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# The Relation between Audit Committee Characteristics and Earnings Management: Evidence from Firms Listed on the Egyptian Stock Market

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#### **Abstract**

Audit committees have drawn more attention globally during the past 20 years. The audit committee, one of the core elements of corporate governance systems, is a powerful tool for regulating and overseeing management. It could have a big impact on how internal firm-board monitoring decisions are made. This study seeks to identify the unique contributions made by each proxy and to provide compelling evidence that demonstrates how an Audit Committee mechanism affects Earnings Management. This paper aims to investigate how the audit committee's characteristics affect earnings management in Egypt. Using a sample of 80 non-financial Egyptian companies listed on the Egyptian Stock Exchange for the eight financial years from 2012 to 2019. Audit Committee characteristics are represented by Audit Committee independence, Audit Committee size, the frequency of Audit Committee meetings, Audit Committee expertise, and Audit committee gender. Discretionary accruals are used as a proxy for Earnings Management. Panel data regression was used in the archival modeling study. Using a multiple regression model to test the relationship among the variables, the results provide evidence that Audit Committee Size, Audit Committee Expertise and Audit Committee Gender have a significant negative relationship on Earnings Management. Also, there is no significant relationship between Audit Committee Meetings and Earnings Management. Audit Committee Independence has a positive and significant relationship with Earnings Management. This study offers numerous recommendations to the regulatory authorities in Egypt on how to improve and strengthen the internal governance systems of businesses, particularly the Audit Committee.

# **Keywords**

Corporate Governance, Audit Committee's Characteristics, Earnings Management, Egypt

#### 1. Introduction

Regulators from all around the world are paying more attention to the oversight function that audit committees play in the financial reporting process as a result of recent high profile corporate scandals like those involving Enron, Xerox, and WorldCom. Following this scandal, the financial markets lost trust in financial reporting, and market participants criticized the accountants and auditors. Governments and regulatory agencies started implementing more strict corporate regulation systems as a result. One of the most important components of corporate governance systems and a strong instrument for managing and controlling management is the audit committee. It could be a crucial component of the system for internal business board monitoring and decision-making (Fama & Jensen, 1983). Nearly every corporate governance rule in the world mandates or strongly encourages businesses to set up an audit committee to carry out specific activities that guarantee the accuracy of the audit and the reliability of the financial statements. The Corporate Governance Code (Egypt Code of Corporate Governance (ECCG), 2005/2011/2016) in Egypt mandates that Egyptian firms create an audit committee to oversee internal audit activities, assess and report on the efficiency of internal control systems, and make recommendations about the appointment or dismissal of external auditors. However, audit committees are not always effective and their existence may not be sufficient.

Abbott and Parker (2000) contend that the impact of the audit committee's characteristics should receive more consideration because the audit committee's mere presence does not guarantee that it will function as an effective monitoring body. As a result, in order to ensure the effectiveness of the audit committee, corporate governance standards specify certain characteristics for its composition and structure. As a result, increased audit quality has the potential to limit earnings management and hence lower reported earnings uncertainty. Furthermore, because earnings management practices are restricted, investors have a greater ability to determine a firm's true value. The use of earnings management by managers to either maximize their own interests or the interests of the company's shareholders creates an agency problem. Conflicts arise, though, when both parties have divergent interests (Jensen, 2005; Leuz et al., 2003). According to agency theory, the monitoring procedures are meant to balance the interests of shareholders and managers and to minimize any consequent conflicts of interest and opportunistic behavior. According to Arens et al. (2010), the audit role reduces information asymmetry and conflicts of interest between managers and shareholders. Since the audit committee's primary responsibilities include improving the quality and accuracy of financial information by constantly keeping an eye on the management's opportunistic behaviors, it is seen as a monitoring mechanism designed to reduce information asymmetries between management and stakeholders (Li et al., 2012). According to earlier research by Bédard and Gendron (2010), Dhaliwal et al. (2010), Li et al. (2012), the efficacy of the audit committee is largely dependent on the audit committee's characteristics. In order to support the audit committee's capability of identifying and avoiding earnings management, the ideal audit committee size along with a good combination of talents and expertise are important. This study aims to assess the effectiveness of audit committees in preventing or limiting managers' manipulation of earnings. The research's conclusions should be helpful to legislators, regulators, and corporate boards in assessing the effectiveness of audit committees in assuring the quality of earnings.

An active audit committee ensures better corporate governance standards, which ultimately benefit all stakeholders. The definition of an active audit committee by Dezoort et al. (2002) placed a significant emphasis on the interests of the stakeholders. They said that preserving the interests and welfare of stakeholders is the audit committee's main goal. Many authors have tried to explain the connection between corporate governance and stakeholders. While Mattingly et al. (2009) reach the conclusion that stakeholder management is associated with great corporate governance, high earnings quality, and low earnings management, Mallin (2007) maintains that stakeholders operate as external managers and can significantly affect monitoring systems.

# 2. Literature Review and the Hypotheses

This section will discuss the agency theory and the development of research hypotheses. It will look into how the Audit Committee affects earnings management procedures in Egypt by examining the impact of the Audit Committee's independence, size, and number of meetings per year, gender, and expertise.

# 2.1. Agency Theory

The link between the company's owners, who are the principal, and the managers, who are the owners' agents, is explained by the agency theory. Modern businesses employ managers to run the company on their behalf because the owners are unable to supervise the operations due to the size of the company, the dispersion of ownership caused by a large number of shareholders, and the nature of the business, which demands professionalism. Although managers are expected to work in the owners' best interests, they occasionally act against those interests, which lead to principal agent issues. The agency theory, according to Jensen and Meckling (1976), is crucial in explaining how people behave when one person delegated tasks to another with the expectation that the agent would make decisions that are in the principal's best interest. Agency theory explains the motivation behind earnings management since managers are motivated to

manipulate earnings to raise their bonuses, remuneration, and commissions, which are intimately related to the profitability of the firm (Booth & Schulz, 2004, Shapiro, 2005). The audit committees are essential bodies, in accordance with the agency theory, that makes sure management is working to enhance and expand the wealth of all shareholders (Al-Matari et al., 2016). The audit committee's function reduces information asymmetry, which helps to decrease and resolve agency issues (Aldaoud, 2015). Additionally, Turley and Zaman (2004) explain how the audit committee's efficient oversight safeguards the interests of shareholders in light of the annual financial reporting, the effectiveness of external auditing, and internal control.

