

CEO Overconfidence, Real Earnings Management, and Future Performance: Evidence from Indonesia

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Abstract—The purpose of this study is to examine whether an overconfident CEO affects real earnings management and indirectly affects future performance. An overconfident CEO is measured using three metrics to obtain robust results. The sample utilized contains data from manufacturing companies listed on the Indonesian stock exchange on from 2014 to 2016. The results of this study show that an overconfident CEO has no effect on real earnings management. The other results of this study also indicate that an overconfident CEO and real earnings management have a negative effect on future company performance. However, the results of testing in this study indicate that there is no mediating relationship between an overconfident CEO and future operational performance of a company through real earnings management.

Keywords—overconfident CEO; CEO overconfidence; real earnings management; future performance

I. INTRODUCTION

This study examines the relationship between an overconfident CEO linked with his decision to perform real earnings management and indirect effect on future operational performance. A survey by [1] showed that 80% of U.S. financial executives are cutting spending on research and development to achieve certain earnings targets. Such budget cuts in research and development expenditures are one form of real earnings management, in addition to sales manipulation and overproduction [2, 3]. However, companies that perform real earnings management allegedly suffered significant losses afterwards. [4, 5] suggest that companies that perform real earnings management will experience a decline in future operational performance and reduce their competitive advantage.

Thus, the existence of a company leader has very influential impact on the success of the company they lead. [6-9] show that the success of a company is influenced by the personal characteristics of the leader because the ability and competence of a leader will have an impact on the policy strategy and decisions made. The behavior of a leader will be the best predictor or a reflection of the company's success [10].

One undesirable personal trait of CEOs is their overconfidence and tendency to exhibit an attitude of optimism and excessive self-confidence. Presley et al. [11], suggest that overconfidence is an attitude of optimism, a positive estimation, or an excessive level of confidence in the outcome. [12-14] argue that an overconfident CEO is an

innovative person who likes risk. In further research, [15] states that overconfident CEO he likes investment policy, too. Investment, knowledge and innovation are the key drivers of increased corporate performance [10]. Overconfident CEOs tend to overinvest and are more interested in innovation strategies that will spend much of their budget on research and development expenditures, advertising, and employee training. [16] likewise suggests that overconfident CEO will invest more in innovation progress through research and development expenditures.

This study was conducted to discover any contradictions between the premise that overconfident CEO leads to risk-taking, focuses on new investment and innovation strategies supported by research and development. But some studies show that overconfident CEO prefer real earnings management practices by cutting research and development expenditure budgets in order to achieve expectations for a specific earnings target or to maintain his reputation and credibility before the public [10, 17, 18]. Cuts in research and development expenditure budgets are used to increase cash flow from operating activities as well as earnings in the current period [2, 3, 19, 20].

The contradictions between previous research conclusions have been a key motivation spurring us to test whether an overconfident CEO has an effect on the level of real earnings management and whether real earnings management become a mediating variable in future corporate performance. [21] suggests that most research on the nexus between a CEO's overconfidence and earnings management practices is still debatable. The next question is whether an overconfident CEO who likes investment and innovation strategies will have a positive relationship with the company's performance or instead will degrade it in the future because of the "reckless" nature of being an overconfident CEO.

Accordingly, this study uses three ways of measuring the impact of CEO overconfidence: (1) by proxy overinvestment [10, 18]; (2) [22-25] by using a CEO photo revealed in the annual report; (3) by using NVIVO software to determine the percentage of words that indicate an overconfident CEO.

Testing the future performance of the company measures its operational performance by considering its the return on assets and operating cash flow. These ratios serve well since operational performance is directly within the control of the CEO of the company and show his ability to manage and optimize company resources. Testing market performance is

not directly under the control of the company's CEO and many other factors that influence market performance, e.g., economic, political, and environmental conditions.

This paper contributes to the debate regarding the overconfident CEO and real earnings management through the determination of decisions made with respect to research and development expenditures. This study is expected to fill the gap of the literature between the relationship between an overconfident CEO, real earnings management and operational performance with a sample of Indonesian companies and the addition of overconfident CEO measurement that is different from previous research.

