

The Impact of Earnings Quality on Cost of Equity to improve the Investment Decisions: An applied study on the Saudi Stock Market

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Abstract:

Companies want to signal the quality of their financial reporting to stakeholders. Therefore, should care about the quality of their disclosed information. One of the indicators of such quality is the quality of disclosed Earnings. Companies aim to mitigate the imprecision risk that may be embedded in thier financial reporting by disclosing accurate earnings. Controlling such risk may have an impact on the future cash flow and consequently on the cost of companies' equity.

This study extends the previous study, which investigated the relationship between cost of equity and earnings quality in developed countries, by exploring during the period from 2015 to 2016 such a construct in a developing country, namely Saudi Arabia. We used different earnings attributes to measure earnings quality. In order to do so, this study ran four ordinary least square models to test the influence of earnings attributes on cost of equity.

The findings demonstrate that there is a significant relationship between cost of equity and earnings quality. Saudi Arabian companies, which have high levels of earnings quality, as measured by abnormal accrual and earnings persistence, are less likely to have cost of equity.

Keywords: Cost of Equity (CoE); Saudi Arabia; Earnings Quality (EQ); Earnings persistence; Earnings predictability; Earnings smoothing

1. INTRODUCTION

As shown by the accounting literature, much attention has been paid previously to the association between Cost of Capital (CoC) and disclosure quality (Shevlin, 2013; Hefline *et al.*, 2016). One of the most important consequences of high disclosure quality is its attraction to investors who need more useful information. In turn, this leads to reductions in CoC (Levitt, 1998). Accordingly, many previous studies responded

to the need for such information by examining the association between the components of CoC and disclosure quality (e.g. Sengupta, 1998; Botosan and Plumlee, 2002; Shevlin, 2013 and Chen *et al.*, 2015)

CoC consists of two main components. The first is the Cost of Equity (CoE), which relates to the company's shareholders, and the second is the Cost of Debt (CoD) which relates to the debt holders, Both components are important when determining the CoC. This can be expressed as the required rate of return on the company's funds (Munteanu, 2011; Swanson and Habibi, 2016).

This study focuses mainly on CoE as one part of CoC because it represents a critical factor when comparing investment decisions (Cotner and Fletcher, 2000; Embong *et al.*, 2012; Babadi and Salehi, 2017). Companies can exploit many potential investments if they keep their CoEs at rational levels. Therefore, CoE is one of the vital determinant factors that play a key role in evaluating the company's investment decisions (Beneda, 2003)

Due to its relevance, quality accounting information influences the company's decision making process. Such information, which is characterised by its relevance, reliability and comparability, helps the company's management to make useful decisions. Earnings are one of the most important pieces of information disclosed to the company's shareholders. Earnings reflect the company's good performance in the business environment. Therefore, earnings act as a determinant of information quality and, hence, they impact on the predictions of a company's future cash flows (Dechow & Dichev, 2002; McNichols, 2002; Niu, 2006; Carvalho and Kalatzis, 2018). Companies seek to disclose high quality information to their shareholders in order to alleviate the information risks surrounding the financial reporting. This may influence the expected rate of return obtained by the company's shareholders and debt holders (Ghosh and Moon, 2010). Therefore, each company

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takes care to ensure a high level of quality when disclosing its earnings (Ezat, 2019).

Recently, accounting studies have argued about many aspects related to CoC and Earnings Quality (EQ) is among them (Persakis and Iatridis, 2017). Previous studies (Affleck-Graves et al. (2002), Bhattacharya *et al.* (2003), Kim and Qi (2010), Valipour and Moradbeygi (2011) and Persakis and Iatridis (2015, 2017) indicate that EQ has a significant impact on CoE.

Agency theory postulates that there is an information asymmetry problem between shareholders (investors) and the company's management. Managers possess the information that allows them to adopt good positions over uninformed investors and this creates the information risk problem. One way to alleviate this risk is to disclose high quality information and, more specifically, to increase the quality of disclosed earnings. This reduces the information asymmetry problem and, hence, the CoE (Easley and O'Hara, 2004).

