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Salah Abdel-Hafeez Mostafa Ali

*Department of Accounting, College of Business Administration, University of Bahrain, Bahrain\*  
*Department of Accounting, Faculty of Commerce, Assiut University, Egypt, samali@uob.edu.bh*

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# The Association between Audit Committee Characteristics and Earning Management: Evidence from GCC Stock Markets

Salah Abdel-Hafeez Mostafa Ali<sup>1,2</sup>

<sup>1</sup>Department of Accounting, College of Business Administration, University of Bahrain, Bahrain

<sup>2</sup>Department of Accounting, Faculty of Commerce, Assiut University, Egypt

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**Abstract:** The main objective of this study is to empirically investigate whether the audit committee (AC) characteristics are associated with earnings management (EM) of listed companies on the GCC countries as emerging markets. To achieve the study's objectives, 532 firm-year observations were used during the period from 2017-2020. A discretionary accrual (DACC), a proxy for EM, was estimated according to the modified Jones' model. EM/DACC as a dependent variable was regressed with four independent variables, comprising the AC characteristics, namely AC size, AC independence, AC financial expertise, and AC frequent meetings. Some more control variables were added to the regression model. The study findings reveal that the level of EM on the study sample averaged 14.3% upward, which suggests that the corporate governance code could have reduced the EM practices, but it hasn't prevented it. Also, the results show that EM is negatively and significantly associated with AC independence, AC financial expertise, and AC number of meetings. Moreover, EM is not significantly associated with AC size. The conclusion of this study emphasizes the monitoring role of AC on restricting EM. The findings of this study have wide implications to all stakeholders and stock markets for the role of AC characteristics as internal corporate governance mechanism on restricting EM practices.

**Keywords:** Audit Committee Characteristics, Earnings Management, GCC Stock Markets.

## 1 Introduction

Earnings management (EM) can be defined as a purposeful intervention in financial reporting, designed to reach earnings targets by varying accounting practices (Callao, and Wroblewski, 2014b). It could occur without violating accounting regulations, as it takes advantage of the possibilities of choice in accounting policy. EM can mislead stakeholders, cause them to make decisions based on the financial reports that are not free from EM. According to the accounting literature, several motivations were found for practicing EM such as market expectation, contractual incentives, political incentives, and company's specific situation incentives (Callao, S., 2021). EM has enormous impact on accounting and auditing professions in general and on all corporations and their stakeholders in specific. Several companies such as Enron, Parmalat, Tyco, WorldCom, and Xerox are examples of scandals related to EM that take place in the United States and Europe at the end of the 1990s and the beginning of the twenty-first century (Kwarbai and Osho, 2021). EM is likely to influence the consistency of reported earnings and the

usefulness of those earnings for making decisions. It lowers the stakeholders' confidence in financial statements.

The role of audit committee (AC) has increased in the last few years, since it is an effective tool of corporate governance, which could limit EM practices (Hamdan and Mushtaha, 2011). According to professional bodies and laws such as Securities and Exchange Commission (SEC), New York Stock Exchange (NYSE), the USA's Sarbanes-Oxley law, and GCC corporate governance codes, a series of quality characteristics are presented to have an active AC. These qualities include AC size, AC financial expertise, AC independence, and AC frequent meetings (Activity). An active AC should have at least three members, one of them has financial experience, one of them is independent, and meet four times a year. AC can handle all significant interactions with the independent auditor, exchanges ideas and thoughts, serves as a mediator between management, auditors, and board of director. It plays a critical oversight role in ensuring the consistency of financial reporting and corporate transparency (Carcello and Neal, 2003; Bamahros and Bhasin, 2016). Agency theory provides reasonable explanation for the role of AC

\*Corresponding author: [samali@uob.edu.bh](mailto:samali@uob.edu.bh)

in ensuring that managers behave in shareholders' interest. Therefore, companies set up audit committee to increase the financial reporting quality (Saleh, et al., 2007; Ali, S., 2021).

The previous literature on the association between audit committee characteristics and earnings management have various results. For instance, (Lin et al., 2006; Mishra & Malhotra, 2016) reported negative association between AC size and EM, while Abubakar, A. H., et al (2021) reported positive correlation. Some other researchers reported significant negative association between AC independence and EM (Klein, 2002; Jerubet, et al., 2017), while other researchers found significant positive association (Supriyaningsih, S., and Fuad, F., 2017; Gao and Huang 2016; Akhor and Oseghale 2017). Baxter and Cotter (2009) suggested that financial expertise on the AC reduces the firm's levels of EM. Similarly, Krishnan, G., and Visvanathan, G. (2009) suggested that a bigger number of financial experts on the AC improves monitoring function.

