The Impact of Board Characteristics on Earnings Management Practices: Evidence from Egypt

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Abstract

This study explores the impact of board characteristics on earnings management practices. In particular, it investigates whether board characteristic in a firm is associated with earnings management. It uses the annual reports of the Egyptian non-financial firms listed in the EGX 100 index from 2014 to 2018. The final sample study is 345 firm-year observations. The earnings management of the annual report is measured using modified jones**.** The results of the study concluded that there is an influence on the independence of the members of the board of directors as one of the characteristics of the board of directors on the earnings management. It also found that there is no relationship between the size of the board of directors and the number of board meetings on the earnings management in the Egyptian environment, during the study period.

Keywords: Board characteristics; Earnings management; Egyptian firms; Modified jones.

1. Introduction

Earnings management is one of the most important methods of accounting data management, which is used by companies to disclose information, which primarily serves their interests, because of multiple parties related to the company, in addition to the conflict of interests among those parties. Moreover, earnings management has been the focus of many professional bodies for more than thirty years, especially after the global financial crisis

in 2008, and the collapse of many major international companies, which led to weak investor confidence in the accuracy of financial information (Zhang, 2017). The first definition that dealt with earnings management-focused as deliberate interference by firms using personal judgment in the financial reporting process and structuring operations. With a goal, modifying the content of financial reports by taking advantage of possible alternatives and accounting estimates that comply with generally accepted accounting principles (GAAP). To mislead some of the stakeholder's interests either from the company’s economic performance or to influence contractual outcomes that depend on numbers public accounting (Dechow and Skinner, 2000). Burgstahler and Dichev (1997), provide two tests to support the contention that earnings management drives the link. First, they show an increase in the level of cash flows around the zero earnings reference point, and suggest that this is consistent with cash flow manipulation to boost earnings However, given the well-known positive relationship between cash flows and earnings; an increase in cash flows is expected around the kink.

In addition, the traditional view in accounting is that because accruals contain estimates and forecasts, they are easier to manipulate than cash flows. If the kink is due to earnings manipulation it would seem reasonable to assume that managers would use the flexibility offered by accruals to achieve this goal.

Kiattikulwattana (2014) argued that earnings management can be classified into two types: an accounting action and a real economic action. The accounting action is commonly known as accrual-based earnings management in which certain accruals are manipulated with no direct cash flow effect. The accrual-based earnings management is related to the unreasonable change in accounting policy or accounting estimates (e.g. the useful life of assets, the residual value of assets, the number of doubtful

accounts) and change in accounting choices (e.g. depreciation method) to meet target earnings numbers.

The second type of earnings management is also known as real-based or transaction-based earnings management. This type of earnings management affects cash flow. Healy and Wahlen (1999), Dechow and Skinner (2000), and Roychowdhury (2006) point to the acceleration of sales, the alteration in shipment schedules, the delay of research and development expenses, the delay of maintenance expenditure, and the increase in production as examples of the real earnings management methods available to managers. Roychowdhury (2006) demonstrates that sales manipulation, reduction in discretionary expenditures (e.g. R&D, advertising, and maintenance), and overproduction activities can be detected from abnormal cash flow from operations, abnormal discretionary expenses, and abnormal production costs, respectively. On the other hand, Jensen (1993) argues that small boards are more effective in monitoring a CEO's actions, as large boards place a greater emphasis on ''politeness and courtesy'' and are therefore easier for the CEO to control. Yermack (1996) also concludes that small boards are more effective monitors than large boards. These studies suggest that the size of a firm's board should be inversely related to performance. If small boards enhance monitoring, they would also be associated with less use of earnings management.

2. Literature review and hypothesis development

There is prior literature that examined the determinants of earnings management. Davidson (2005) investigates the role of a firm's internal governance structure in constraining earnings management. It is hypothesized that the practice of earnings management is systematically related to the strength of internal corporate governance mechanisms, including the board of directors, the audit committee, the internal audit function, and the choice of an external auditor. Based on a broad cross-

sectional sample of 434 listed Australian firms, for the financial year ending in 2000, a majority of non-executive directors on the board and the audit committee are found to be significantly associated with a lower likelihood of earnings management, as measured by the absolute level of discretionary accruals. The voluntary establishment of an internal audit function and the choice of an auditor are not significantly related to a reduction in the level of discretionary accruals. Our additional analysis, using small increases in earnings as a measure of earnings management. Besides, Lang et al. (2006) aimed to compare earnings management in American firms with non-American firms listed in the financial stock market. The study focused on checking whether the characteristics of accounting information differ from the characteristics of the information provided by American companies. Factors that affect the financial reports of companies listed in the US financial markets. The study reached results, including Providing the environment for awareness of the rules of governance. The companies between the management leadership and the stakeholders that deal with these companies. They recommended activating Audit committees to play their role in evaluating companies.