In addition, based on signalling theory, companies with high earnings quality signal these good performance indicators to their investors who translate them as the companies having more stability. Hence, in order to obtain the required rate of return, the investors increase their investments in these companies and this has a direct impact in reducing the CoE (Francis *et al.*, 2008).

Due to the misallocation of resources, information asymmetry problem may lead to inefficient investment decisions. As mentioned previously, EQ enables the company to reduce information asymmetry. Therefore, through its influence on CoE, EQ can help companies to make rational investment decisions. By attracting more investors to invest in companies with good performance, this guarantees that those investors receive a high rate of return on their investments and, hence, increases these companies' values (Babadi and Salehi, 2017; Carvalho and Kalatzis, 2018).

In order to measure EQ, this study conducted four attributes, namely, Abnormal Accrual (AAC), Earnings Persistence (EPRS), Earnings Predictability (EPRD) and Earnings Smoothing (ES).

I divided accrual is divided into two main components: namely, normal; and AAC (Jones, 1991). I obtained ACC from the residual captured from the performance-adjusted modified Jones model. Therefore, ACC results from the differences between the actual and expected accruals. Accordingly, because of ACC's discretionary nature, high ACC suggests low EQ and vice versa (Perotti and Wagenhofer, 2014).

EPRS refers to the extent to which current earnings are recurring and sustainable in the future (Francis *et al.*, 2004; Perotti and Wagenhofer, 2014). Persistence reflects the stability, continually and the less volatility in earnings. This

represents a good indicator for investors. Accordingly, high EPRS indicates high EQ and vice versa.

Predictability has an important view from two standpoints. Firstly, in setting the standard, it is crucial because it is one of the components of relevance in the conceptual framework of IFRS. Secondly, from the analysts' standpoint, it is vital for companies' valuations (Francis *et al.*, 2004). Therefore, predictability enhances the users' ability to predict different financial items. Accordingly, EPRD refers to the earnings' ability to predict the company's future value (Lipe, 1990). High EPRD indicates high EQ and vice versa.

ES is the last earnings attribute and stability is one of its desirable characteristics. Smoothness leads to fewer fluctuations in earnings. This results in more stability and the usefulness of reported earnings and, hence, increases the forecasting in the upcoming periods. Accordingly, high ES indicates high EQ.

Accordingly, in order to enhance the investment decisions, this study's main objective is to investigate the relationship between the EQ attributes and CoE of the Saudi Arabian companies listed on the Saudi Arabian Stock Exchange between 2015 and 2016.

The Saudi Arabian environment has many characteristics and these motivated us to conduct this study. First, Saudi Arabia has some unique characteristics such as the concentrated ownership, the small amount of investor protection and the weak legal enforcement. These characteristics may lead to weaker levels of EQ and this is our motivation to examine the level of EQ in the context of Saudi. Second, because of the Islamic trend in this environment, few previous studies have considered the CoC. This study aims to investigate one component of CoC, namely CoE, in order to discover such practices in Saudi Arabia. Finally, the Saudi environment has witnessed many recent changes during the last period. One of these changes is related to the financial reporting. Saudi regulators apply the corporate governance code in 2007 and from that date they require high level of financial reporting from the Saudi companies. Therefore, this study aims to explore the level of EQ in the Saudi companies to assure from the quality of their financial reporting.

With regard to the research objective this study's findings indicate that, as indicators of EQ, both AAC and EPRS have a positive impact on CoE. In the context of Saudi Arabia, the other two earnings attributes, namely, EPRD and ES have no impact on CoE.

This study contributes to the accounting literature in two ways. First, in the context of Saudi Arabia, there have been few previous examinations of earnings attributes. This study fills this gap by investigating the different earnings attributes of the companies listed on the Saudi Arabian Stock Exchange. Second, few studies, which relate to developing countries, have tested EQ's impact on CoE. Consequently, there is a

need for more Saudi Arabian field studies to investigate CoE. Accordingly, in the context of Saudi Arabia, this study aims to examine the impact of different earnings attributes on CoE.