Examining the literature reveals that most of these studies were conducted in developed countries, or conducted on small sample, or included some of AC characteristics, and no new study was conducted on the GCC context to have reasonable sample and include all AC characteristics. This study will fill the research gap by taking all these points into consideration.

The main objective of this paper is to investigate the association between audit committee characteristics and discretionary accruals (DACC) as proxy for earnings management (EM) in the GCC context.

The contribution of the current study to existing literature is to provide additional evidence about the associations between AC characteristics and EM on the developing countries, as well as provide evidence from emerging markets in recent years, as the GCC context is a unique business environment that provides a good opportunity and offers a useful setting for investigating the relationship between AC and EM.

The remainder of this paper is structured as follows. Section two includes the GCC countries context. Section three presents the literature review and hypotheses development. Section four explains the research methodology. The findings and discussions are presented in section five. Finally, section six summarizes the main conclusions and implications.

## 2 The GCC Countries Context

GCC countries include six countries, sharing similar political, cultural, language, characteristics and exhibit similar financial and capital markets (Pillai & Al-Malkawi, 2018). The movement of GCC countries toward the delegation of investment created the vital needs to have a

high-quality corporate governance. The GCC countries' corporate governance codes and stock markets set some regulations for creating AC, to comprise at least 3 members, majority of them independent, and minimum number of meetings each year 4 times. In Saudi Arabia, some regulations regarding AC were issued (Capital Market Authority, Pursuant to Resolution No. 1/212/2006). According to these regulations, AC duties are to analyse the company's financial statements and ensure their integrity, fairness, and transparency. In the United Arab Emirates, the AC reviews the financial reports and audit policies and regulations of the Public Joint Stock Companies (PJSC) and works closely with the external auditor of these companies to ensure that it carries out its engagement in accordance with applicable law. The corporate governance codes in Bahrain, Kuwait, Oman, and Qatar are almost identical as they stated same rules and duties for AC.

All GCC countries are applying IFRS standards In Bahrain there is no local GAAP, and it has adopted IFRS Standards for all companies (Article 219 of the Commercial Companies Law). In Saudi Arabia, according to Saudi Organization for Certified Public Accountants (SOCPA). Applying IFRS are required for all listed companies starting from January 1, 2017. In the United Arab Emirates, by law (UAE Federal Law No. 2 of 2015), IFRS are required for all listed companies to be applied from July 1, 2016. In Kuwait, KAAA, as national professional accounting body, requires all listed companies to mandatory apply IFRS. In Oman, IFRS are required to be applied by all companies, as they are endorsed by IASB without any amendment. In Qatar, Qatar Financial Markets Authority (QFMA) has the power to supervise and regulate the financial market (Law No. (8) Of 2012). It requires all listed companies to apply IFRS Standards. In summary, all GCC countries construct similar corporate governance codes, including the job, responsibility, and composition of ACs. Moreover, all these countries are applying IFRS standards, which justified combining them as one context.

## 3 Literature Review N and Hypothesis Development:

This section pertains to reviewing the prior research regarding the association between AC characteristics and EM. Following the theory and literature, four characteristics of AC are considered. These characteristics have been seen as vital elements of the audit committee's overall effectiveness. So, this study we will focus on four key characteristics including AC size, AC independence, AC financial expertise, and AC frequent Meetings.

### 3.1 Audit Committee Size

The size of AC is known as the number of directors selected to be members in the AC. According to the

corporate governance code of GCC countries, the size of AC should be at least three members. Prior research suggested that size is an important characteristic of AC in constraining the EM. Menon and Williams (1994) argued that if the AC with less than three members is possible to be ineffective. On the other hand, (Vafeas, N., 2005) argued that large size could result in a weak performance because of the coordination problems.

Prior research on the association between AC size and EM provides indecisive results. Yang and Krishnan (2005) reported negative association between AC size and EM on the US companies. Similarly, Klein (2002) revealed that EM is lower for companies with a larger AC size in Australian companies. Lin et al., (2009) found that an AC size is linked with lower levels of EM in Chinese Companies. Some other research found positive association between number of AC members and EM (Siregar and Utama, 2008; Metawee, 2013). On the other hand, some researchers found no association between AC size and EM (Xie et al., 2003; Abbott et al. 2004; Bedard et al., 2004).