II. LITERATURE REVIEW

A. Upper Echelons Theory

Upper echelons theory was introduced by [6], which states that the organization is a reflection of the top leaders of the company. Moreover, the outcomes of the company in the choice of strategies and the level of company performance will be influenced by the strength of values, cognitive basis and characteristics of company top management. Hofstede (1996) in [26] states that the personal characteristics of individuals are a bond of rationality that become "software in the mind" that directs a person's behavior or decisions.

Upper echelons theory supports the nature of overconfidence as a cognitive aberration, which encourages decision makers to overestimate their ability to solve problems. Overconfidence is closely related to the courage to take risks because overconfident CEOs will overestimate their capabilities to deal with problems; disparaging other resources as strategic initiatives; underestimating their operational environmental conditions, confiding inordinately in the knowledge and information they hold [27].

Based on the above theory, the characteristics of CEOs in the form of high confidence will affect the strategies and decisions made so as to affect the future performance of the company. Overconfident CEOs are motivated to conduct real earnings management to increase their public credibility [10, 17, 18]. Nevertheless, earnings management is alleged to have a negative future impact, especially real earnings management, that is declining operational performance of companies such as return on assets [28], operating cash flow [4] as along with the impact of real earnings management and manipulation of sales figures will have a negative impact on return on equity, earnings per share, and decline in the value of the price to earnings ratio [5].

B. CEO Overconfidence and Corporate Performance

Overconfident CEO can be interpreted as an overestimation of his ability and knowledge that will positively impact his actions within the company [18]. [29] states that overconfidence as a form of cognitive deviation is a psychological aberration entailing the excessive estimation of future performance results, so it can mean overconfidence is the tendency to think too optimistically, and thus at times unrealistically, generating a negative effect on company policy.

Hirshleifer et al. [16], suggests that an overconfident CEO can increase the value of the company as indicated by a high Tobin's Q value of companies that fall into the category of innovative industries. Similarly, Goel et al. [30] show that

overconfident CEOs create value for the company because of their courage to take higher risks through investments so that it will generate high returns as well (high risk-high return). High-confidence CEOs have a high-innovation strategy for the company that will increase research and development expenditure to achieve the success of its innovative strategy [15]. The existence of an overconfident CEO tends to be more optimistic about the company's future performance and has excessive estimates of its capacity to create future earnings [31]. Bharati et al. [32] in his research findings shows that overconfident CEOs dare to take greater risk and have high stock returns as well.

However, excessive CEO confidence can degrade corporate value because CEOs adopt risky, inefficient, or error-prone investment policies in determining risk and return on investment [11, 33 34]. Overconfident CEOs tend to overestimate investment returns and underestimate risks [12, 35]. Chen et al. [36] argues that an overconfident CEO will invest excessively and have excessive expectations as well as future cash flows and the success of research and development that enable the company's value or long-term performance of the company to decline.

From the results of previous research, it becomes a question of whether overconfident CEOs will increase the value of the company through their high innovation strategy or it will lower the value of the company in the future because of its belief in high expectations for an investment that may be mistaken? Based on the above background, this research hypothesis is:

H1: Overconfident CEOs have an influence on future company performance.

C. CEO Overconfidence and Real Earnings Management

The CEO's high confidence shows CEO optimism that can create bias when making decisions and they tend to undertake earnings management in order to cover up company performance that is not in line with their expectations [23, 17]. Kouaib et al., Habib et al., and Hsieh et al. suggest that overconfident CEOs will tend to do real earnings management through sales manipulation activities and discretionary expenditure budget cuts, rather than accrual earnings management, in order to achieve certain earnings targets [10, 37, 38].

One form of this craft is real earnings management that accomplished by manipulating real activities such as (1) sales manipulation by giving large discounts, granting lenient credit; (2) overproduction, or mass production to minimize cost of goods sold (COGS); (3) cuts in discretionary expenditure budgets [2, 4]. Real earnings management does not violate any accounting standard and thus not easily to detected by others [39]. Based on the above background, this research hypothesis is:

H2: CEO overconfidence has consequences for earnings management.

D. The Mediating Relationship of Real Earnings Management

Real earnings management will increase earnings, return on assets, and operating cash flow directly in the current period [20]. However, real earnings management has adverse consequences for future corporate performance compared to accrual earnings management as measured by declining

profits and future cash flows [4,19,40]. Cohen et al. [41] showed that real earnings management has an impact on the company's future performance that is greater than if the company's management performs accrual earnings management. Graham et al. [1], used surveys to show the tendency of low company performance if management practices real earnings management. Real earnings management poses a negative signal in the future, but on the other hand real earnings management provides a positive signal in the short-term because it can directly increase company profits.