## 2.2. Audit Committee Characteristics and Earnings Management

The Audit Committee's importance in improving financial reporting quality has gained increased recognition in recent years. However, there hasn't been much investigation on the relationship between audit committee characteristics and earnings management in developing nations. According to studies, the Audit Committee's role is essential to upholding the credibility of the financial statements (Fama & Jensen, 1983; Abbott et al., 2000). The Audit Committee is viewed as a monitoring tool created to remove information gaps between management and stakeholders because one of its main duties is to regularly monitor the management's opportunistic actions (Pucheta-Martinez & de Fuentes, 2007; Dhaliwal et al., 2010; Li et al., 2012). According to the literature on audit committees, the qualities of the audit committee are what actually determine how effective the committee is (Dhaliwal et al., 2010; Li et al., 2012). The optimal size of the Audit Committee and the proper combination of skills and knowledge are crucial in order to support the Audit Committee's potential for identifying and avoiding earnings management. Organizations with Audit Committees that have a higher proportion of independent members with company or investment banking backgrounds, according to Xie et al. (2003), have lower rates of accrual-based earnings management. According to Abbott et al. (2000), more Audit Committee meetings are associated with fewer penalties for fraud and aggressive accounting. Empirical evidence also points to the advantages of having independent directors on the Audit Committee, with earlier studies showing that the size of the Committee and the members' financial expertise can significantly affect the oversight of earnings management (Klein, 2002; Pucheta-Martinez & de Fuentes, 2007). The next section of this paper will look into how the Audit Committee affects Egypt's earnings management procedures by examining the impact of the Audit Committee's independence, size, number of meetings per year, gender, and expertise.

## 2.2.1. Audit Committee Size and Earnings Management

Menon and Williams (1994) state that an Audit Committee with less than three members is likely to fail. According to the ten recommendations made regarding the Audit Committee by the Blue Ribbon Committee in 1999, an effective Audit

Committee of listed companies should be made up of at least three directors. The Egyptian Corporate Governance Code (2011) states that the audit committee must have a minimum of three directors. According to Abbott et al. (2004), the Audit Committee should have a size of between 3 and 4. According to Vafeas (2005), the Audit Committee's oversight will be less effective if it is too small because there won't be enough members to serve on it. This may be because a small committee cannot effectively carry out its responsibilities, while a large committee may suffer from coordination and procedure challenges, which would be another reason contributing to poor monitoring (Vafeas, 2005). Numerous studies have examined the relationship between the size of the audit committee and earnings management. The extensive investigation, however, has only generated mixed results: The size of audit committees and earnings management were found to be significantly negatively correlated by Baxter and Cotter (2009), Lin and Hwang (2010), and Fodio et al. (2013). On the other hand, in their examination of 434 publicly traded Australian corporations, Davidson et al. (2005) found no connection between the number of discretionary accruals and the size of audit committees. According to Qaraqish (2009) there is no correlation between an improvement in the quality of the earnings and the size of the audit committee. Furthermore, neither Alkadi et al. (2012) nor Abbott et al. (2004) found any relationship between the size of the audit committee and the level of earnings management.

Based on the previous discussion, the study will examine the relationship between Audit Committee size and Earning Management and test the following hypothesis:

H1: There is a significant negative relationship between audit committee size and earnings management.

#### 2.2.2. Audit Committee Independence and Earnings Management

An independent director is one who has no material financial connections to the firm or anyone associated with the company that would affect their independence. The empirical evidence on audit committee independence supports the agency theory's argument that a non-executive director's independence is a critical element of a committee's ability to carry out an effective monitoring function.

According to numerous studies (Klein, 2002; Xie et al., 2003; Bédard et al., 2004; Agrawal & Chadha, 2005), independent audit committees are more likely to be related to reduced earnings management, a lower frequency of earnings restatement, and a lower risk of financial statement fraud. The independent audit committee is expected to provide honest assessment and judgment in addition to having the ability to supervise management successfully. In addition, Bédard et al. (2004) discovered in their study of 300 U.S. corporations that having a majority of independent directors on the audit committee is insufficient to stop earnings management. According to their findings, a 100% independent audit committee is the only one that can guarantee efficient monitoring and reduce the amount of aggressive earnings management in firms. Similar findings

are reported by Abbott et al. (2002), who assert that a fully independent audit committee is significantly associated with a lower frequency of financial misrepresentation. The results of Bédard et al. can be contrasted with those of Klein (2002), who finds that the remaining directors' independence is no longer essential once the audit committee has a majority of independent directors. Klein claims that there appears to be a direct link between unusual accruals and the audit committee consisting mainly of independent directors. However, she finds no link between accounting fraud and an audit committee that consists solely of independent directors. Numerous studies have examined the relationship between audit committee independence and earnings management. The extensive investigation, however, has only generated mixed results: According to Benkel et al. (2006) higher levels of audit committee independence are associated with lower levels of earning management in Australia. The same Davidson et al. (2005) find related findings. Discretionary accruals, a proxy for earnings management, and audit committee independence were found to be significantly negatively correlated in Egypt by Soliman and Ragab (2014). A negative association between aggressive earnings management and fully independent audit committees was shown in the United States by Bédard et al. (2004). Fodio et al. (2013) found that there is a positive relationship between audit committee independence and earnings management. However, studies by Waweru and Riro (2013) in Nairobi, Siregar and Utama (2008) in Indonesia, Habbash (2019) in Saudi Arabia, and Lin et al. (2006) in the United States revealed no correlation between the independence of the audit committee and earnings management. Based on the previous discussion, the study will examine the relationship between Audit Committee independence and Earning Management and test the following hypothesis:

H2: There is a significant negative relationship between audit committee independence and earnings management.

#### 2.2.3. Audit Committee Meetings and Earnings Management

Numerous studies claim that regular meetings of audit committees throughout the fiscal year are necessary for effective monitoring. The more frequently they meet, the better they are able to perform their supervisory responsibilities (Abbott et al., 2004; Xie et al., 2003). Numerous kinds of research have examined the relationship between Audit Committee meetings and Earning Management. However, the lengthy investigation only led to inconsistent results, which they ascribe to the differences in corporate governance practices across each country as a result of each country's unique legal systems, cultures, and political challenges. According to Abbott et al. (2000), Lin and Hwang (2010), and Metawee (2013) discovered a significant negative association between the attendance of audit committee meetings and practices of earnings management. While other studies found the opposite, like Rajpal (2012), Yang and Krishnan (2005), and Bédard et al. (2004) found no association between the frequency of audit committee meetings and the degree of earnings management.