Based on the above arguments, the association between AC size and EM could be positive or negative or no association, however, most studies reported negative association and this study follows the literature so, the following hypothesis could be formulated:

***H1: There is a negative significant association between audit committee size (ACSIZE) and earnings management (EM).***

### *3.2 Audit Committee Independence*

The independence of AC can be defined as the extent to which the AC is not under the pressure of management (Bruynseels and Cardinaels, 2014). An independent member can express an unbiased opinion than dependent members. Moreover, the corporate governance codes and stock markets regulations in GCC countries pay more attention to the independence of AC members by demanding the majority of members to be independent. It is commonly known that an independent AC provides effective monitoring of the financial reporting and ensures the reliability of the financial statements. Prior literature on the association between AC independence and EM offers mixed results. For instance, Klein (2002), Xie et al. (2003), Davidson, et al. (2005), Lin and Hwang (2010) and Soliman and Ragab (2014) reported negative association between AC independence and EM practices. Abbott et al., (2004) found negative association between AC

independence and financial reporting fraud and misstatement. Hamdan (2020) reveals that independence of AC has positive association with earnings quality in GCC industrial firms. On the other hand, Fodio et al. (2013) found that AC independence has a positive association with EM. Moreover, Xie et al. (2003) revealed that AC independence is not significantly associated with constraining levels of EM. Kusnadi, et al., (2016)) did not find any evidence that the independence of AC enhances EM, as most of its members are already independent. Similar study conducted by Chariri and Januarti (2017) who found no evidence to support such association. According to the above argument the mainstream of literature supported the crucial role of AC independence in decreasing the EM, and this study will go with the literature and formulate the following hypothesis:

***H2: There is a negative significant association between audit committee independence (ACINDE) and earnings management (EM).***

### *3.3 Audit Committee Financial Expertise*

The expertise of AC members in accounting and finance can restrict engaging in undesired actions such as EM practices. The AC members with greater experience can easily discover any improper practices than members with less experience (Dhaliwal et al., 2010; Tanyi & Smith, 2015). Members with financial and accounting expertise are expected to weaken the managers' ability to manipulate earnings which support the financial statement credibility. At the same time, the corporate governance codes, and stock markets regulations in GCC countries require that AC to include at least one member with financial experience.

Most of prior studies provided evidence that AC financial expertise has negative association with EM. Bedard et al. (2004) reported that the existence of at least one member on the AC with financial background is negatively associated with the level of EM. Similarly in Egypt, Soliman and Ragab (2014) found that experience of AC members has a major negative relationship with EM. Likewise, Xie et al., (2003) argues that an AC including at least one member with financial knowledge is associated with lower level of EM. Some studies provided evidence that AC financial expertise reduce EM (Alzoubi E., 2019; Badolato et al., 2014). Some other studies reported positive association between financial expertise of AC and FRQ measured by the lack of EM practices (Chariri & Januarti, 2017; Hamdan, 2020; Hasan et al., 2020; Mohammad & Ahmed, 2017; Umobong & Ibanichuka, 2017). On the other hand,

few studies provided contradictory evidence, Rainsbury et al. (2009) reported that AC financial expertise has insignificant association with EM while, Carrera et al. (2017) found positive association with EM. Reviewing the literature shows that most studies support the negative association between AC financial expertise and EM, and this study will follow the literature and formulate the following hypothesis:

**H3: There is a negative significant association between audit committee financial expertise (ACEXPE) and earnings management (EM).**

### 3.4 Audit Committee Meetings:

An effective AC meets regularly to provide sufficient time for its members to carry out their tasks which improve the process of financial reporting (Lin & Hwang, 2010). Greco (2011) stated that more meetings of AC help members to express their judgment about the company's accounting choices. In the same line the corporate governance codes and the stock markets regulations in GCC countries require AC to meet at least four times each year. Most of prior research provides consistent evidence regarding the association between AC and EM. Saleh et al., (2007) found that companies which held more audit committee meetings has reduced levels of earnings management practice. Abbott et al., (2000) demonstrated a negative association between meeting frequently and the manipulation of financial reporting. Also, Xie et al. (2003), Soliman and Ragab (2014), Lin and Hwang (2010), Abdul Rahman and Ali (2006) found a negative correlation between audit committee meetings and earnings management practices. Habbash and Alagla (2015) reported negative association between frequent meetings discretionary accruals. On the other hand, Lin et al., 2006; Bamahros & Bhasin, 2016) found no significant association between number of meetings and lower levels of EM. Reviewing the literature ensure that the mainstream of studies support the negative association between AC number of meetings and EM. Based on the above judgement in the literature, the following hypothesis could be formulated:

**H4: There is a negative significant association between audit committee frequent meetings (ACMEET) and earnings management (EM).**

## 4 Research Methodologies

### 4.1 The Sample Size and Data Collection

The study sample includes 150 companies listed on the stock markets of six GCC countries (Saudi Arabia, United Arab Emirates, Kuwait, Qatar, Oman, and Bahrain) during the period from 2017-2020 that represents 532 firm-year observations. Companies that are included in the sample must have sufficient data regarding the AC characteristics and annual reports. Banks and insurance companies were excluded because of having specific industry characteristics and different regulations.

The data needed were collected from several sources such as the stock markets of GCC countries, companies web sites, companies' annual reports, and other web sites such as Mubashir and Tadawul. The reason behind selecting the years 2017, 2018, 2019, and 2020 is the availability of data, especially data regarding the details of AC attributes.

Table (1) below provides the number of firm-year observations in each year totaling of 150 firm-year observations after excluding 15 companies which provide non-sufficient data.

**Table 1:** Firm-year observations over the period of empirical investigation:

No. / Years	2017	2018	2019	2020	Total
- No. of companies in GCC countries	150	150	150	150	<b>600</b>
- Companies excluded	17	17	17	17	<b>60</b>
- Firm-year Observations	133	133	133	133	<b>532</b>

### 4.2 Measuring the Dependent Variable (Earnings Management)

The most widely used method to measure EM in the accounting literature is the Jones (1991) model which was modified by Dechow, Sloan and Sweeney (1995). The absolute value of discretionary accruals was estimated using this modified model. Under this model:

Total accruals (TACC<sub>it</sub>) of firm *i* in the year *t* are calculated by deducting the cash flows from operations (CFO) from operating earnings as follows:

$$TACC_{it} = EARNINGS_{it} - CFO_{it} \quad (1)$$

Additionally, total accruals were regressed against its components and the error term. The formula used is as follows:

$$TACC_{it} / TASS_{it-1} = a (1 / TASS_{it-1}) + b (\Delta REV - \Delta REC) / TASS_{it-1} + c (PPE / TASS_{it-1}) + e_{it} \quad (2)$$

Where:

- $TACC_{it}$  = total accruals in year  $t$  for firm  $i$ ;
- $TASS_{it-1}$  = lagged total assets;
- $\Delta REV_{it}$  = revenues in year  $t$  less revenues in year  $t-1$  for firm  $i$ ;
- $\Delta REC_{it}$  = receivables in year  $t$  less receivables in year  $t-1$  for firm  $i$ ;
- $PPE_{it}$  = gross property, plant, and equipment in year  $t$  for firm  $i$ ;
- $e_{it}$  = error term in year  $t$  for firm  $i$ ;

In the above model, we followed Kothari, et al. (2005) in using assets as the deflator to mitigate heteroscedasticity in residuals. The discretionary accrual (DACC) can be calculated by using the fitted values of regression coefficients to measure non-discretionary accrual (NACC). To estimate companies' discretionary accrual, the non-discretionary accrual is deducted from total accrual using the following equation:

$$DACC_{it} = TACC_{it} - NACC_{it} \quad (3)$$

### 4.3 The Research Models

This study investigates the association between AC characteristics, and EM. To measure the association between the independent variables ACSIZE, ACINDE, ACEXPE, and ACMEET and the dependent variable DACC as proxy for EM, the following model was formulated:

$$DACC_{i,t} = a0_{i,t} + a1 ACSIZE_{i,t} + a2 ACINDE_{i,t} + a3 ACEXPE_{i,t} + a4 ACMEET_{i,t} + e_{i,t}$$

Whereas:

- $DACC_{i,t}$  = a measurement of financial reporting quality score for company  $i$ , year  $t$ ."
- $ACSIZE_{i,t}$  = number of AC members"
- $ACINDE_{i,t}$  = the independence of AC members for company  $i$ ,  $t$ ."
- $ACEXPE_{i,t}$  = the financial expertise of AC members for company  $i$ , year  $t$ ."
- $ACMEET_{i,t}$  = the AC number of meetings for company  $i$ , year  $t$ ."
- $e_{i,t}$  = the error term.