Chatterjee et al. [23] show that CEO overconfidence leads to higher future optimism with respect to company performance and is likely to undertake earnings management to achieve expectations for certain earnings targets. Overconfident CEOs will be compelled to perform real earnings management that will result in a decline in the company's future operational performance. Therefore, overconfident CEOs have an indirect effect on the declining performance of the company in the future through their increase in real earnings management activities. Based on the foregoing criteria, two further research hypotheses are:

H3: Real earnings management has a negative effect on future company performance.

H4: The overconfident CEO has an indirect effect on firm performance mediated by real earnings management.

III. RESEARCH METHODS

A. Data and Samples

The data and samples in this study were taken manufacturing companies listed on the Indonesian stock exchange during 2014–2016. This study only sampled manufacturing companies because the use of the full management formula requires inventory data available at manufacturing companies. Data was taken from company annual reports found on the website of the Indonesian stock exchange (www.idx.co.id) and the Thomson Reuters database.

B. Research Model and Measurement of Variables

This research model is described as follows (Figure 1).

1) CEO Overconfidence

CEO overconfidence is measured by using some key metrics:

1. The measurement of CEO overconfidence is done by calculating the level of investment (CEODUMMY) by the following formula: reducing residual regression of total asset growth and sales growth by the median industry residual value of the year. A value of 1 indicates that the company's residual is greater than the median residual industry, or 0 otherwise [9].

2. Qualitative data retrieval showing CEO overconfidence using NVIVO software 10 (CEOCOV). This study measures the number of words that describe CEO overconfidence considering the overall word count contained in the annual report. Several words that often appear, showing an overconfident CEO are "investment," "strategy," "research," "development," "innovation" [12, 14, 16, 34].

3. The measurement of CEO overconfidence refers to the research of [25] and [22] who assess the CEO's overconfidence in the photos (CEOPHOTO) contained in the annual report. The scoring is as follows: a value of 1 is assigned if the CEO does not display his picture in the annual report, a value of 2 if he takes pictures with other executives; a value of 3 if the size of his own photo is less than one-half of a page, a value of 4 if his picture takes up one-half of a page or more, but some text still fills up the rest of the page, and a value of 5 if his picture alone covers the whole page).

This study uses three measurements of overconfident CEOs to obtain robust results. This study performs regression one by one of the three measures above.

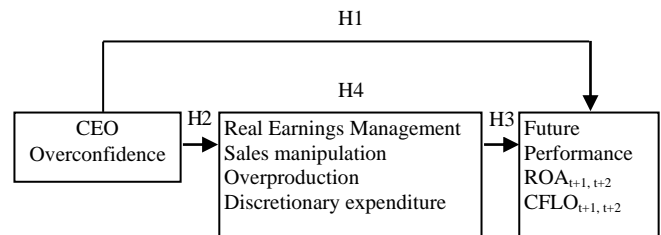


Fig 1. Theoretical Model

2) Measures of Real Earnings Management

The real earnings management in this study refer to previous studies [2, 4] measured using three proxies formulated as follows:

Sales Manipulation (ABNSALES)

$$CFO_t / A_{t-1} = \alpha_1 (1 / A_{t-1}) + \beta_1 (S_t / A_{t-1}) + \beta_2 (\Delta S_t / A_{t-1}) + \varepsilon_t \quad (1)$$

CFLO_t is the operating cash flow period t, divided by total assets of period t-1, S_t is sales in period t, and ΔS_t is sales difference in period t and t-1. If the residual value is negative, it is suspected that the company manipulated its sales.

Overproduction (ABNPROD)

$$PROD_t / A_{t-1} = \alpha_1 (1 / A_{t-1}) + \beta_1 (S_t / A_{t-1}) + \beta_2 (\Delta S_t / A_{t-1}) + \beta_3 (\Delta S_{t-1} / A_{t-1}) + \varepsilon_t \quad (2)$$

PROD_t is the production cost in period t, divided by total assets in period t-1, PROD_t = COGS_t + ΔINV_t, S_t is sales in period t, ΔS_t is a sales difference in period t and t-1, and ΔS_{t-1} is the sales difference in period t-1 and t-2. If the residual value is positive, the company is suspected of real earnings management by overproduction.

