)
<i>BUMN_t</i>			0.348 (0.491)
<i>BOARDS_t</i>			-0.540 (1.361)
<i>BIG4_t</i>			-0.515* (0.268)
<i>AUDCHANGE_t</i>			-0.095 (0.339)
<i>CEOAGE_t</i>			-0.008 (0.012)
<i>AMNESTY_t</i>			0.271 (0.229)
Constant	0.106 (0.261)	0.947* (0.493)	1.898 (1.546)
Year Fixed-Effect	No	Yes	Yes
Industry Fixed-Effect	No	Yes	Yes
Pseudo R-square	0.0070	0.0442	0.0616
N	435	435	435

Continuous variables are winsorized at the 1 and 99 percent levels. Standard errors are shown in parentheses. *, **, and ***, indicate a statistical significance at the 10, 5, and 1 percent levels, respectively. Source: Authors' calculation.

4.3. Robustness Check

We ran several tests to check the robustness of our results. First, we employed a lead-lag approach in mitigating the concern of reverse causality [60]. In doing so, we set each of the independent variables as lagged variables by one year. Table 4 shows the results of this specification. We discovered a non-significant negative relationship between *NARCISTCEO* and *MSCORE*. This result is consistent with our baseline results.

Second, we used the propensity score matching (PSM) method [61] to mitigate the issue of self-selection bias arising from firm-related characteristics that may affect our results. In doing so, for each year, we constructed a variable based on the industry median value of the CEO narcissism measurement. We used that as the cut-off value. We then assigned firms with the measure of CEO narcissism above that value as our treatment group and those with value lower or similar as the control group. We coded 1 (one) for the treatment group (i.e., high value of narcissist CEOs) and 0 (zero) for the control group. A logit regression including all the control variables is used to estimate the probability of being assigned to the treatment or control group. Matching sample is then created by using specifications within a caliper of 0.01 and without a replacement that resulted in 85 pairs (that is, 170 observations).

Table 4. CEO Narcissism and Accounting Irregularities – Lag Variables

	<i>MSCORE</i>
<i>NARCISTCEO_{t-1}</i>	-0.039 (0.086)
<i>SIZE_{t-1}</i>	-0.037 (0.102)
<i>ROA_{t-1}</i>	0.983 (1.934)
<i>BUMN_{t-1}</i>	-0.042 (0.586)
<i>BOARDS_{t-1}</i>	-0.093 (1.613)
<i>BIG4_{t-1}</i>	-0.319 (0.328)
<i>AUDCHANGE_{t-1}</i>	1.107*** (0.424)
<i>CEOAGE_{t-1}</i>	-0.008 (0.015)
<i>AMNESTY_{t-1}</i>	0.250 (0.270)
Constant	1.390 (1.812)
Year Fixed-Effect	Yes
Industry Fixed-Effect	Yes
Pseudo R-square	0.0779
N	320

Continuous variables are winsorized at the 1 and 99 percent levels. Standard errors are shown in parentheses. *, **, and ***, indicate a statistical significance at the 10, 5, and 1 percent levels, respectively. Source: Authors' calculation

Panel A of Table 5 shows the characteristics of both treatment and control groups. We noticed that the firm characteristics of those groups are not statistically different for all variables. Panel B of Table 5 details the regression results using the matched sample. We still found that the negative (-0.090) relationship between *NARCISTCEO* and *MSCORE* is insignificant.

Last, we replaced our accounting irregularities measurement using the Dechow F-score model (*FSCORE*) to mitigate the possibility that an accounting irregularity measurement bias drove our results. Dechow, Ge, Larson, and Sloan [62] created models to predict accounting misstatements. Model 1 consists of variables gathered from financial statements; Model 2 includes off-balance sheets and non-financial measures; and Model 3 is comprised of market-related variables. Dechow *et al.* [62] argue that Model 1 provides the "bulk of the power" to predict the misstatements. We then used the Model 1² as our alternative estimate of the likelihood of material accounting statements. In that case, we used a classification variable where one is assigned to firms with an *FSCORE* greater than 1 and 0 otherwise. We presented the results in Table 6. In Column 1, we surmised that *NARCISTCEO* is insignificantly related to *FSCORE*. Moreover, we used continuous values of M-Score and F-Score in checking the robustness of our results. Column 2 and Column 3 show the results. In general, we still concluded that *NARCISTCEO* is negatively and insignificantly related to accounting irregularities in both of the measures. Hence, these outcomes support our baseline results.