By adding the corporate governance and company characteristics as control variables to the model, it will be formulated as following:

$$DACC_{i,t} = a0_{i,t} + a1 ACSIZE_{i,t} + a2 ACINDE_{i,t} + a3 ACEXPE_{i,t} + a4 ACMEET_{i,t} + a5 AUDQUL_{i,t} + a6 BSIZE_{i,t} + a7 BSHAR_{i,t} + a8 BINDE_{i,t} + a9 FSIZE_{i,t} + a10 FROE_{i,t} + a11 FLEV_{i,t} + e_{i,t}$$

Whereas:

- $AUDQUL_{i,t}$  = the audit quality

- $BSIZE_{i,t}$  = the board of director size
- $BSHAR_{i,t}$  = the board of director shares
- $BINDE_{i,t}$  = the board of director independence
- $FSIZE_{i,t}$  = the company size.
- $FROE_{i,t}$  = the company return on equity.
- $FLEV_{i,t}$  = the company leverage"

### 4.4 Variables

This study comprises three types of variables. The first type is DACC (EM) as dependent variable, while the second type is the independent variables including AC size (ACSIZE), AC independence (ACINDE), AC financial experience (ACEXPE), and AC frequent meetings (ACMEET). The third type contains control variables related to the corporate governance and company characteristics including audit quality (AUDQUL), board size (BSIZE), board shares (BSHAR), board independence (BINDE) firm size (FSIZE), firm performance (FROE), firm leverage (FLEV). Table 2 below summarizes all variables used in the study model and their related proxies.

**Table 2:** Definitions of variables used in the empirical analysis:

Variables	Pred. Sign	Definitions
<b>Dependent Variables:</b> DACC (EM)		
<b>Independent variables:</b>		
1- AC size (ACSIZE).	+ or -	1- number of AC members.
2- AC independence (ACINDE).	-	2- % of non-executive members to total of members.
3- AC financial and accounting experience (ACEXPE).	-	3- % of AC members with financial experience to total of members.
4- AC number of meetings each year (ACMEET).	-	4- Number of AC meetings each year.
<b>Control Variables:</b>		
1- Audit quality (AUDQUL).	-	1- (1) if audit external auditor is one of the big 4 and (0) otherwise"
2- Board Size (BSIZE)	-	2- Number of the board of directors.
3- Board Shares	+ or -	3- % of shares owned

(BSHAR)		by board members.
4- Board Independence (BINDE)	-	4- % of external members to total board members.
5- Company size (FSIZE)	+ or -	5- The total assets natural logarithm.
6- Company performance (FROE)	+ or -	6- Company net profit to total equity".
7- Company leverage (FLEV)	+ or -	7- Company total liabilities/total assets.

Notes: Predicted signs of independent and control variable were based on their expected effects on EM.

## 5 Findings and Discussion

This section comprises three sub-sections including, descriptive statistics, univariate analysis, and multivariate analysis.

### 5.1 Descriptive Statistics

Table 3 below shows the mean, minimum, maximum, and standard deviation of the dependent variable, four independent variables and seven control variables. The average of EM for companies listed on the

GCC countries stock markets are about 32% upward, while the maximum is 151% and the minimum is 84% downward of their earnings. The average number of members for AC size (ACSIZE) is about 4.5 with minimum of 3 and maximum of 7 members. The average level of AC independence (ACINDE) is about 64% with minimum of 33% and maximum of 100%. Regarding the AC financial and accounting expertise (ACEXPE), the average level is about 49% with minimum of 33% and maximum of 100%. AC frequent meetings (ACMEET) are averaged about 7 meetings each year with minimum of 4 and maximum of 14. The results related to AC characteristics are mostly consistent with the codes of corporate governance and the regulations of stock markets in the GCC countries, as the minimum of AC size is not less than 3, members should be independent, at least one of them has financial expertise, and they meet at least 4 times a year. Only the independence level needs to be improved, as some AC members are executive. Regarding the audit quality measured by the size of external auditor, about 71% of listed companies in the GCC countries stock market hire one of the big four audit firms, while the remaining 29% hire auditor not from the big four, which indicates the quality of external auditing. Some more information regarding the average, maximum, minimum, and standard deviation of FSIZE, FROE, FLEV, are shown in table 3 below.