Based on the previous discussion, the study will examine the relationship between audit committee meetings and Earning Management and test the following hypothesis:

H3: There is a significant negative relationship between audit committee meetings and earnings management.

## 2.2.4. Audit Committee Expertise and Earnings Management

Audit committees are in charge of monitoring the financial reporting process and ensuring the accuracy of financial statements. The audit committee's members need to have some financial expertise. Baxter and Cotter (2009) stated that the amount of knowledge of the audit committee might lead to better financial reporting. This relates to audit committee members having the appropriate skills, certifications, expertise, and knowledge of accounting and financial matters that would help improve the effectiveness of the audit process and ensure the accuracy of financial reporting (Hamdan et al., 2013). According to DeFond and Francis (2005), market players react favorably to the formation of audit committees with financial knowledge in accounting, but no reaction has been noted for audit committees with non-accounting financial expertise. This is because including committee members with accounting and finance experience strengthens the committees' oversight functions and convinces investors that the corporations aim to generate financial reports of high quality. They argue that businesses with a relatively high level of corporate governance are the key improvers of the positive market response.

They reach the conclusion that an audit committee with financial knowledge enhances a board's capacity to protect shareholders' interests and increase the value of their company. Studies by Hamdan & Mushtaha (2011) and Emmanuel et al. (2014) found a positive correlation between the quality of financial reports and the financial experience of audit committee members. The majority of past studies support the negative relationship between the audit committee's expertise and earnings management. The knowledge of Audit Committee members is negatively correlated with earnings management, according to studies by Xie et al. (2003), Choi et al. (2004), and Lin and Hwang (2010). According to Nelson and Devi's (2013) examination of the association between Audit Committee experts and financial reporting quality as measured by earnings management, the involvement of both non-accounting and accounting experts is important to reduce the amount of earnings management.

Based on the previous discussion, the study will examine the relationship between audit committee expertise and Earning Management and test the following hypothesis:

H4: There is a significant negative relationship between Audit committee expertise and earnings management.

2.2.5. Female Audit Committee Members and Earnings Management

In addition to being a matter of governance, the participation of female directors

in subcommittees like the audit committee requires careful consideration. Given the qualities they are likely to bring to the corporate boardroom and their contributions to corporate governance; it is not surprising that women are participating in important subcommittees like the audit committee. Women's audit committees can reduce earnings management because they are morally and conservatively more cautious than men (Lakhal et al., 2015). Saona et al. (2019) and Gavious et al. (2012) claim that women tend to be more conservative and risk-averse than men. Female audit committee members are more likely than their male directors to comment and take action to strengthen board supervision and end earnings management practices. Gul et al. (2007) found that U.S. corporations with at least one non-executive female director on the board and when at least one member of the audit committee is a female director had significantly better accruals quality and much lower earnings management. According to Zalata et al. (2018), audit committees with a higher proportion of female financial specialists have a more significant effect on earnings management. According to Conyon and He (2017), gender diversity on boards and audit committees improves business performance. Gender diversity on audit committees enhances monitoring and the quality of financial reporting because female directors have fundamentally different methods of monitoring and quick response to fraud. Numerous studies have examined the relationship between the audit committee gender and earnings management. The extensive investigation, however, has only generated mixed results: Sudarman and Hidayat (2019) examined the impact of audit committee gender on the management of earnings of manufacturing businesses listed on the Indonesian Stock Exchange from 2013 to 2017. The study found that the gender of the audit committee has a considerable negative impact on the management of the earnings of industrial businesses listed on the Indonesian Stock Exchange. The study found that when it comes to financial reporting, women on the audit committee are more cautious and allow for greater discretion. Thiruvadi and Huang (2011) used the 320 US businesses from the S&P Small Cap 600. They found that the audit committee's inclusion of a female director places restrictions on accrual-based earnings management. They used numerous linear regressions to analyze the data. They found that in Indonesian manufacturing companies, female audit committees can reduce earnings management. Gull et al. (2018) used a sample of French listed firms between the years 2001 and 2010 to investigate the relationship between female directors and earnings management. When combined with business expertise in audit committee membership, they found that female audit committee directors have a tendency to reduce the level of corporate earnings management. Temile et al. (2018) look at the impacts of gender diversity, earnings management strategies, and corporate performance of listed firms in Nigeria from 2010 to 2014. The data were evaluated using regression analysis, and it was found that whereas female chief financial officers have a significant positive effect on earnings, female chief executives of the enterprises have a negative but insignificant impact on earnings. The findings indicate a negative but insignificant correlation between the performance of the company and the presence of women on audit committees. However, as the percentage of women working in enterprises increases, so does the effectiveness of such firms in Nigeria. However, there is evidence that female directors have no effect on how the corporation manages its earnings. Loualalen et al. (2015) conducted their analysis using a sample of 10 Canadian businesses that were listed on the Toronto Stock Exchange between 1999 and 2003. They found that the audit committee's gender had no effect on the firm's earnings management.

Sun et al. (2011) used a sample of 175 US companies from the S&P 500 between 2003 and 2005. They focused on the proportion of women on audit committees with total independence. Using Jones (1991) discretionary accruals as their measure of earnings management, they found no association between the proportion of women on the audit committee and the degree of earnings management. If earnings management is unethical, female directors will respond because managers try to offer biased information in their favor. Female board members try to minimize earnings management (Sun et al., 2011). Based on the previous discussion, the study will examine the relationship between Female audit committee members and Earning Management and test the following hypothesis:

H5: There is a significant negative relationship between the presence of a female in the audit committee and earnings management.