4.4. Additional Analysis

Previous studies found that audit quality is negatively related to earnings management [63-67]. We, therefore, tested the influence of BIG4 on the relationship between CEO narcissism and accounting irregularities. BIG4 was measured as a dummy variable coded one if firms were audited by big 4 auditing firms and 0 otherwise. We then created two dummy variables for firms audited by big 4 auditing firms (*HBIG4*) and those audited by non-big 4 auditing firms (*LBIG4*). We interacted those two dummy variables with the measurement of CEO narcissism and regressed them against *MSCORE*. We reported the results in Table 7. We discovered a negative association between *NARCISTCEO* and *MSCORE* for both *HBIG4* and *LBIG4* groups. However, we noticed that the negative association is significant for the *HBIG4* group at the 5 percent level. This result may support prior research to indicate that big 4 auditing firms are an effective governance mechanism to reduce the likelihood of accounting misconduct. Consequently, the negative relationship between CEO narcissism and accounting irregularities is more pronounced for firms audited by big 4 auditing firms.

Cho, Arthurs, Townsend, Miller, and Barden [68] argued that CEOs' celebrity status will influence firm risk behavior. On the one hand, celebrity CEOs will behave following the social norm to preserve their identity or status. Hence, they will be less likely to engage in actions with excessive risks, thereby not damaging organizational performance [68]. CEOs with celebrity status will also act in the shareholders' best interest to preserve their executive labor market status [69,70].

Table 5. Propensity Score Matching Regression

Panel A: Descriptive statistics for the matched sample			
	Treatment Firms	Control Firms	t-test
<i>Dependent Variables</i>			
<i>MSCORE</i>	0.400	0.447	-0.62
<i>Control Variables</i>			
<i>SIZE</i>	15.14	15.27	-0.54
<i>ROA</i>	0.092	0.091	0.09
<i>BUMN</i>	0.106	0.082	0.52
<i>BOARDS</i>	0.255	0.269	-1.10
<i>BIG4</i>	0.600	0.612	-0.16
<i>AUDCHANGE</i>	0.118	0.106	0.24
<i>CEOAGE</i>	52.74	51.93	0.64
<i>AMNESTY</i>	0.435	0.423	0.15
Panel B: PSM Regression Analysis			
	<i>MSCORE</i>		
<i>NARCISTCEO_i</i>	-0.090 (0.114)		
<i>SIZE_i</i>	-0.231 (0.150)		
<i>ROA_i</i>	-2.468 (2.845)		
<i>BUMN_i</i>	-0.427 (0.691)		
<i>BOARDS_i</i>	-3.020 (2.651)		
<i>BIG4_i</i>	0.589 (0.465)		
<i>AUDCHANGE_i</i>	0.529 (0.575)		
<i>CEOAGE_i</i>	-0.059** (0.024)		
<i>AMNESTY_i</i>	0.292 (0.395)		
Constant	7.098** (2.934)		
Year Fixed-Effect	Yes		
Industry Fixed-Effect	Yes		
Pseudo R-square	0.0928		
N	170		

This table depicts the regression results for the impact of CEO narcissism on accounting irregularities using the propensity score matching (PSM) approach. Continuous variables are winsorized at the 1 and 99 percent levels. Standard errors are shown in parentheses. *, **, and ***, indicate a statistical significance at the 10, 5, and 1 percent levels, respectively. Source: Authors' calculation

² Detail calculation can be found in Dechow *et al.* [62].

On the other hand, celebrity CEOs may also become overconfident in their ability. Cho *et al.* [68] put forth that celebrity CEOs' decision-making and actions are affected by the external expectation of superior consistent performance. Duchon and Drake [35] and Amernic and Craig [36] revealed that individuals may engage in unethical behavior in their pursuance of achieving their goals. This unethical behavior may happen as a result of attaining external expectations. Lin *et al.* [39] found that pressure to meet an earnings threshold creates an incentive for the CEO to engage in earnings management activities, especially for CEOs with narcissistic characteristics. Therefore, there is a possibility that celebrity CEOs may engage in accounting manipulation to meet external expectations.