**Table 3** : Descriptive statistics all variables.

Variable s	No.	Min.	Max.	Mean	Std. Dev.
<i>DACC (EM)</i>	133	-0.441	1.112	0.143	0.384
ACSIZE (No.)	133	3	7	4.50	2.5
ACINDE (%)	133	0.33	1	0.6427	0.276
ACEXPE (%)	133	0.33	1	0.489	0.388
ACMEET (No.)	133	4	15	8.390	4.175
AUDQUAL (No.)	133	-	-	0.68	0.462
BSIZE (No.)	133	5	12	8.078	3.076
BSHAR (%)	133	0.0	0.76	.2818	0.1657
BINDE (%)	133	0.18	1	.6085	0.264
FSIZE \$1,000	133	7132	1298179	710284	1223621
FROE (%)	133	-122	179	27.845	34.954
FLEV (%)	133	0.08	88.02	35.863	22.754

### 5.2 Univariate Analysis

This section presents the relationship between each variable and all other variables. Pearson correlation coefficients are presented in table 4 below which shows some the correlations between all variables. For instance, a negative and significant correlation was found at  $P < 0.01$  between EM and one independent variable namely, AC financial expertise (ACEXPE). Moreover, the relationship between EM and AC independence (ACINDE) and AC meeting (ACMEET) is negative and significant at  $P < 0.05$ , while the relationship with AC size (ACSIZE) is negative but not significant. These results suggest that the most effective attributes of AC on EM are the financial and accounting expertise 99% level of confidence, and both AC independence and AC meeting (AUMEET) at 95% level of confidence. Moreover, a negative and significant correlation was found at  $P < 0.01$  between EM and one control variable namely, audit quality (AUDQUL), while the board of director size (BSIZE) and the board of director independence were negatively correlated with EM at  $P < 0.10$ .

On the other hand, the relationship between EM two control variables related to the company characteristics namely the company size (FSIZE) and company leverage (FLEV) is positive and significant at  $P < 0.10$ .

**Tables 4:** Person Correlation Matrix.

	<b>DA CC/ EM</b>	ACSIZ E	ACIN DE	ACE XPE	ACME ET	AUDQ UL		BRSH AR	BIND E	FSI ZE	FR OE	FLE V
							BSIZ E					
<b>DACC/ EM</b>	1											
ACSIZ E	-.164	1										
ACIN DE	-.452*	.115	1									
ACE XPE	-.672**	.219*	.248*	1								
ACME ET	-.412*	.109	.187	.187	1							
AUDQ UL	-.685**	.141	-.087	-.029	.109	1						
BSIZ E	-.374*	.432**	.059	.128	.127	.312**	1					
BRSH AR	.081	.174	.183	.166	.113	.145	-.018	1				
BIND E	-.261*	-.106	.360*	.111	.040	-.087	.037	-.043	1			
FSI ZE	.296*	.540**	-.034	.176	.293*	.283*	.645** *	.156	.087	1		
FR OE	.158	.142	.257	.153	.178	.174	.311*	.219	.100	-.067	1	
FLE V	.276*	.149	-.084	.063	-.142	.092	.058	.090	-.150	-.173	.268*	1

\*\*\* Correlation is significant at P<0.01 (2-tailed).

\*\* Correlation is significant at P<0.01 (2-tailed).

\* Correlation is significant at P<0.01 (2-tailed).

On the other hand, the relationship between EM two control variables related to the company characteristics namely the company size (FSIZE) and company leverage (FLEV) is positive and significant at  $P < 0.10$ .

**Table 5:** Multiple regression analysis for factors associated with EM.

Predictors	B	Beta	T	Sig. T	Effect
ACSIZE	-0.105	-0.197	-1.019	0.271	NS
ACINDE	-0.098	-0.301	-3.106	0.031	**
ACEXPE	-1.119	-0.413	-6.878	0.002	***
ACMEET	-0.093	-0.287	-3.166	0.039	**
AUDQUL	-1.145	-0.424	-7.547	0.000	***
BSIZE	-1.008	-0.067	-0.329	0.074	*
BINDE	-0.976	-0.087	-0.398	0.069	*
BSHAR	0.102	0.021	0.149	0.221	NS
FSIZE	1.198	0.066	0.422	0.084	*
ROE	0.203	0.017	0.114	0.354	NS
FLEV	0.124	0.084	0.394	0.074	*
Constant			9.765		
R <sup>2</sup>			0.692		
Adj. R <sup>2</sup>			0.596		
F			16.223		
F Sig.			0.000***		

\*\*\*  $P < 0.01$ , \*\*  $P < 0.01$ , \*  $P < 0.01$ .