The rest of this paper is organised as follows. Section 2 discusses briefly the theoretical framework, literature review and the formulation of the study's hypotheses. Section 3 presents the research methodology. Section 4 discusses the empirical findings. Finally, Section 5 presents the conclusions.

2. THEORETICAL FRAMEWORK, LITERATURE REVIEW AND FORMULATION OF THE HYPOTHESES

Theoretically, agency theory assumes that there is a conflict between managers and shareholders which lead to information asymmetry problems. Managers are in a better position since they obtain valuable information which enables them to be better informed than the investors about the market and, therefore, this creates information risk. As an indicator of high disclosure quality, high EQ can mitigate this problem through reducing the information risk factor related to the company's future growth. Hence, it reduces, also, the information asymmetry problem and, in turn, leads to an increased level of investment in the company and reduces the CoE. Therefore, agency theory can explain the association between EQ attributes and CoE.

In addition, signalling theory assumes that high EQ is an indicator of the company's good. Consequently, companies with high EQ signal their good performance to their investors through increasing disclosure. In turn, this attracts more investors to those companies and hence reduces their CoE. Therefore, signalling theory can explain, also, the association between EQ attributes and CoE.

CoE expresses the investors' expected returns (e.g. dividend) yielded from providing funds to the companies. A number of studies have examined different aspects of CoE in the developed countries. However, few studies have examined this topic in the developing countries and, more especially, in Saudi Arabia (Omran and Pointon, 2004).

Earnings predict the company's future performance and continuity because they indicate the operational performance that the company has achieved previously (Lev, 1989; Dechow, 1994; Carmo *et al.*, 2016). When reported earnings reflect accurately both the company's current and future performance, they are characterised by EQ. Information disclosed about EQ impacts on the company's various decisions and, more especially, on its investment decisions. Therefore, EQ represents one of the main sources that impacts on capital market decisions (Ezat, 2019).

Previous studies (e.g. Affleck-Graves *et al.* 2002; Bhattacharya *et al.*, 2003; Francis *et al.*, 2004; Francis *et al.*,

2005; Aboody *et al.*, 2005, Chan *et al.*, 2009; Chang *et al.*, 2009; Kim and Qi, 2010; Ghosh and Moon, 2010; Valipour and Moradbeygi, 2011; Persakis and Iatridis, 2015; Persakis and Iatridis, 2017) have examined the relationship between EQ attributes and CoE.

In investigating the relationship between CoE and EQ, Bhattacharya *et al.*, (2003) analysed the financial statements of 34 countries in the period from 1984 to 1998. They examined three EQ attributes: namely, earnings aggressiveness; loss avoidance; and earnings smoothing and combined the three attributes to capture overall earnings opacity measures per country. The findings indicate that in each country there is a positive association between earnings opacity and CoE.

Francis *et al.*, (2004) investigated the association between CoE and seven earnings attributes. Four related to accounting-based attributes (i.e. accrual quality, persistence, predictability and smoothness) and the other three related to market-based attributes (i.e. value relevance, timeliness and conservatism). The study tested the impact of each attribute on CoE and, also, as a group (accounting and market). Generally, this study's findings show that companies, characterised by the fewest number of EQ attributes, have larger CoEs than the companies characterised by the large number of EQ attributes. In addition, when compared to market-based attributes, accounting-based attributes have a greater effect on CoE. With regard to accounting-based attributes, accrual quality has the greatest effect on CoE while, in terms of market-based attributes value relevance has the greatest effect on CoE.

Moreover, Bhattacharya *et al.*, (2012) examined the direct and indirect relationships between three EQ attributes (i.e. accruals quality, absolute abnormal accruals and composite measure) and CoE by mediating information asymmetry measured by both the adverse selection component of the bid-ask spread and the probability of informed trading. The study applied path analysis to test this relationship for 12, 648 Value Line firm years which covered the period from 1993 to 2005. The results provide empirical evidence of the direct and indirect relationships between EQ attributes and CoE. Further their findings indicate that, empirically, the direct relationship is more important.