Table 6. Robustness Tests – Alternative Measure of Accounting Irregularities

	1	2	3
<i>NARCISTCEO_i</i>	0.015 (0.123)	-0.048 (0.087)	-0.006 (0.016)
<i>SIZE_i</i>	0.228* (0.135)	0.081 (0.097)	0.043** (0.018)
<i>ROA_i</i>	1.415 (2.642)	-0.520 (1.890)	0.141 (0.347)
<i>BUMN_i</i>	0.861 (0.651)	0.029 (0.568)	0.194* (0.104)
<i>BOARDS_i</i>	-3.350 (2.245)	-0.775 (1.579)	-0.279 (0.290)
<i>BIG4_i</i>	-0.256 (0.418)	0.174 (0.308)	-0.078 (0.057)
<i>AUDCHANGE_i</i>	0.383 (0.499)	0.667* (0.393)	-0.014 (0.072)
<i>CEOAGE_i</i>	-0.024 (0.020)	-0.003 (0.014)	-0.003 (0.003)
<i>AMNESTY_i</i>	-0.388 (0.360)	-0.271 (0.264)	-0.011 (0.048)
Constant	-3.805 (2.497)	-0.158 (1.754)	-0.912*** (0.322)
Year Fixed-Effect	No	Yes	Yes
Industry Fixed-Effect	No	Yes	Yes
Pseudo R-square/R-square	0.0895	0.0583	0.0914
F-Stat	N/A	1.35	2.20***
N	435	435	435

This table presents the regression results for the impact of CEO narcissism on alternative measures of accounting irregularities. Continuous variables are winsorized at the 1 and 99 percent levels. Standard errors are shown in parentheses. *, **, and ***, indicate a statistical significance at the 10, 5, and 1 percent levels, respectively. Source: Authors' calculation

In this sense, we examined whether a CEO's popularity influences the relationship between CEO narcissism and accounting irregularities. We measured CEO popularity using a Google trend search volume index. We looked for the full name of the CEO and company name or code in

Google Trends (www.google.com/trends) and used the average weekly search volume index as in Duan, Ding, Hou, and Zhang [71] as our *POPULARCEO* measurement. To test the influence of *POPULARCEO*, we created, from our sample, two groups using the yearly median value of *POPULARCEO* as the cut-off point. We created two dummy variables, *HPOPULARCEO*, for firms with *POPULARCEO* above the annual median value, and *LPOPULARCEO* for those with *POPULARCEO* below or the same as the yearly median. We then interacted those two dummies with *NARCISTCEO*. We presented the results in Table 8. We found that *NARCISTCEO* is negatively associated with *MSCORE* for both *HPOPULARCEO* and *LPOPULARCEO*. However, we noticed that the negative relationship is significant for *LPOPULARCEO*, while the negative relationship for *HPOPULARCEO* is insignificant. These results may support the argument that, while both celebrity and non-celebrity CEOs tend to have lower likelihood of engaging in accounting irregularities, less popular CEOs tend to have a lower probability of accounting irregularities compared to more popular CEO.

Table 7. The influence of Big4 Audit Firms

	<i>MSCORE</i>
<i>HBIG4*NARCISTCEO_i</i>	-0.170** (0.076)
<i>LBIG4*NARCISTCEO_i</i>	-0.087 (0.083)
<i>SIZE_i</i>	-0.044 (0.084)
<i>ROA_i</i>	1.652 (1.629)
<i>BUMN_i</i>	0.378 (0.491)
<i>BOARDS_i</i>	-0.498 (1.359)
<i>AUDCHANGE_i</i>	-0.073 (0.339)
<i>CEOAGE_i</i>	-0.007 (0.012)
<i>AMNESTY_i</i>	0.279 (0.231)
Constant	1.982 (1.566)
Year Fixed-Effect	Yes
Industry Fixed-Effect	Yes
Pseudo R-square	0.0589
N	435

This table describes the influence of Big4 audit firms on the relationship between CEO narcissism and accounting irregularities. Continuous variables are winsorized at the 1 and 99 percent levels. Standard errors are shown in parentheses. *, **, and ***, indicate a statistical significance at the 10, 5, and 1 percent levels, respectively. Source: Authors' calculation