Discretionary Expenditure (ABNSGA)

$$DIEXP_t / A_{t-1} = \alpha_1 (1 / A_{t-1}) + \beta_1 (S_{t-1} / A_{t-1}) + \varepsilon_t \quad (3)$$

DIEXP_t is discretionary expenditure (research and development expenditure, sales, general and administration expense) in period t, divided by total asset in period t-1, S_t is sales in period t-1. If the residual value is negative, the company is suspected of real earnings management by cutting the budget of discretionary expenditure.

In this study merged the value of real earnings management (e.g., sales manipulation, overproduction, discretionary expenditure budget cuts) to obtain the overall

total value of the real earnings management by adding all residual values of the three components (REM). The calculation of the merger of real earnings management values follows previous research conducted by [4, 18] by adding the following standardized residual values:

$$\text{REM} = \text{AbnCFLO}*(-1) + \text{AbnOP} + \text{AbnDE}*(-1)$$

3) Company Performance Measures

Company performance in this research is measured using ROA (return on assets) and operating cash flow (CFLO) in period $t+1, t+2$ [4, 5, 18]. ROA is formulated as a net income divided by total assets $t-1$. Operating cash flow is formulated with cash flows from operation activities divided by total assets $t-1$.

4) Control Variables

Variables other than overconfident CEOs and real earnings management that influence company performance in the future are included in the model as control variables:

—SIZE shows the size of the company measured by using the formula $\text{Ln}(\text{total assets})$ used to control how big the company's performance [19]. The larger the size of the company, the lower the level of corporate earnings management and the higher the company's performance.

—MTB (market to book ratio) indicates the growth rate of the company, and in order to control for the firm's economic condition each year, it is measured by the formula of the value of common stock per share divided by the book value of equity [19]. A higher market to book ratio shows higher company performance.

—P/L (profit or loss) represents a dummy variable that takes a value of 1 if the company reports, and 0 otherwise.

IV. RESULTS

A. Descriptive Statistics

This study tests the manufacturing companies listed on the Indonesian stock exchange during 2014–2016. The observation period used in this study is 2014. The number of samples that met the criteria and were used were 114 companies. Table 1 summarizes the descriptive statistics used in this study.

Table 1 shows that the mean and median value of real earnings management (REM) is negative. This result illustrates that, on average, Indonesian manufacturing companies did not perform real earnings management during 2014. The value of CEODUMMY suggests that fifty-eight companies that have an overconfident CEO. Almost half of the sample showed an overconfident CEO. The mean value of overconfident CEOs as measured by the COV value (the percentage of overconfident CEO keywords contained in the annual report) of 0.000957415. The mean value of an overconfident CEO as measured by the CEO's photo size in the annual report is the 3rd scale that describes, on average, if the CEO of the sample has its own image of less than half a page.

The mean value of ROA in 2014 is 0.055822331. ROA mean values in 2015 and 2016 are 0.034448411 and 0.049801541. On average, manufacturing companies have a positive return on assets during 2014–2016, although the value is decreasing. The mean value of CFLO in 2014 amounted to 0.063734093. The mean values of CFLOs in 2015 and 2016 were 0.083740884 and 0.075911505. This finding shows the average cash flow of operating activities is positive and increased from 2014. SIZE mean value of Rp8,869,502,980 with a maximum value of Rp233,138,000,000 and a minimum value of Rp79,243,086. The P/L value shows that twenty-four manufacturing companies suffered losses in the current period and ninety companies reported earnings. The mean value MTB was 3.945175439, indicating that, on average, Indonesian manufacturing companies in 2014 had a positive growth rate.