By using a multinational sample of 161 privatized firms from 32 developing and industrialized countries over the period from 1987 and 2006, Ben Nasr and Al-Dakheel (2015) explored the relationship between EQ and CoE. The study used four different means to measure CoE and measured EQ by discretionary AAC. Following the addition of seven controlling variables, the findings indicate that firms with low EQ suffer from high CoE and, hence, high information risks.

In addition, Eliwa *et al.*, (2016) extended the work of Francis *et al.*'s (2004) study by using a sample of UK listed firms in

the period from 2005 to 2011. The study investigated the impact of IFRS based earnings on CoE in the case of financial crises. Their findings support the previous trends regarding the negative association between EQ and CoE. Each EQ attributes has an impact on CoE. In addition, such an association is more noticeable during the period of a financial crisis than in the pre-crisis period.

Similarly, in the context of Brazil, Da Silva *et al.*, (2017) examined the impact of the transition from national standards to IFRS on EQ and CoE. Their study's sample included the most traded 100 firms on the Sao Paulo stock exchange in addition to 30 firms that adopted IFRS formerly between 2000 and 2011. Their findings show that a reduction in CoE resulted from increases in information and the efficient allocation of resources. This suggests that EQ has a negative impact on CoE and, more especially, after the adoption of IFRS.

Recently, Persakis and Iatridis (2017) investigated the aggregated effect of EQ, investor protection and IFRS adoption on CoC for 199,516 publicly listed firm year observation belonging to Euro Zone and Asian countries in the period from 2000 to 2014. Their findings reveal that in both Euro Zone and Asian countries EQ has a negative association with CoE. For the joint effect, their findings show that in respect of companies with higher EQ and strong investor protection the CoE reduced after the adoption of IFRS.

Based on the above theoretical arguments, this study's hypotheses are as follows:

H₁: There is a significant association between EQ attributes and CoE.

This hypothesis is subdivided into the following sub hypotheses:

H_{1a}: There is a significant association between AAC and CoE.

H_{1b}: There is a significant association between EPRS and CoE.

H_{1c}: There is a significant association between EPRD and CoE.

H_{1d}: There is a significant association between ES and CoE.

3. METHODOLOGY

3.1 Sample

This study's sample covered the period from 2015 to 2016 for all non-financial Saudi Arabian companies listed on the main Saudi Arabian Stock Exchange. Due to their unique characteristics, we excluded 45 financial companies belonging to the banking and insurance sectors. This yielded 183

observations for 91 companies. We obtained the financial data from the Tdawul website which included the data of the Saudi Arabian listed companies. Table 1 summarise the study's final sample.

Table 1: Study Samples and Sub-samples

	Total Study Period (2015–2-16)
Initial Size (136 * 2 years)	272
Less: Banks (2 years)	(24)
Less: Insurance companies (2 years)	(66)
Final Size	182

3.2 Research design

3.2.1 Measurement of CoE

As shown below, we measured CoE as the inverse of PE ratio (Omran and Pointon, 2004) as follows:

$$COE = 1/PE \text{ ratio} - \{(EPs-Div)/EPs\}$$

Where:

COE = Cost of equity capital

PE ratio = Current share price /EPs

EPs = Earnings per share

Div = Dividends per share

3.2.2 Measurement of EQ Attributes

This study tests the following four EQ attributes:

(1) AAC: This study runs the performance-adjusted modified Jones model and calculates its residual as an indicator of EQ (Kothari *et al.*, 2005; Persakis and Iatridis, 2015, Ezat, 2019). When obtaining positive residuals, EQ is shown to be low and vice versa. All variables are divided by the previous year's total assets. By using the adjusted modified Jones model, we obtained the following residuals:

$$TACC/LagTA = \beta_0 + \beta_1(1/LagTA) + \beta_2(\Delta REV - \Delta REC)/LagTA + \beta_3(LagROA) + \beta_4(PPE/LagTA) + \epsilon.$$

Where:

β_0 : the intercept

TACC/LagTA: Total accruals (measured as the year-to-year change in non-cash current assets minus current liabilities (excluding short-term debt and income taxes payable) minus depreciation)

LagTA: Total assets of the previous year

ΔREV: Change in net revenue (measured as the change in net sales from year t-1 to year t)

ΔREC: Change in account receivables (measured as the change in net account receivables from year t-1 to year t)

LagROA: ROA for the previous year (net income /total assets)

PPE: Property, plant, and equipment (collected from balance sheets as gross fixed assets for the company in that year).