### 5.3 Multivariate Analysis (Regression Analysis and Hypotheses Testing)

This section is devoted to regression analysis and hypotheses testing. Table 5 below presents the regression model results that used to identify which of the independent and control variables included in the regression model contribute to the prediction of the dependent variable. The regression model utilized to test the study hypotheses. This model includes EM as dependent variable and four independent variables named ACSIZE, ACINDE, ACEXPE, and ACMEET. Also, it includes seven control

variables four of them are related to corporate governance mechanism and three of them are related to the corporate characteristics named FSIZE, FROE, and FLEV. These variables are explained in the methodology section.

Table 5 above shows the explanatory power of the study model measured by adjusted R<sup>2</sup>. The value of adjusted R<sup>2</sup> in the model is 54% which ranked this model as powerful one comparing to the similar studies. For instance, Saleh et al. (2007) reported at 22.3%, while Mohammad and Ahmed (2017) reported adjusted R<sup>2</sup> of 77.09%, and more recent study conducted by Alzoubi E., (2019) reported 52.8% adjusted R<sup>2</sup>. In a study conducted in the GCC countries, Hamdan (2020) reported adjusted R<sup>2</sup> 38.5%. Comparing our study model with the other modules reveals that this model is one of the strongest models, as included all related dependent and control variables. Moreover, the model in general is significant at  $p < 0.01$ , as F. Sig. valued 0.000 which indicates that the EM is explained by AC characteristics and some other control variables, as they shown in table 5 below. The explanatory power of each one of the independent and control variables is shown in table 5 below in details.

According to table 5 above, ACSIZE has negative and non-significant association with EM. This result indicates that larger number of AC does not affect the EM practice. This result provides reasonable explanation for the requirements of corporate governance codes and stock markets regulations in the GCC countries which determined such number to be at least three.

This result confirms that the bigger size of AC, does not affect EM, so, null hypothesis cannot be rejected the as “There is no negative significant association between audit committee size (ACSIZE) and earnings management (EM)” and the alternative hypothesis will be rejected that “***There is a negative significant association between audit committee size (ACSIZE) and earnings management (EM)***”.

Our results are consistent with numerous studies in the literature on this regard (Klein, 2002; Yang & Krishnan, 2005; Setiany et al., 2017), as these studies reported positive significant association ACSIZE and EM. In contrast, this study is not consistent with some other studies which reported insignificant association between ACSIZE and EM (Xie et al., 2003; Siregar and Utama, 2008; Metawee, 2013). The nonconsistency of some studies can be explained by several reasons, as these studies conducted in different contexts, dissimilar sample sizes, using various proxies for measuring EM.

Regarding the association between ACINDE and EM, the multiple regression analysis in table 5 above presents negative and significant association at  $p < 0.05$  as the value of Seg. T is 0.031. This result indicates that the EM is lower at companies having more independence AC, as such independence provides members with more power and autonomy to express their opinion, which will be reflected on the financial reporting transparency and reduced information asymmetry. This result ensures that EM will be declined if the AC possess more independence. Hence, the null hypothesis will be rejected as “There is a no negative significant association between audit committee independence (ACINDE) and earnings management (EM)” and accept the alternative hypothesis that “There is a negative significant association between audit committee independence (ACINDE) and earnings management (EM)”. Several studies in the literature are consistent with our study on this regard, as the mainstream of empirical studies reported negative and significant association between ACINDE and EM. Soliman and Ragab (2014) provide evidence that EM is negatively associated with ACINDE. Hamdan (2020) reveals that the quality of earnings has positive and significant association with more ACINDE. Conversely, this study is not consistent with other few studies (Xie et al., 2003; Fodio et al., 2013) who do not find evidence that ACINDE improves EM practice or found positive association.

The association between ACEXPE and EM is shown in the multiple regression analysis in table 5 which presents negative and significant association at  $p < 0.01$  as the value of Seg. T is 0.002. This result indicates that EM is lower at companies having more members with financial and accounting expertise, as such expertise helps members to detect inappropriate accounting and auditing practices and restricts managers from practicing EM.

This result ensures that EM will be improved if members of AC possess more experience in finance and accounting. Hence, the null hypothesis will be rejected as “There is no negative significant association between audit committee financial expertise (ACEXPE) and earnings management (EM)” and the alternative hypothesis will be accepted as: “There is a negative significant association between audit committee financial expertise (ACEXPE) and earnings management (EM)”.