Cornett et al. (2008) argued the impact of governance structure and incentive-based compensation on firm performance stands up when measured performance is adjusted for the effects of earnings management. Institutional investors, Institutional ownership of shares, representation on the board of directors, and the presence of independent outside directors on the board all reduce the use of discretionary accruals. These factors largely offset the impact of option compensation, which strongly encourages earnings management. Adjusting for the impact of earnings management substantially increases the measured importance of governance variables and dramatically decreases the impact of incentive-based compensation on corporate performance. Yu (2008) examined the role of the behavior of financial analysts in corporate governance by focusing on the effect that

their scrutiny has on earnings management. Controlling for other firm characteristics, including institutional ownership, in addition, this study focused on the impact of the analysis of financial statements and the distribution of information in companies to investors. This study concluded that the level of coverage of the financial analyst is the least of the gains related to the earnings management, financial analysts are not only the performance of information sharing, this study recommended setting more stringent laws to deter earnings management opportunism. Moreover, Ahn and Choi (2009) examined the corporate governance role of banks by investigating the effect of bank monitoring on the borrowers' earnings management behavior. The analyses suggest that a borrowing firm's earnings management behavior generally decreases as the strength of bank monitoring increases. The strength of bank monitoring is measured as (1) the magnitude of a bank loan, (2) the reputation (rank) of a lead bank, (3) the length of a bank loan, and (4) the number of lenders. These results imply that bank monitoring plays an important role in the corporate governance of bank-dependent firms. The analyses show that collateral and loan types are significantly associated with borrowers' earnings management behavior while refinancing and loan purposes have no association. Mahdavi et al. (2012) show the impact of earnings management on corporate performance in the Malaysian Stock Exchange, for mergers and acquisitions that were financed in cash, or through the way of stocks. They find an inverse relationship between earnings management and corporate performance, after the date of acquisition for companies that finance their operations through shares. Because there are incentive strengths that these companies have in managing their earnings upwards before the date of the announcement of these operations, to reduce the cost of the operation and enhance the value of their shares.

3. Methodology

3.1 Measuring Earnings management

Earnings management was measured by applying the modified Jones model as the best and most common model used in previous studies to measure earnings management. This depends on the discretionary accrual estimate as an indicator of the existence of earnings management practices, given that the discretionary accrual is the most subject to manipulation by managers (Twedt, 2016; Hughes and Pae, 2015; Du and Shen, 2018; Ayedh et al., 2019), and is characterized by the modified Jones model. By relying on many variables in calculating optional benefits, the model is applied to each sector for each year separately, according to the following steps:

Calculate total accrual: the total accrual is calculated by the difference between the net income before the extraordinary items "operating profit" and the net cash flows from operating activities according to the following formula:

$$TA_{it} = IBX_{it} - OCF_{it}$$

Whereas:

i = represents the company, and takes the value from 1 to 69 "number of companies".

t = represents the year and is limited to 2010 to 2018.

TA it = represents the total accruals of i company in year t.

IBX it = the income before the extraordinary items of company i in year t.

OCF it = represents the cash flows from the operating activities of company i in year t.

The parameters of the following regression model are estimated through which the non-discretionary accruals of the study sample companies will

be calculated according to the amendment presented by (Kothari et al., 2005), which includes the company's financial performance represented in the rate of return on assets, as follows:

$$\frac{TA\ it}{A\ t-1} = \beta\ 1 \frac{1}{A\ t-1} + \beta\ 2\ \frac{\Delta REV\ it}{A\ t-1} + \beta\ 3\ \frac{PPE\ It}{A\ t-1} + \beta 4\ ROA\ It + \epsilon\ it$$

Whereas:

A t-1 = Total assets of company i at the end of year t-1.

ΔREV it = represents the change in company i's revenue in year t from year t-1.