TABLE I. DESCRIPTIVE STATISTICS

	Mean	Median	Standard Deviation	Minimum	Maximum
ABNSALES	0.000738158	-0.008305	0.133848526	-0.39195	0.43975
ABNPROD	-0.000363947	-0.076385	0.519172001	-1.39952	2.48196
ABNSGA	0.000520614	-0.03468	0.128422913	-0.27824	0.47207
REM	-0.010230614	-0.045345	2.222521426	-6.54504	7.18057
CEODUMMY	0.50877193	1	0.502130224	0	1
SIZE	8,869,502,980	2,117,425,678	25,180,086,973	79,243,086	233,138,000,000
P/L	0.789473684	1	0.409482389	0	1
CEOCOV	0.000957415	0.000827204	0.0006262	0.000187272	0.005167072
CEOPHOTO	3.096491228	3	1.104850915	1	5
MTB	3.945175439	1.24	9.433735944	-2.7	53.59
ROA _t	0.055822331	0.030323785	0.105403828	-0.262090552	0.452868423
ROA _{t+1}	0.034448411	0.01374911	0.102306832	-0.231073632	0.40977104
ROA _{t+2}	0.049801541	0.038624178	0.109519689	-0.368948629	0.475827346
CFLO _t	0.063734093	0.04681604	0.137279744	-0.398328518	0.520280574
CFLO _{t+1}	0.083740884	0.066187316	0.116840263	-0.362004234	0.544627395
CFLO _{t+2}	0.075911505	0.063208644	0.112817417	-0.212432697	0.60505252

B. The Relation between CEO Overconfidence by Overinvestment on Real Earnings Management and Future Operational Performance

Hypothesis testing in this study was conducted through multiple regression analysis. The results of the first hypothesis testing and the second hypothesis were made several times based on the use of different overconfident

CEO measurements. Table 4.2 shows the results of the first and second hypothesis testing by measuring CEO overconfidence as perceived in the CEO's investment level metrics, shown in Table 2.

The F value shows significant result on probabilities ≤ 0.05 indicating the existence of a regression relationship between CEO variables overconfidence, market to book ratio, firm size, company reporting profits (losses) on real earnings management for future operational performance of the company, except in partial testing of real earnings management through overproduction. The results of the first hypothesis test showed that an overconfident CEO had no effect on a firm's long-term operational performance. With a p -value ≥ 0.05 , H1 is statistically rejected, although Table 4.2 shows that overconfident CEOs had a negative effect on the company's operating performance (operating cash flow) during the current year, expressed by the negative sign of the value of the β coefficients. The results of this study indicate that companies led by overconfident CEOs will have low operating cash flows in the current period. This finding proves that overconfident CEOs use their operating cash

flows to fund discretionary expenditures such as research and development, employee training, advertising and other expenditures [16].

The results of this study indicate that the second hypothesis H2 is statistically rejected (p -value ≥ 0.05) meaning that CEO overconfidence measured using the investment value does not show any effect on real earnings management as a whole, nor the partial earnings management test, since CEO overconfidence indicates real earnings management will cause a bad future reputation. This study carried out testing of ROA and CFLO in the current period was used in additional analyses.

C. The Relationship Between CEO Overconfidence by Word Coverage on Real Earnings Management and Future Operational Performance

Table 4.3 shows hypothesis testing of first and second hypotheses with CEO measurement of overconfidence using measurements by how many words an overconfident CEO was represented in the annual report (Table 3).

TABLE II. REGRESSION RESULTS FOR CEO OVERCONFIDENCE AS MEASURED BY OVERINVESTMENT

	abssales	absprod	abssga	rem	roa _t	roa _{t+1}	roa _{t+2}	CFLO _t	CFLO _{t+1}	CFLO _{t+2}
cons	-0.323	1.533	0.096	4.750	-0.017	-0.200	-0.140	-0.176	0.080	-0.211
	0.039	0.027	0.558	0.097	0.877	0.093	0.252	0.261	0.575	0.120
ceodu	-0.029	-0.045	-0.011	0.217	-0.004	0.010	-0.010	-0.059	-0.020	0.001
	0.193	0.650	0.637	0.582	0.796	0.558	0.580	0.011*	0.346	0.946
MTB	0.004	-0.002	0.003	-0.061	0.005	0.003	0.005	0.005	0.003	0.005
	0.001	0.723	0.007	0.005*	0.000*	0.001*	0.000*	0.000*	0.005*	0.000*
SIZE	0.011	-0.700	-0.007	-0.161	-0.002	0.007	0.005	0.008	-0.003	0.011
	0.137	0.030	0.380	0.208	0.748	0.210	0.385	0.303	0.648	0.076**
P/L	0.113	0.006	0.051	-1.222	0.115	0.086	0.089	0.113	0.084	0.032
	0.000	0.959	0.084	0.014*	0.000*	0.000*	0.000*	0.000*	0.001*	0.184
R ²	0.266	0.050	0.105	0.162	0.431	0.267	0.320	0.289	0.173	0.217
Adj R ²	0.239	0.015	0.072	0.131	0.411	0.240	0.295	0.263	0.143	0.188
F	9.881	1.422	3.206	5.272	20.676	9.943	12.826	11.098	5.695	7.556
F. Sig	0.000	0.231	0.016	0.001*	0.000	0.000*	0.000*	0.000*	0.000*	0.000*