Our findings are consistent with the mainstream of prior research that reported significant and negative association between ACEXPE and EM. (Alzoubi Ebraheem Saleem, 2019; Badolato et al., 2014). Our study is not consistent with few studies, Rainsbury et al. (2009) reported insignificant association between the ACEXPE and EM,

while Carrera et al. (2017) indicate that financial accounting expertise increases EM. The explanation of this contradictory results is that studies were conducted before issuing any regulations or rules for AC.

The association between EM and AC frequent meetings (ACMEET) is shown in the multiple regression analysis in table 5 above which presents negative and significant association at  $p < 0.05$  as the value of Seg. T is 0.039. This result indicates that EM is lower at companies having active AC members, as such activity provides members with sufficient time to perform their obligations.

This result ensures that EM will be enhanced if the AC meets frequently. Hence, the null hypothesis will be rejected as “There is no significant association between audit committee frequent meetings (ACMEET) and earnings management (EM)” and the alternative hypothesis will be accepted as: “There is a negative significant association between audit committee frequent meetings (ACMEET) and earnings management (EM)”.

Our findings are consistent with literature as most studies reported negative significant association between ACMEET and EM (Hamdan, 2020; Hasan et al., 2020; Lin et al., 2006). Our results confirmed the findings of previous studies as more AC meetings is negatively affected EM. Our study is not consistent with some studies as they reported insignificant association (Bamahros & Bhasin, 2016; Yang & Krishnan, 2005). These inconsistent results could be due to using old data, and the absence of regulations for AC at that time.

Moreover, table 5 above shows negative association between EM and some other control variables. For instance, audit quality (AUDQUL) presents negative and significant association at  $p < 0.01$  as the value of Seg. T is 0.000. This finding reveals that EM is lower at companies hiring one of the big four auditors, as they are more competent and more independent than non-big four auditors. The board of director size (BSIZE) and Board of director independent (BINDE) have negative significant association with EM at  $p < 0.10$ . While the company size (FSIZE) and the company leverage (FLEV) have positive and significant association with EM at  $p < 0.10$ . This result suggests that the bigger size companies and bigger leverage provide higher level of EM. In summary our results indicate that EM has negative and significant association with three characteristics of AC namely AC independence (ACINDE), AC financial expertise (ACEXPE), and AC frequent meetings (ACMEET), and negative non-significant association with AC size (ACSIZE) thus, three null hypotheses are rejected, and the three alternative hypotheses are accepted.

## 6 Conclusions

This current study examines the association between audit committee AC characteristics and earnings management (EM) of companies listed on the GCC countries' stock markets. The research data was collected from a sample of 133 companies from six GCC countries during the period from 2017-2020 making 532 firm-year observations. Four hypotheses were tested, EM as dependent variable was regressed with four independent variables represent AC size (ACSIZE), AC independence (ACINDE), AC experience (ACEXP), and AC frequent meetings (ACMEET). Seven appropriate control variables were added to the study model, four of them related to corporate governance mechanism and three of the related to the company characteristics. The author adopted the modified Jones' model for estimating EM.

The study findings reveal that the level of EM on the study sample averaged 14.3% upward while the minimum and the maximum valued 44.1% downward % and 111.2% upward respectively. The average of AC size is about 4.5 members with minimum of 3 and maximum of 7 members. The average of AC independence is about 64.3% with minimum of 33% and maximum of 100%. Regarding the AC financial and accounting expertise, the average is about 49% with minimum of 33% and maximum of 100%. AC meetings are averaged about 7.4 meetings each year with minimum of 4 and maximum of 15. The results related to AC characteristics are mostly consistent with the codes of corporate governance and the regulations of stock markets in the GCC countries, as the minimum of AC size not less than 3, members should be independent, at least one of them has financial expertise, and they meet at least 4 times a year. About 68% of listed companies in the GCC countries stock market hire one of the big four audit firms, which indicates the quality of external auditing. The results indicate that EM is negatively and significantly associated with three of AC characteristics so, three null hypotheses are rejected, and the three alternative hypotheses are accepted. Moreover, the results indicate that EM is not significantly associated with AC size. There are some limitations of the current study. First, results are limited to the GCC context and could be re-conducted on other emerging markets. Second, some more characteristics of the audit committee such as its member shareholding, the male or female member. The findings of this study have wide implications to all stakeholders and stock markets for the role of AC characteristics as internal corporate governance mechanism on restricting EM practices.

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