ΔAR = it represents the change in the receivables accounts of company i in year t from year t-1.

PPE it = represents the fixed assets during the year.

ROA It = represents the rate of return on assets.

The parameters of the previous regression model for each variable are estimated after entering and running the data on the SPSS program. Then calculate the nondiscretionary Accruals (NDA). These accounts are produced through the administration's use of the accrual basis, and depend on specific and clear criteria to determine their value. Therefore do not contain earnings management practices, and their value can be estimated for each of the study sample companies and during each year of the study by using the parameters of the previous regression model in the following equation:

$$DA_{it} = \frac{TA\ it}{A\ t-1} - NDA_{it-1}$$

Whereas:

NDA it = represents the non-discretionary vesting in year t.

β1, β2 and β3, β4 are parameters that were estimated by the previous model.

Discretionary Accruals (DA) is estimated by the difference between the total accrual (TA) and the non-discretionary accrual (NDA) as follows:

(DA) is used as an indicator of earnings management, where the positive value indicates the company's practice of managing earnings by increasing income, the negative value indicates the practice of earnings management by reducing income, and if it is equal to zero, this indicates that the company does not practice earnings management.

3.2 Empirical model

In the regression model, this study control for variables that affect earnings management. The study control a firm's size. Moreover, the study controls for the firm's leverage level because firms with higher leverage ratios have earnings management (Mahdavi et al. 2012). The study also controls for the firm profitability.

To test the H1 hypothesis that addresses the impact of board characteristics on the earnings management, this study develops Model 1 by regressing the board characteristic on the earnings management and control variables, as follows:

$ERN - MNGT_{it}$ Is the earnings management of a firm *i* in year *t* as measured by modified jones.

$$ERN - MNGT_{it} = \beta_0 + \beta_1 BRD - SIZE_{it} + \beta_2 BRD - INDEP_{it} + \beta_3 BRD - MEET_{it} + \beta_4 FSIZE_{it} + \beta_5 LEVRG_{it} + \beta_6 PROFT + IND_EFFECT + \varepsilon$$

3.3 Sample selection and data

The study uses the annual reports of the non-financial Egyptian firms listed on the EGX 100 index from December 2014 to December 2018. This study excludes 19 firms of financial firms due to their specific rules and regulations. Likewise, exclude eight firms that have changed their year-end date (to 30 June). Moreover, we exclude four firms whose financial performance is presented in dollars rather than Egyptian Pounds to have consistency in the financial data. This screening process leaves a final sample of 69 firms with complete sets of annual reports and other data from 2014 to 2018. This study calculates the mean, minimum and maximum values for the firm size of the study sample and the EGX 100 firms.

3.4 Descriptive statistics

Table 1 summarizes descriptive statistics of dependent, independent, and control variables. The average of earnings management is 0.0199 with a maximum of 12.35 and a minimum of -0.0724. The mean of board size is 9.30 with a maximum is 9 and a minimum is zero, in addition, the mean of the board independence ratio is 1.95 with a maximum of 9 and a minimum of 0. While the mean of board meetings during the year is 12.99 with a maximum of 17 and a minimum is one. In terms of control variables, the size of firms ranges from 219.658 to 10,297, with an average value of 28.352. The firms in our sample have a mean value of leverage of 0.3510. In addition, the mean of profitability is 10.0641, with a maximum value of 0.9173 and a minimum value of -1.6194.

Table [1] Descriptive statistics									
Variables	N	Mean	Median	Std. Dev.	Min	Max	P25	P50	P75
ERN-MANGT	345	0.0199	-0.0724	1.0800	-6.6283	12.4366	-0.2812	-0.0724	0.237
BRD-SIZE	345	9.30	10.00	2.439	4	14	8.00	10.00	11.00
BRD-INDEP	345	1.95	2.00	1.363	0	9	1.00	2.00	3.00
BRD-MEET	345	12.99	14.00	2.356	1	17	12.00	14.00	14.00
LEVRG	345	0.3510	0.3000	0.26118	0.00	2.49	0.1500	0.3000	0.520
FSIZE	345	28.352	10.241	4.29204	10,297	219.658	33.34	10.241	30.06
PROFT	345	0.0641	0.0421	0.1587	-1.6194	0.9173	0.0068	0.0421	0.109

The Pearson correlation matrix presented in Table 2 indicates that the ERN-MNGT is positively associated with BRD-SIZE. This suggests that firms with higher board size members have earnings management. ERN-MNGT is also positively associated with BRD-INDEP, BRD-MEET. However, it is negatively correlated with FSIZE. These suggest that larger firms have earnings management in their annual reports.