Since they have a negative sign, 87 of the residual observations indicate high EQ whereas 95 observations have a positive sign which reflect low EQ.

Then, we placed the EQ values (the residuals of the above model) into the main model.

(2) EPRS: based on the Autoregressive model of order one (AR1), this study uses the following to measure EPRS (Francis et al., 2004; Perotti and Wagenhofer, 2014) :

$$EPS_{c,i} = a_0 + a_1 EPS_{c,i-1} + \epsilon$$

Where:

EPS: adjusted earnings per share (measured by divided net income before extraordinary items on the weighted average number of outstanding shares) for company c in year i and i-1.

By using a rolling 10 years window, we ran the model for each company in the sampled period. This yields the coefficient of previous EPS (a_1) which denotes EPRS. Persistence = - a_1 , which supports that large value of a_1 , represents a smaller EPRS and, hence, low EQ and vice versa.

(3) EPRD: predictability is measured by the square root of errors' variance obtained from model (3). This is presented in the following equation:

$$Pred = \sqrt{\sigma^2(\epsilon)}$$

Where:

Pred: predictability value

$\sigma^2(\epsilon)$: the errors' variance.

By using a rolling 10 years window and the errors calculated from the earnings persistence's model, we ran the equation for each company in the sampled period. A larger Pred value indicates a low EPRD which, in turn, supports low EQ and vice versa.

(4) ES: by using the standard deviation of cash flow from operations, we measured smoothing by dividing the standard deviation of net income before extraordinary items. Then, we deflated both the numerator and dominator by total assets at the beginning. The equation is presented as follows:

$$Smooth = \sigma NIBI / \sigma CFO$$

Where:

NIBE: net income before extraordinary items

CFO = cash flow operating.

By using a rolling 10 years window, I ran the equation for each company in the sampled period. The lower the

smoothing value, the lower the reflections in earnings and, hence, the higher the ES

3.2.3 Measurement of Control Variables

Based on the previous studies (Persakis and Iatridis, 2015; Ben Nasr and Al-Dakheel, 2015; Eliwa et al., 2016; Persakis and Iatridis, 2017; Da Silva et al., 2017; Ezat, 2019), this study includes eight control variables. These variables are: namely, company size (*size*); risk (*Lev*); profitability (*Prof*); Board size (*BSize*); Non-Executive members (*NonExc*); Board meetings (*Meet*); Audit committee size (*ACSize*) and Audit committee meetings (*ACMeet*) . Table 2 presents the proxies of all the study's variables.

Table 2: The variable definitions and their proxies

Variable	Acronym	Proxy
(A) Dependent Variable:		
Cos of Equity	CoE	No. of positive statements
(B) Independent variables		
Abnormal Accrual	AAC	
Earnings Persistence	EPRS	
Earnings Predictability	EPRD	
Earnings Smoothness	ES	
(C) Control variables:		
Size	size	Natural logarithm of total assets
Risk	Lev	Total liabilities deflated by total equity
Profitability	Prof	
Board Size	BSize	
Non-Executive members	NonExc	
Board meetings	Meet	
Audit committee size	ACSize	
Audit committee meetings	ACMeet	

3.2.4 Research model

For the purposes of this study, we ran four main models in order to examine the association between the four EQ attributes and CoE. First, in order to test the influence of ACC on CoE, the first model is presented as follows:

$$CoE = \beta_0 + \beta_1 AAC + \beta_2 Size + \beta_3 Lev + \beta_4 Prof + \beta_5 BSize + \beta_6 NonExc + \beta_7 Meet + \beta_8 ACSize + \beta_9 ACMeet + \epsilon$$

(Model 1)

Second, model 2 exhibits the association between EPRS and CoE as follows:

$$CoE = \beta_0 + \beta_1 EPRS + \beta_2 Size + \beta_3 Lev + \beta_4 Prof + \beta_5 BSize + \beta_6 NonExc + \beta_7 Meet + \beta_8 ACSize + \beta_9 ACMeet + \epsilon$$