## 3. Research Methodology

## 3.1. Data Collection and Sample Selection

The sample consists of the top 100 Egyptian companies (EGX 100) listed on the Egyptian Exchange (EGX) for the period of eight years, from 2012 to 2019 (Table 1), which are 100 firms belonging to 15 sectors, which are Contracting & Construction Engineering, Basic Resources, Food & Beverages, Paper & Packaging, IT, Media & Communication Services, Building Materials, Textile & Durables, Real Estate, Energy & Support Services, Travel & Leisure, Health Care & Pharmaceuticals, Industrial Goods, Services & Automobiles, Shipping & Transportation Services, Trade & Distributors, and Utilities. Due to their unique and varied corporate governance and disclosure standards, financial institutions are excluded from this study due to the nature of their financial statements. However, all non-financial institutions from all industries are included. The final sample consists of 80 firms. This paper focuses on and uses secondary data, represented numerically using the reports collected from Egyptian companies listed on the Egyptian Exchange (EGX) for the period of eight years from 2012 to 2019. The data was collected from the official website of the Egyptian stock market to get the data required for the research variables. Corporate governance data will be collected manually. And also collected from 'Egypt for Information Dissemination Company' (EGID) in order to complete a balanced panel data set

**Table 1.** Sector classification of the sample firms.

#	Sector	Number of the sample firms
1.	Contracting & Construction Engineering	5
2.	IT, Media & Communication Services	3
3.	Paper & Packaging	3
4.	Basic Resources	13
5.	Building Materials	8
6.	Textile & Durables	5
7.	Real Estate	12
8.	Energy & Support Services	2
9.	Travel & Leisure	3
10.	Health Care & Pharmaceuticals	3
11.	Industrial Goods, Services and Automobiles	3
12.	Shipping & Transportation Services	4
13.	Trade & Distributors	1
14.	Food & Beverages	14
15.	Utilities	1
t	Total	80

and avoid any survivorship bias. The top 100 Egyptian listed companies are specifically chosen due to the data availability and reliability in contrast to non-listed companies.

## 3.2. Variables and Measurement

## 3.2.1. Dependent Variable

The dependent variable for this study is Earnings Management and it will be measured through discretionary accruals. Following Etemadi and Moghadam (2014), and Hassan and Ahmed (2012), this study will employ the Modified Jones Model (1991), which was modified by Dechow et al. (1995), and is a more powerful model for detecting earnings management. The cash flow statement approach will be used in this study to determine total accruals.

Discretionary accruals (DA) are defined as the difference between total accruals (TA) and non discretionary accruals (NDA).

First, determining the total accrual value is as follows:

$$TAC_{it} = NI_{it} - CFO_{it} \tag{1}$$

where:

 $TAC_{it}$  = Total accruals of company *i* in time *t*;

 $NI_{it}$  = Net income company *i* in time *t*;

 $CFO_{it}$  = Cash flow from operation activity of company *i* in period *t*;

**Second**, calculate the estimated accruals value using regression equation.

$$\frac{TAC_{it}}{TA_{it-1}} = \beta_0 \left( \frac{1}{TA_{it-1}} \right) + \beta_1 \left( \frac{\Delta REV_{it}}{TA_{it-1}} \right) + \beta_2 \left( \frac{PPE_{it}}{TA_{it-1}} \right) + \varepsilon_{it}$$
 (2)

where:

 $TAC_{it}$  = total company accrual *i* in year *t*;

 $TA_{it-1}$  = total assets for company *i* for year t-1;

 $\Delta Rev_{it}$  = change in net revenues for sample company *i* in year *t*;

 $PPE_{it}$  = fixed assets (gross property, plant and equipment) of the company i period t.

Third, calculate non discretionary accruals (NDA) as follows:

$$NDA_{it} = \beta_0 \left( \frac{1}{TA_{it-1}} \right) + \beta_1 \left( \frac{\Delta Rev_{it} - \Delta Rec_{it}}{TA_{it-1}} \right) + \beta_2 \left( \frac{PPE_{it}}{TA_{it-1}} \right) + \varepsilon_{it}$$
 (3)

where:

 $NDA_{it}$  = nondiscretionary accrual in year t;

 $\Delta Rev_{it}$  = change in net revenues for sample company *i* in year *t*;

 $\Delta Rec_{it}$  = change in net receivables for sample company *i* in year *t*;

 $PPE_{it}$  = fixed assets (gross property, plant and equipment) of the company i period t;

 $TA_{it-1}$  = total assets for sample company i in year t-1;

 $\beta$  = fitted coefficient obtained from the regression results in the calculation of total accruals.

**Finally**, calculate discretionary accruals (DA) as a proxy for earnings management as follows:

$$DA_{it} = \frac{TAC_{it}}{TA_{it-1}} - NDA_{it} \tag{4}$$

While discretionary accruals are considered in signed value as a proxy for earnings management, the study also performs empirical tests using absolute value to measure the overall propensity to earnings management.

#### 3.2.2. Independent Variables

To measure the characteristics of the audit committee, the research chooses Audit Committee independence, Audit Committee size, the frequency of Audit Committee meetings, Audit Committee expertise, and Audit committee gender as independent variables.

This study tried to look at the possibility of the relationship between a dependent variable and independent variables. The relationship between a dependent variable and independent variables is explained in **Figure 1**.

#### 3.2.3. Control Variables

The Control variables in the present study are Firm size, Big 4, Block holder ownership, Managerial ownership and Firm Leverage. **Table 2** presents a summary of all the variables including the dependent, independent and control variables of the study.

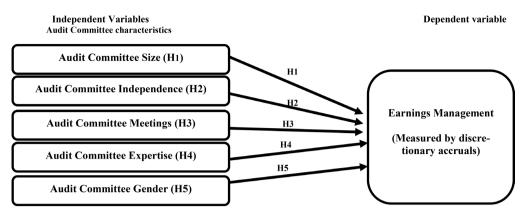


Figure 1. Relationship diagram between independent variables and dependent variable.

Table 2. Summary of dependent, independent and control variables.