*) sig. $\geq 5\%$; **) sig. $\geq 10\%$

TABLE III. REGRESSION RESULT OF CEO OVERCONFIDENCE AS MEASURED BY WORD COVERAGE

	abssales	absprod	abssga	rem	roa _t	roa _{t+1}	roa _{t+2}	CFLO _t	CFLO _{t+1}	CFLO _{t+2}
constanta	-0.287	1.437	0.110	4.023	-0.009	-0.205	-0.153	-0.137	0.093	-0.236
	0.067	0.038	0.508	0.143	0.934	0.089	0.215	0.396	0.522	0.082
ceocov	29.195	-93.498	10.879	-479.007	6.653	-3.288	-12.603	29.901	9.318	-23.188
	0.108	0.242	0.572	0.134	0.597	0.813	0.378	0.111	0.581	0.140
MTB	0.004	-0.001	0.003	-0.060	0.005	0.003	0.005	0.005	0.003	0.005
	0.001	0.775	0.007	0.005*	0.000*	0.001*	0.000*	0.000*	0.005*	0.000*
SIZE	0.008	-0.062	-0.008	-0.113	-0.002	0.007	0.006	0.004	-0.004	0.013
	0.309	0.056	0.311	0.383	0.654	0.189	0.312	0.640	0.529	0.038*
P/L	0.104	0.005	0.048	-1.128	0.113	0.088	0.088	0.097	0.079	0.035
	0.000	0.966	0.102	0.020*	0.000*	0.000*	0.000*	0.001*	0.002*	0.143
R ²	0.272	0.060	0.106	0.177	0.433	0.265	0.323	0.263	0.168	0.233
Adj R ²	0.245	0.025	0.073	0.147	0.412	0.238	0.298	0.236	0.138	0.204
F	10.184	1.730	3.233	5.860	20.771	9.845	13.000	9.708	5.518	8.259
F. Sig	0.000	0.148	0.015	0.000*	0.000	0.000*	0.000*	0.000*	0.000*	0.000*

*) sig. $\geq 5\%$; **) sig. $\geq 10\%$

In examining CEO overconfidence by measuring the number of words in the annual report that show his

overconfidence, results were similar to results under the previous test wherein the F value showed significant results,

except in partial testing of real earnings management through overproduction. The results of the first hypothesis test show the same results as the previous test that an overconfident CEO has no effect on the company's long-term operational performance. A p -value ≥ 0.05 leads to the rejection of H1 statistically. These results show that the company's operational performance is not only influenced by the behavior of corporate leaders but there are other factors involved. The control variables in this study are market to book ratio and companies reporting profit or loss in the current period positively affected the company's future operational performance (i.e., return on assets and operating cash flow).

The second hypothesis in this study is statistically rejected, too (having a p -value ≥ 0.05), indicating that CEO overconfidence as measured by the number of words in annual reports indicating such overconfidence has no effect on overall earnings management, as well as partial earnings management testing. That outcome is likely due to the existence of an overconfident CEOs, indicating real earnings management will cause a bad future reputation. This study carried out testing of ROA and CFLO in the current period, which was used for additional analysis.