Table 8. The Influence of CEO Popularity

	<i>MSCORE</i>
<i>HPOPULAR* NARCISTCEO_{it}</i>	-0.088 (0.078)
<i>LPOPULAR* NARCISTCEO_{it}</i>	-0.145* (0.079)
<i>SIZE_{it}</i>	-0.029 (0.085)
<i>ROA_{it}</i>	2.091 (1.660)
<i>BUMN_{it}</i>	0.260 (0.496)
<i>BOARDS_{it}</i>	-0.601 (1.365)
<i>BIG4_{it}</i>	-0.541** (0.270)
<i>AUDCHANGE_{it}</i>	-0.063 (0.342)
<i>CEOAGE_{it}</i>	-0.007 (0.012)
<i>AMNESTY_{it}</i>	0.259 (0.229)
Constant	1.926 (1.544)
Year Fixed-Effect	Yes
Industry Fixed-Effect	Yes
Pseudo R-square	0.0639
N	435

This table shows the the influence of CEO popularity on the relationship between CEO narcissism and accounting irregularities. Continuous variables are winsorized at the 1 and 99 percent levels. Standard errors are shows in parentheses. *, **, and ***, indicate a statistical significance at the 10, 5, and 1 percent levels, respectively. Source: Authors' calculation

5. Conclusions

Using Indonesian listed firms during the 2014–2017 period, we examined the impact of CEO narcissism on accounting irregularities. Our results support our hypothesis that CEO narcissism is not associated with accounting irregularities in Indonesia. The results are robust after we mitigated endogeneity concerns using propensity score matching (PSM) and alternative accounting irregularity measures. This may be related to Indonesia's social environment, where narcissistic behavior is an uncommon trait in Indonesia. Hence, narcissistic CEOs who try to use accounting to create a better self-image and get more attention may get contrary results, such as a bad public image. Consequently, those results will lower the incentives for individuals, including narcissistic individuals, to engage in accounting irregularities. Our results are therefore contradictory with the results of previous studies such as [37-39].

Furthermore, we extended our analysis using sub-sample tests. We found a significant negative relationship between CEO narcissism and accounting irregularities for firms audited by BIG4 auditors. This may indicate that BIG4 auditors can significantly mitigate the intentions and activities of narcissistic CEOs in manipulating accounting numbers to get better publicity.

We also scrutinized the influence of CEO popularity on the relationship between CEO narcissism and accounting irregularities. We observed a significant negative relationship between CEO narcissism and accounting irregularities for less popular CEOs. This may support the argument that popular or celebrity CEOs may engage in unethical behavior to achieve their goals and preserve their social status. Consequently, those CEOs engage in higher accounting irregularities compared to CEOs with a lower level of popularity. In addition to extend prior research on the effects of CEO characteristics on firm behavior and providing a more comprehensive test of CEO narcissism in Indonesia, this study may provide a practical contribution to the parties involved in executive appointments by assessing the individual traits, namely narcissism. One of the limitations from our study is that we do not consider the influence of other forms of internal and external governance mechanisms, apart from the status of the auditor. Hence, further study may gain insight from this study by considering the influence of those governance mechanisms on the relationship between CEO narcissism and accounting irregularities.

Appendix – Variable Definition

Variable	Definition
<i>MSCORE_{it}</i>	A dummy variable where code 1 was given to firms with a Beneish M-score greater than -2.22, and 0 otherwise.
<i>FSCORE_{it}</i>	A dummy variable where code 1 given for firm with an <i>FSCORE</i> greater than 1 and 0 otherwise.
<i>NARCISTCEO_{it}</i>	We followed Olsen and Stekelberg (2016) in measuring CEO narcissism based on a scale to rate the CEOs' photographs based on the photograph's size and characteristics in the annual report.
<i>AUDCHANGE_{it}</i>	Code 1 if given for firm that did not change its external auditors, and 0 otherwise.
<i>AMNESTY_{it}</i>	Code 1 given for a firm that participated in the tax amnesty program, and 0 otherwise.
<i>BIG4_{it}</i>	Code 1 given for a firm that was audited by a big 4 auditor, and 0 otherwise.
<i>BUMN_{it}</i>	Code 1 given for a state-owned enterprise, and 0 otherwise.
<i>BOARDS_{it}</i>	The ratio of independent directors to the board size.
<i>CEOAGE_{it}</i>	The absolute value of the CEO's age of firm i in year t.
<i>ROA_{it}</i>	The ratio of the pre-tax income on total assets of firm i in year t.
<i>SIZE_{it}</i>	The natural logarithm of total assets of firm i in year t.

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