Variables	Measures	Representative studies		
Dependent variable				
Earnings Management	Discretionary Accruals (DA) measured by the modified Jones model	e Baxter and Cotter (2009); Lin and Hwang (2010); Hassan and Ahmed (2012); Fodio et al. (2013); Etemadi and Moghadam (2014); Katmon and Farooque (2017).		
Independent variables Aud	lit Committee characteristics			
Audit Committee Size (ACSize)	It is a total number of audit committee Members.	Abbott et al. (2000); Dhaliwal et al. (2010); Hamdan & Mushtaha (2011); Thiruvadi & Huang (2011);		
Audit Committee Independence (ACIND)	The percentage of number of independent director over the total number of directors in the audit committee	Aldamen et al. (2012); Li et al. (2012); Fodio et al. (2013); Metawee (2013); Abdullahi & Yunusa (2016); Lubis and Adhariani (2019); Rajeevan and Ajward (2019); Meah et al. (2021).		
Audit Committee Member's Expertise (ACEXP)	The percentage of members with accounting or financial expertise on the audit committee.			
Audit Committee Meetings (ACMT)	Number of meetings of audit committees per year.			
Audit Committee Gender (ACG)	The percentage of female members in audit committee.			
Control variables				
Firm size (Size)	Natural log of total assets.	Bartov et al. (2001); Xie et al. (2003); Davidson et al. (2005); Rahman and Ali (2006); Chen et al. (2007); Yang et al. (2008); Banderlipe (2009); Sáenz González and García-Meca (2014); Wang and Huang (2014); Qamhan et al. (2018); Kao et al. (2019).		
Big 4	An indicator variable equal to "1" if the auditor is a Big-4 firm (Price water house Coopers, Deloitte & Touche, Ernst& Young and KPMG), and "0" otherwise.	Al Ani and Mohammed (2015); Kao et al. (2019); Khan et al. (2021); Meah et al. (2021).		
Block holder ownership (BOWN)		Weir et al. (2002); Marchica and Mura (2005); Thomsen et al. (2006); Hillier and McColgan (2006); Amran & Che Ahmad (2014); Allam (2018); Dakhlallh et al. (2019); Kao et al. (2019).		

#### Continued

Managerial ownership (MOWN)	the proportion of shares held by all members of the board of directors divided by total ordinary shares outstanding.	Barnhart and Rosenstein (1998); Al-Matari & Al-Arussi (2016); Alabdullah (2018); Ekpulu and Omoye (2018); Kanakriyah (2021); Ogabo et al. (2021).
Firm Leverage (LEV)	Total debts divide by Total Assets	Beasley and Salterio (2001); Klein (2002); Davidson et al. (2005); Yang et al. (2008); Banderlipe (2009); Sáenz González and García-Meca (2014); Kao et al. (2019); Abdeljawad & Masri (2020).

#### 3.3. Research Model

This study will employ a multiple regression model to test the relationship among the variables. It helps to understand how the typical value of the dependent variable is changed when one of the independent variables changes while other variables are kept constant. It determines the overall relevance (variance explained) of the model and the relative contribution of each of the predictors to the total difference explained (Cohen et al., 2003). In order to respond to the research hypotheses using the Generalized Least Squares (GLS) regression was used. Generalized Least Squares regression was used as a substitute of OLS, when the data collected are secondary data, this happened when the research variables are not normally distributed. The Statistical package of E-Views—Version 10 program will be to generate the result from the data. To examine the effect of Audit Committee characteristics on Earnings Management, this study estimate using the following model:

$$EM_{ii} = \beta_{0} + \beta_{1}AC SIZE_{ii} + \beta_{2}AC IND_{ii} + \beta_{3}AC EXP_{ii} + \beta_{4}AC MT_{ii} + \beta_{5}ACG_{ii} + \beta_{6}Size_{ii} + \beta_{7}BIG4_{ii} + \beta_{8}BOWN_{ii} + \beta_{9}MOWN_{ii} + \beta_{10}LEV_{ii} + \varepsilon_{ii}$$
(5)

where:

 $EM_{it}$  = Earnings Management proxy by Discretionary Accruals (DA) of firm i in year t;

 $ACSIZE_{it}$  = Audit Committee Size of firm *i* in year *t*;

 $ACIND_{it}$  = Audit Committee Independence of firm i in year t;

 $ACEXP_{it}$  = Audit Committee Member's Expertise of firm *i* in year *t*;

 $ACMT_{it}$  = Audit Committee Meetings of firm *i* in year *t*;

 $ACG_{it}$  = Audit Committee Gender of firm *i* in year *t*;

 $TQ_{it}$  = Tobin's Q proxy by Firm Value of firm i in year t;

 $Size_{it}$  = Firm size of firm *i* in year *t*;

 $BIG4_{it}$  = the auditor is a Big-4 firm;

 $BOWN_{it}$  = Block holder ownership of firm *i* in year *t*;

 $MOWN_{it}$  = Managerial ownership of firm *i* in year *t*;

 $LEV_{it}$  = Firm Leverage of firm *i* in year *t*;

 $\varepsilon_{it}$  = Model error of firm *i* in year *t*.

#### 4. Findings and Analysis

#### 4.1. Descriptive Analysis

Descriptive statistics is a tool that explains and gives a distinct understanding of

the features of certain data set by giving short summaries about samples and how to measure the data. **Table 3** illustrates the descriptive analysis for the research variables using the Mean, Minimum, Maximum and Standard Deviation for the research variables.

The mean value of Audit Committee Size is found to be 3.498214 with a standard deviation of 0.909105, with minimum and maximum values of 2.000000 and 8.000000 respectively. In addition, the mean value of Audit Committee Independence is found to be 0.776986 with a standard deviation of 0.269949 with minimum and maximum values of 0.000000 and 1.333333 respectively. Moreover, the mean value of Audit Committee Meetings is found to be 5.483929 with a standard deviation of 5.024066 with minimum and maximum values of 1.000000 and 48.000000 respectively. The mean value of Audit Committee Expertise is found to be 0.795083 with a standard deviation of 0.197816, with minimum and maximum values of 0.333333 and 1.333333 respectively. In addition, the mean value of Audit Committee Gender is found to be 0.179589 with a standard deviation of 0.133619 with minimum and maximum values of 0.000000 and 0.500000 respectively. Moreover, the mean value of Earning Management is found to be 7.473263 with a standard deviation of 12.34889 with minimum and maximum values of -3.208028 and 102.6942 respectively. In addition, the mean value of Firm Size is found to be 6.103022 with a standard deviation of 0.773201 with minimum and maximum values of 4.365132 and 8.016537 respectively.

The mean value of Big 4 is found to be 0.376786 with a standard deviation of 0.485014, with minimum and maximum values of 0.000000 and 1.000000 respectively. In addition, the mean value of Block Holder Ownership is found to be 0.613578 with a standard deviation of 0.216665 with minimum and maximum values of 0.027000 and 0.989500 respectively. Moreover, the mean value of Managerial Ownership is found to be 0.099352 with a standard deviation of 0.180803 with minimum and maximum values of 0.000000 and 0.767000. In addition, the mean

Table 3. Descriptive analysis for the research variables.