TABLE IV. REGRESSION RESULT OF OVERCONFIDENT CEOs MEASURED BY THE CEO'S PHOTOGRAPH

	abssales	absprod	abssga	rem	roa _t	roa _{t+1}	roa _{t+2}	CFLO _t	CFLO _{t+1}	CFLO _{t+2}
Constanta	-0.317	1.548	0.101	4.524	-0.016	-0.198	-0.136	-0.168	0.084	-0.207
	0.043	0.025	0.538	0.101	0.883	0.092	0.261	0.298	0.559	0.120
Ceophoto	-0.008	-0.042	-0.013	0.083	-0.002	-0.014	-0.012	-0.005	-0.006	-0.018
	0.431	0.364	0.233	0.651	0.814	0.077**	0.151	0.623	0.551	0.041*
MTB	0.004	-0.001	0.004	-0.063	0.005	0.003	0.005	0.005	0.003	0.005
	0.001	0.874	0.004	0.004*	0.000*	0.000*	0.000*	0.000*	0.004*	0.000*
SIZE	0.011	-0.065	-0.005	-0.167	-0.001	0.009	0.006	0.007	-0.003	0.014
	0.130	0.045	0.498	0.198	0.772	0.106	0.274	0.362	0.690	0.031*
P/L	0.106	-0.007	0.048	-1.168	0.114	0.087	0.086	0.099	0.080	0.031
	0.000	0.956	0.099	0.017*	0.000*	0.000*	0.000*	0.001*	0.002*	0.182
R ²	0.259	0.055	0.115	0.161	0.431	0.286	0.331	0.247	0.169	0.247
Adj R ²	0.232	0.020	0.083	0.131	0.410	0.260	0.306	0.219	0.138	0.219
F	9.515	1.586	3.544	5.243	20.671	10.909	13.480	8.934	5.534	8.923
F. Sig	0.000	0.183	0.009	0.001*	0.000	0.000*	0.000*	0.000*	0.000*	0.000*

*) sig. $\geq 5\%$; **) sig. $\geq 10\%$

TABLE V. REGRESSION RESULTS ON THE RELATION BETWEEN REAL EARNINGS MANAGEMENT AND FUTURE OPERATIONAL PERFORMANCE

	roa _t	roa _{t+1}	roa _{t+2}	CFLO _t	CFLO _{t+1}	CFLO _{t+2}
constant	0.074	-0.124	-0.087	0.000062	0.095	-0.15
	0.429	0.262	0.467	1.000	0.515	0.255
REM	-0.02	-0.017	-0.011	-0.037	-0.003	-0.013
	0.000	0.000*	0.007*	0.000	0.596	0.004*
MTB	0.003	0.002	0.004	0.002	0.003	0.004
	0.000	0.022*	0.000*	0.014	0.01*	0.001*
SIZE	-0.005	0.004	0.003	0.000441	-0.004	0.009
	0.269	0.379	0.593	0.94	0.564	0.133
P/L	0.091	0.068	0.074	0.056	0.077	0.017
	0.000	0.0018*	0.001*	0.014	0.004*	0.475
R ²	0.577	0.378	0.363	0.548	0.168	0.276
Adj R ²	0.562	0.355	0.339	0.531	0.138	0.249
F	32.24	16.539	15.517	32.98	5.511	10.367
F. Sig	0.000	0.000*	0.000*	0.000	0.000*	0.000*

*) sig. $\geq 5\%$; **) sig. $\geq 10\%$

D. The Relation Between CEO Overconfidence by CEO Photograph on Real Earnings Management and Future Operational Performance

Table 4 shows first and second hypothesis testing by measuring CEO overconfidence using photo measurements in annual reports, in order to determine CEO overconfidence (Table 4.4).

The above test results indicate that the F value in this test shows significant results, except in partial tests of real earnings management through overproduction manipulation. This result is consistent with the previous test. The first hypothesis in this test indicates that an overconfident CEO has a negative effect on the firm's long-term operational performance, i.e., decreasing return on assets value in the next period. This fact is shown by a p -value ≤ 0.10 , so that H1 cannot be rejected statistically, and the value of the β coefficient is negative. The results of this test indicate that companies led by an overconfident CEO will experience a decrease in return on assets in the subsequent period because an overconfident CEO will sometimes take excessive risks and not be careful about the investment decisions taken. Similarly, the results of this study indicate that firms headed by overconfident CEOs have a declining operating cash flow value in the future (i.e., two years later). This is shown by a p -value ≤ 0.05 , indicating that H1 cannot be statistically rejected with the value of the β coefficient being negative. This indicates that an overconfident CEO has a negative effect on future operating cash flow.

The second hypothesis in this test is statistically rejected (p -value ≥ 0.05), meaning that an overconfident CEO as determined by the size of his photograph in the annual report has no effect on overall earnings management, nor in partial earnings management testing. That happens when an overconfident CEO perceives that real earnings management will lead to a bad future reputation. This study carried out testing of ROA and CFLO in the current period, and was used in additional analyses.