The Pearson coefficients can also be used to detect the multi-collinearity issue. It has been suggested that a multi-collinearity issue exists between independent variables if the Pearson correlation coefficients are 0.80 and higher (Gujarati and Porter, 2009). The Pearson correlation coefficients in Table 2 are less than 0.80, suggesting no multi-collinearity concerns. This study further check for multi-collinearity by estimating a Variance Inflation Factor (VIF), also called tolerance coefficients. The VIF/tolerance values tabulated with the regression results confirm no multi-collinearity issues .

Table [2] Pearson Correlation							
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
LEVRG [1]	1	.153**	0.041	0.032	0.091	.109*	-0.018
		0.005	0.448	0.555	0.093	0.044	0.732
FSIZE [2]	.153**	1	-0.017*	-0.062	0.039	0.098	-0.087
	0.005		0.060	0.251	0.473	0.070	0.105

ERN-MNGT [3]	0.041	-0.02*	1	0.039	0.042*	0.250*	0.062
	0.448	0.060		0.473	0.042	0.047	0.062*
PROFT [4]	0.032	-0.062	0.039	1	0.011	-0.050	0.052
	0.555	0.251	0.473		0.841	0.351	0.547
BRD-SIZE [5]	0.091	0.039	0.042*	0.011	1	.201**	0.003
	0.093	0.473	0.042	0.841		0.000	0.954
BRD-INDEP [6]	.109*	0.098	0.250*	-0.050	.201**	1	0.049
	0.044	0.070	0.047	0.351	0.000		0.367
BRD-MEET [7]	-0.018	-0.087	0.062*	0.033	0.003	0.049	1
	0.732	0.105	0.052	0.547	0.954	0.367	
	345						
Notes: *, **, & *** show significance at the 10%, 5% & 1% levels (two-tailed test), respectively.							

3.5 Empirical results

Testing H1: board characteristics impact on ERN_MNGT

Table 3 reports the estimation results of regression analysis. The adjusted coefficient of R2 is (0.214) that show the percentage of change in the dependent variable that is explained by the independent variables. Which

Variables	Beta	T. Test	VIF

means that the independent variables explain 21% of the change in the dependent variable "Earnings management" at a level of significance less than 0.01, which indicates the quality of reconciling the regression model, and the following are the estimates of the model parameters in order to measure the effect of the independent variables on the dependent variable. The value of the Variance Inflation Factor (VIF) is less than three, which means that the regression model does not suffer from the problem of multi-collinearity between the independent variables. This result confirms the results of the Pearson correlation, where the highest correlation coefficient represents 20% therefore does not exceed 80%, which indicates the enemy of the problem of the multi-collinearity between the independent variables.

		P-Value	Sig.	
BRD-INDEP	0.349	8.446	0.000	1.094
BRD-MEET	0.091	1.021	0.141	1.045
BRD-SIZE	0.036	0.683	0.495	1.017
FSIZE	0.046	-0.881	0.379	1.034
LEVRG	0.003	0.097	0.426	1.031
FSIZE	0.015	1.896	0.043	2.324
Dependent variable: ERN-MNGT				
Adjusted R^2: 0.214				
F-test: 0.000[b]				

4. Conclusion

This paper examines the relationship between the board characteristics and earnings management, using 69 firms listed on the Egyptian Stock Exchange during the period 2014–2018. This study controlled for three firm characteristics –firm size, leverage and profitability.

This study contributes to filling a gap in the literature, in which very few researchers examine the effect of the board characteristics and earnings management. The findings show that there is a positive relationship between the ERN_MNGT and BRD_INDEP.

The results of the study provide some implications for both researchers and practitioners in Egypt. For researchers, this study extends the previous related studies by examining the earnings management in Egypt as an under-developed country. However, there are some limitations. While the models' independent and control variables are all validated by prior research, there may be other existent factors influencing the earnings management that were not investigated by this study. Furthermore, other researchers may deal with different variables, such as financial expertise and so on. The same methodology can be used by other researchers using

data from other emerging markets where there is a lack of evidence to examine the effect of board characteristics on the earnings management.

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