	Mean	Median	Maximum	Minimum	Std. Dev.
Audit Committee Size	3.498214	3.000000	8.000000	2.000000	0.909105
Audit Committee Independence	0.776986	1.000000	1.333333	0.000000	0.269949
Audit Committee Meetings	5.483929	4.000000	48.000000	1.000000	5.024066
Audit Committee Expertise	0.795083	0.750000	1.333333	0.333333	0.197816
Audit Committee Gender	0.179589	0.187500	0.500000	0.000000	0.133619
Earning Management	7.473263	2.320888	102.6942	-3.208028	12.34889
Firm Size	6.103022	6.085727	8.016537	4.365132	0.773201
Big.4	0.376786	0.000000	1.000000	0.000000	0.485014
Block Holder Ownership	0.613578	0.645100	0.989500	0.027000	0.216665
Managerial Ownership	0.099352	0.003526	0.767000	0.000000	0.180803
Firm Leverage	0.506068	0.431951	7.188948	0.001260	0.515911

value of Firm Leverage is found to be 0.506068 with a standard deviation of 0.515911, with minimum and maximum values of 0.001260 and 7.188948 respectively.

## 4.2. Testing Multicollinearity

By testing VIFs, it could be observed from **Table 4** that the VIFs of the Research Variables are less than 5, implying that there is no problem of multicollinearity between the independent variables.

## 4.3. GLS Regression

In this subsection, the GLS regression technique is used to derive an equation for the impact of Audit Committee Characteristics on Earnings Management with the presence of control variables. Therefore, the main equation is derived in this subsection.

The first equation is derived for the effect of Audit Committee on Earning Management with Control Variables, as shown in Table 5. using the GLS simple regression equation. This equation responds to the testing of the relationship between Audit Committee and Earnings Management with Control Variables. It could be observed that there is a significant negative effect of Audit Committee Size, Audit Committee Expertise, Audit Committee Gender, Firm Size, Block Holder Ownership on Earning Management, as the corresponding P-value are 0.0000, 0.0000, 0.0000, 0.0000 and 0.0000 respectively (P-value < 0.05). While there is a significant positive effect of Audit Committee Independence, Big 4, Firm Leverage on Earning Management, as the corresponding P-value are 0.0000, 0.0000, and 0.0000 respectively (P-value < 0.05). In addition, there is an insignificant effect of Audit Committee Meetings and Managerial Ownership on Earning Management, as the corresponding P-value are 0.6269, and 0.2914 (P-value > 0.05). Also, R-squared is 0.841208, which means that 84.1208% of the variation in Earning Management is explained by Audit Committee with the presence of control variables. The regression equation is estimated as follows:

Earning Management = 58.69574 - 0.689690 \* Audit Committee Size + 5.293052 Audit Committee Independence - 0.013522 Audit Committee Meetings - 3.611554 Audit Committee Expertise - 17.30807 Audit Committee Gender - 7.689621 Firm Size + 1.470544 Big 4 - 7.592850 Block Holder Ownership + 0.731234 Managerial Ownership + 5.079547 Firm Leverage.

Table 4. VIF values for research variables.

Independent Variables	VIF
Audit Committee Size	1.168
Audit Committee Independence	1.233
Audit Committee Meetings	1.031
Audit Committee Expertise	1.142
Audit Committee Gender	1.274

Table 5. GLS pooled regression.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	58.69574	1.879444	31.23037	0.0000
Audit Committee Size	-0.689690	0.124718	-5.530004	0.0000
Audit Committee Independence	5.293052	0.638448	8.290495	0.0000
Audit Committee Meetings	-0.013522	0.027806	-0.486302	0.6269
Audit Committee Expertise	-3.611554	0.635687	-5.681341	0.0000
Audit Committee Gender	-17.30807	1.217635	-14.21450	0.0000
Firm Size	-7.689621	0.255651	-30.07856	0.0000
Big 4	1.470544	0.271919	5.408017	0.0000
Block Holder Ownership	-7.592850	0.734041	-10.34391	0.0000
Managerial Ownership	0.731234	0.692453	1.056005	0.2914
Firm Leverage	5.079547	0.532245	9.543628	0.0000
R-squared	0.841208			
Adjusted R-squared	0.837129			
F-statistic	206.2256			
Prob (F-statistic)	0.000000			

From the regression results, It is found that Audit Committee Size has a negative and significant (P-value = 0.0000, P-value < 0.05) relationship with Earnings Management. This result supports the argument that there is a significant negative relationship between Audit Committee Size and Earnings Management. Therefore, hypothesis H1 is supported. Audit Committee Independence has a positive and significant (P-value = 0.0000, P-value < 0.05) relationship on Earnings Management. Therefore, hypothesis H2 is not supported. The results also show that a negative and insignificant (P-value = 0.6269, p > 0.05) relationship exists between Audit Committee Meetings and Earnings Management. Therefore, hypothesis H3 is not supported. The results also show that the relation between Audit Committee Expertise and Earnings Management is negative relation and significant (P-value = 0.0000, P-value < 0.05). Therefore, hypothesis H4 is supported. Also the relation between Audit Committee Gender and Earnings Management negative relation and significant (P-value = 0.0000, P-value < 0.05). Therefore, hypothesis H5 is supported.

The fixed versus the random effect of Audit Committee on Earning Management with control variables could be derived using the GLS technique to investigate if the effect of Audit Committee on Earning Management with the presence of control variables is due to different companies or if it is an effect resulting from time. Using the fixed versus random effect as shown in **Table 6**, it could be observed that the P-value for the Hausman test is 0.0030 (P-value < 0.05), implying that the fixed effect is the significant effect in the data under study rather

Table 6. Hausman test for fixed versus random effect.

Variable	Fixed Effect		Random Effect		Hausman
v ariable	Coefficient	Prob.	Coefficient	Prob.	Test
С	45.73572	0.0000	64.75433	0.0000	
Audit Committee Size	-0.050913	0.5950	-0.137494	0.6926	
Audit Committee Independence	-1.002169	0.2295	-1.017318	0.5977	
Audit Committee Meetings	-0.027675	0.3722	0.079561	0.4096	
Audit Committee Expertise	0.396088	0.5148	2.397622	0.1460	
Audit Committee Gender	0.095733	0.9573	-3.393734	0.3805	0.0030
Firm Size	-5.842403	0.0000	-9.722386	0.0000	
Big 4	0.026251	0.9115	0.102686	0.8800	
Block Holder Ownership	-3.362033	0.0000	-7.482825	0.0000	
Managerial Ownership	1.674218	0.0522	3.985076	0.0931	
Firm Leverage	3.950094	0.0000	9.502197	0.0000	

than the random effect. This means that the effect Audit Committee on Earning Management with control variables is due to time rather than being a cross-sectional effect.