E. The Relation between Real Earnings Management and Future Operational Performance

The result of the third hypothesis testing on real earnings management's relationship to the future operational performance of the company is shown in Table 5.

The F value shows a significant result on probability with a score ≤ 0.05 , indicating that there is regression relationship among the real earnings management variable, market to book ratio, firm size, company reporting profit or loss on real earnings management on the firm's future operating performance. The results of the third hypothesis testing show that real earnings management has a negative impact on the company's future operational performance.

Since the p -value ≤ 0.05 for each test of future operational performance (i.e., return on assets $_{t+1}$, $_{t+2}$, operating cash flow at $_{t+2}$), the results prove that companies that performing real earnings management will lower future operational performance, marked by declines in return on assets value and operating cash flow for the company.

However, the test results also show that real earnings management does not affect the company's operating cash flow one year later, since the p -value ≥ 0.05 indicates that the research hypothesis is rejected statistically.

The results of the fourth hypothesis testing concluded that there is no mediation relationship between an overconfident CEO, real earnings management and future operational performance. This result occurs because testing showed insignificant results for the first hypothesis, concluding that there is no indirect relationship between CEO overconfidence and the future operational performance of the company through real earnings management.

V. DISCUSSION

The findings of this study for the first hypothesis testing examines the relationship between an overconfident CEO on the future operational performance in line with upper echelons theory, indicating that an overconfident CEO tends to take excessive risk in investment, or overestimate on return of investment by over believing in his own capabilities without considering other matters, such that the investment decisions made are false and inefficient. The results of this study indicate that an overconfident CEO negatively affects the operational performance in both current and future periods. This finding is in line with research conducted by [36].

The results of this study also show some findings that are different from those found in previous studies. For the second hypothesis, testing of the relationship between an overconfident CEO and real earnings management, the results of this study indicate that CEO overconfidence, as measured by three different metrics show consistent results: there is no relationship between an overconfident CEO and real earnings management (tested partially or combined all proxies for real earnings management). The results of this study contradict previous research which states that an overconfident CEO has a positive effect on real earnings management [17,10, 18]. In this study, exactly the opposite conclusion is drawn. That discovery is due to the fact that CEO overconfidence indicates real earnings management, which will harm his future reputation, and thus is avoided by an overconfident CEO.

For the third hypothesis, real earnings management (tested partially or by combining all proxies) shows a negative impact on future performance of the company. This finding is consistent with previous research conducted by [4, 5, 18]. Real earnings management in the form of sales manipulation, overproduction and budget cuts for discretionary expenditures will reduce the level of competence, innovation, creativity and declining competitive advantage of the company, thus negatively impacting the firm's future operational performance.

VI. CONCLUSION

This study examines the impact of an overconfident CEO on real earnings management and its impact on the future operational performance of the company. This study also examined the indirect effect between an overconfident CEO on subsequent operational performance through real earnings management. The results of this study indicate that an overconfident CEO has a negative effect on the company's future operational performance, especially in its declining value of operating cash flow. Nevertheless, as shown in the

measurement of CEO overconfidence, calculated by using the investment rate and photographic media size (found in the company's annual report). This study shows that an overconfident CEO has no relationship to real earnings management.

The results of this study also indicate that real earnings management has a negative impact on the company's operational performance in the long run. Companies that perform real earnings management will experience a decrease in return on assets and operating cash flow in subsequent years. However, this study does not prove the relationship of real earnings management mediation to an overconfident CEO and a firm's future operational performance.

This study has limitations due to the measurement of CEO overconfidence still needs to look for the right metrics to describe the existence of an overconfident CEO. In addition, this study has likewise not covered the occurrence of CEO turnover in the subsequent period so that it can affect the results of research, because this study measured future company performance variables.

However, the findings of this study may provide policy makers with a new perspective regarding the impact of an overconfident CEO on the future operational performance of a company. Further research can be used for longer periods to obtain more accurate and generalizable results. In addition to further research related to the measurement of CEO overconfidence variables are needed. The metrics of an overconfident CEO can be used in other forms of measurement or incorporating several measurements in order to measure CEO overconfidence more accurately.

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