It could also be observed that there is a significant effect of Firm Size, Block Holder Ownership, Board Size, Board Independence, Firm Leverage and Firm Growth on Earnings Management with control variables using fixed effect, as the corresponding P-value is 0.0000, 0.0000, 0.0363, 0.0002, 0.0000 and 0.0025 (P-value < 0.05). While there is an insignificant effect of Audit Committee Size, Audit Committee Independence, Audit Committee Meetings, Audit Committee Expertise, Audit Committee Gender, Big 4 and Managerial Ownership on Earnings Management with control variables using fixed effect, as the corresponding P-value is 0.5950, 0.2295, 0.3722, 0.5148, 0.9573, 0.9115 and 0.0522 (P-value > 0.05).

In addition, there is a significant effect of Firm Size, Block Holder Ownership and Firm Leverage on Earnings Management with control variables using random effect, as the corresponding P-value is 0.0000, 0.0000 and 0.0000 (P-value < 0.05). While there is an insignificant effect on Audit Committee Size, Audit Committee Independence, Audit Committee Meetings, Audit Committee Expertise, Audit Committee Gender, Big 4 and Managerial Ownership using the random effect, as the corresponding P-value is 0.6926, 0.5977, 0.4096, 0.1460, 0.3805, 0.880 and 0.0931 (P-value > 0.05).

## 5. Discussion

This study examined the effect of audit committee characteristics on the Earnings management of listed companies in Egypt from 2012 to 2019. The empirical analyses provide mixed results. The GLS regression coefficients indicate that

Audit Committee Size has a negative and significant (P-value = 0.0000, p < 0.05) relationship with Earnings Management. Hence, Statistical results provided evidence to support hypothesis H1, which states that there is a significant negative relationship between Audit Committee Size and Earnings Management. This result is consistent with the results of numerous other kinds of research that looked at the association between the size of the audit committee and earnings management (Baxter & Cotter, 2009; Lin & Hwang, 2010; Fodio et al., 2013; Lubis & Adhariani, 2019; Rajeevan & Ajward, 2019) they concluded that there is a negative and significant relationship between audit committee size and Earnings management. According to Karamanou and Vafeas (2005), a large audit committee is expected to be more effective because having more committee members brings greater resources to the monitoring process as well as a wider knowledge base on which to draw. In addition to a study conducted by Raghunandan and Rama (2007); Sharma et al. (2009), a larger audit committees are more likely to discover potential problems in financial reporting, thereby improving the quality of internal control and financial reporting. On the one hand, Köhler (2005) states that when audit committees become too large, the positive effects might decline, as performance is reduced due to poorer communication, less efficient decision-making processes, and a diffusion of responsibility. In addition to Bliss (2011) who argues that a smaller audit committee is preferable since it allows the board to act quickly and has fewer communication issues. Other studies did not find any association between the level of discretionary accruals and the size of audit committees such as (Qaragish, 2009; Abbott et al., 2004; Alkadi et al., 2012). Hypothesis (H2) states that there is a significant negative relationship between audit committee independence and earnings management. The GLS regression coefficients indicate that Audit Committee Independence has a positive and significant (P-value = 0.0000, p < 0.05) relationship on Earnings Management. Therefore, hypothesis H2 is not supported. This result is consistent with the results of the Fodio et al. (2013) study that looked at the association between the size of the audit committee and earnings management. Fodio et al. (2013) concluded that there is a positive and significant relation between audit committee independence and Earnings management. The results show that the independence of the audit committee does not necessarily guarantee that management will not manipulate earnings. One factor might be that the audit committee's independent members lack the financial knowledge and professional experience necessary to monitor results effectively. On the other hand other studies found mixed results. According to Klein (2002), an independent audit committee has a negative relationship with earnings management and independent audit committee members are crucial to monitoring the financial process. Also, Benkel et al. (2006) discover that lower levels of earnings management are connected with higher levels of audit committee independence. Additionally, Inaam and Khamoussi (2016) discover that independent directors have a negative effect on the management of earnings. In the same Soliman and Ragab (2014) find similar results. Some research has shown no connection between independent audit

committees and earnings management (Lin et al., 2006; Siregar & Utama, 2008; Habbash, 2019; Waweru & Riro, 2013). Hypothesis (H3), which states that there is a significant negative relationship between audit committee meetings and earnings management. The GLS regression coefficients show that a positive and insignificant (P-value = 0.6269, p > 0.05) relationship exists between Audit Committee Meetings and Earnings Management. Therefore, hypothesis H3 is not supported. This result is consistent with the results of numerous other research that looked at the association between audit committee meetings and earnings management (Bédard et al., 2004; Yang & Krishnan, 2005; Rajpal, 2012); they concluded that there is positive and insignificant relation between audit committee meetings and Earnings management. These results indicating that audit committee size does not influence the degree of earnings management. On the other hand, other studies found that this relationship is negative and statistically significant (Abbott et al., 2000; Lin & Hwang, 2010; Metawee, 2013). According to earlier research, an audit committee that meets more regularly will be better able to supervise and monitor financial activities such the gathering and reporting of the company's financial data. Hypothesis (H4) states that there is a significant negative relationship between Audit committee expertise and earnings management. The GLS regression coefficients show that the relation between Audit Committee Expertise and Earnings Management negative relation and significant (P-value = 0.0000, P-value < 0.05). Therefore, hypothesis H4 is supported. This finding implies that audit committees with at least one financial expert manage earnings less effectively than audit committees without financial experience. This result is consistent with the results of numerous other research that looked at the association between Audit Committee Expertise and earnings management (Xie et al., 2003; Choi et al., 2004; Lin & Hwang, 2010; Nelson & Devi, 2013; Bryan et al., 2013; Soliman & Ragab, 2014; Lubis & Adhariani, 2019) they reached the conclusion that there is a negative and significant relationship between the expertise of the audit committee and earnings management. According to these researches, an audit committee's efficacy in its oversight process is mostly influenced by the members' knowledge of financial reporting, internal control, and auditing. These financial professionals have the requisite knowledge of technical auditing and accounting concerns, so they are more likely to put more effort into areas crucial to the accuracy of financial reporting in order to find potential accounting problems. This characteristic helps audit committees detect and spot earnings manipulation. Other research, however, revealed that this relationship is insignificant (Saleh et al., 2007; Rahman & Ali, 2006; Yang & Krishnan, 2005). However, their results do not find supporting evidence. This could be as a result of the audit committee being appointed with expertise in accounting and finance solely for regulatory compliance. Hypothesis (H5) states that there is a significant negative relationship between the presence of female in the audit committee and earnings management. The GLS regression coefficients show that the relation between Audit Committee Gender and Earnings Management negative relation and significant (P-value = 0.0000, P-value < 0.05). Therefore, hypothesis H5 is supported. This result is consistent with the results of numerous other researches that looked at the association between the proportion of women on the audit committee and earnings management (Thiruvadi & Huang, 2011; Florencea & Susanto, 2018; Gull et al., 2018; Sudarman & Hidayat, 2019) they came to the conclusion that the proportion of women on the audit committee and earnings management are negatively and significantly correlated. They claim that because of their position inside the corporation, women who lead audit committees mitigate earnings management, and that having more women on the committee encourages cautious reporting and less aggressive tax practices. On the other hand, other studies found that this relationship is insignificant (Sun et al., 2011; Loualalen et al., 2015).

#### 6. Conclusion

This study examined the relationship between Audit Committee Characteristics and Earnings Management. The regression results show that Audit Committee Size, Audit Committee Expertise and Audit Committee Gender have a significant negative relationship with earnings management. The Egyptian Institute of Directors 2008 mentioned that in order for the company to achieve its goals, the corporate governance system must include many things, the most important of which is the presence of an audit committee in companies. The audit committee assists businesses in implementing stronger corporate governance procedures and providing higher-quality data. It is predicted that the audit committee will be able to prevent corporations from manipulating their earnings.

The Egyptian Code of Corporate Governance (2005) has recommended that AC shall comprise a minimum of three non-executive board members. The researcher found in the study that the maximum number of an audit committee member is 8 in Egyptian firms. According to Buallay & AlDhaen (2018) the more members an audit committee has, the more diverse their knowledge and expertise, and the more effectively they can operate in monitoring financial operations. The findings of the research show that the efficacy of audit committees is influenced by financial knowledge, one of the primary composition determinants. Independently evaluating financial issues reported to the audit committee requires financial competence. The findings indicate that when at least one audit committee member has financial expertise, earnings management is reduced. Additionally, it is evident from the study's findings that the audit committee's independence has a good and considerable impact on earnings management. Audit committee independence might not be a guarantee that managers won't manipulate earnings; hence this factor might not decrease the degree to which managers manipulate earnings.

This result is in line with Fodio et al. (2013). On the other hand, According to various American research, committee members' financial expertise is linked to lower earnings management (Xie et al., 2003; Bédard et al., 2004; Dhaliwal et al., 2010; Krishnan et al., 2011; Keune & Johnstone, 2012; Bryan et al., 2013). Xie et

al. (2003) mentioned that it is considered that a more independent audit committee provides greater governance than a less independent audit committee.

From the results, it is clear that the presence of women on the audit committee suggests that their participation has a significant, negative impact on the management of earnings. This indicates how having more women on the audit committee can reduce the usage of earnings management techniques since they are more likely to avoid risks and have higher moral standards.

This study found that the mean value of the presence of women on the audit committee was 18% in Egyptian firms. According to earlier research, women prefer to minimize risk, are less aggressive, and have higher ethical standards than men (Gavious et al., 2012; Saona et al., 2019). Therefore, the presence of women on the audit committee has an impact on corporate earnings management practices in Egyptian firms. On the other hand, the study discovered that during the study period, Audit Committee Meetings had no impact on the Earnings Management of listed corporations in Egypt. For the control variables, the regression shows that there is a significant effect of firm size, Big 4, Block Holder Ownership and Firm Leverage on Earnings management. The results also show that Managerial Ownership had no significant impact on the Earnings management of listed firms in Egypt during the period of the study.

## 7. Recommendations

From the findings above, the study recommends the following:

Firstly, the audit committee's female members have a negative and significant impact on Earnings management. The study's finding provides empirical proof that the presence of women on the audit committee reduces earnings management, as well as is helpful for the development of gender literature in corporate decision-making, where stakeholders can take into account the presence of women on the audit committee due to their influence on practices related to earnings management. Female members are predicted to monitor the companies, which lowers the amount of earnings management. This study recommended that diversity should be taken into account while creating audit committees in various companies. Therefore, members of audit committees should be diverse.

Secondly, having an audit committee within the company will serve as a tool for corporate governance and will be in charge of looking for, identifying, and preventing fraud, serving as the organization's policeman. According to The Policeman Theory, like a policeman seeking to stop a crime from happening, the audit committees should set up systems to identify fraud before it occurs. Thirdly, According to the study, the effectiveness of the audit committee increases with committee size. The chance of earnings management should be reduced for larger committees. A small audit committee is ineffective because it does not have the range of skills and knowledge that a large audit committee offers. The right number of members on an audit committee enables individuals to apply

their expertise to the benefit of stakeholders. It should be a size that falls within the range that is both practical and effective. Fourthly, this study recommended that Members of audit committees should have experience in accounting and finance so that they have a strong foundation from which to examine and analyze financial data. Finally, by separating the activities of senior managers and the committee, the independence plays a positive function in monitoring by improving its efficacy.

# 8. Suggestions for Future Studies and Limitations of the Research

There are several limitations to the study, most of which point to the necessity for future research. The study examines the effect of Audit Committee Characteristics on Earnings Management of Egyptian companies listed on the Egyptian Exchange (EGX) for the period of eight years 2012-2019. For so, it will be necessary for the future to do a similar study that covers time periods following the year 2019. The findings only apply to Egypt, one developing economy; thus, while they are similar to those of studies conducted in developed nations, they do not provide a strong foundation for generalizing to all emerging economies. Discretionary accrual was employed in this study to calculate earnings management. Future research can take advantage of real earnings management. If managerial opportunism is the cause of earnings management, managers will utilize actual earnings management, which includes manipulating business operating activities in addition to accruals. Examples of real earnings management include manipulating discretionary costs like those associated with research and development or advertising, manipulating the timing of asset disposition, or overproducing and selling.

## **Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

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