(Model 2)

Third, in order to test the relationship between EPRD and CoE, model 3 is presented as follows.

$$\text{CoE} = \beta_0 + \beta_1 \text{EPRD} + \beta_2 \text{Size} + \beta_3 \text{Lev} + \beta_4 \text{Prof} + \beta_5 \text{BSize} + \beta_6 \text{NonExc} + \beta_7 \text{Meet} + \beta_8 \text{ACSize} + \beta_9 \text{ACMeet} + \epsilon$$

(Model 3)

Finally, as follows, model 4 investigates the relationship between ES and CoE .

$$\text{CoE} = \beta_0 + \beta_1 \text{ES} + \beta_2 \text{Size} + \beta_3 \text{Lev} + \beta_4 \text{Prof} + \beta_5 \text{BSize} + \beta_6 \text{NonExc} + \beta_7 \text{Meet} + \beta_8 \text{ACSize} + \beta_9 \text{ACMeet} + \epsilon$$

(Model 4)

4. RESULTS AND DISCUSSION

4.1 Descriptive and univariant analysis

Table 3 indicates that, for the sampled companies, the CoE ranges from -0.548 to 5.128 with a mean value of 0.08 and standard deviation 0.390. This supports the view that the majority of the Saudi Arabian companies are more likely to have minimum CoE. With regard to the earnings attributes, the sampled companies have an average value of AAC with negative signs which indicate that most of the Saudi Arabian companies are characterised by high EQ. In addition, most of the sampled companies' earnings are sustainable (with a mean of -0.855); have the ability to predict future earnings (with a mean of 0.744); and more smoothing (with a mean of 0.731). In terms of the control variables, the sampled companies are more likely to be large (with a mean of 9.31) with an average leverage of 0.871 and an average profitability 0.061. Further, they are characterised by moderate board of directors' size (with a mean of 8), with less non executives members (with a

mean of 0.409) when compared to executives members, less size of audit committee (with a mean of 4), fewer meetings of both board of directors (with an average of 5 times) and audit committee (with an average of 5 times).

Table 3: Descriptive analysis of variables

Variable	Obs.	Mean	Min.	Max.	Std. Dev.
CoE	182	0.080	-0.548	5.128	0.390
AAC	182	-2.618	-2.62	0.008	0.522
EPRS	182	-0.855	-4.48	7.52	1.203
EPRD	182	0.744	0.01	5.06	0.782
ES	182	0.731	0.03	11.46	1.203
Size	182	9.321	6.21	11.53	0.662
Lev	182	0.871	-23.54	20.61	2.634
Prof	182	0.061	-0.52	0.36	0.095
BSize	182	8.4	5	15	1.549
NonExc	182	0.409	0.3	1	0.201
Meet	182	4.951	1	13	1.785
ACSize	182	3.610	2	7	0.825
ACMeet	182	5.418	1	12	1.772

Table 4 presents the correlation matrix between the dependent, independent and control variables. CoE correlates negatively with earnings persistence and the percentage of non -executive members. On the other hand, CoE correlates positively with Size, Profitability and audit committee size. The coefficient of the independent variables does not exceed 0.80. Therefore, there is considered to be no multicollinearity problem (Gajarati, 2003, p.359).

Table 4: Pearson coefficient correlation matrix

	CoE	AAC	EPRS	EPRD	ES	Size	Lev	Prof	BSize	NonExc	Meet	ACSize
CoE	-.03											
AAC	-.12											
EPRS	-.18**	-.05										
EPRD	-.08	.04	0.07									
ES	.08	-.14	0.02	-.01								
Size	.15*	.10	-.06	.04	0.1							
Lev	.09	.05	-.06	.14	-.03	.27***						
Prof	.54***	-.01	-.13	-.01	.32***	.11	.03					
BSize	.13	-.01	-.10	-.02	.19**	.38***	.18***	.16**				
NonExc	-.10**	-.02	.06	-.11	-.03	.26***	-.05	-.14	.15**			
Meet	.02	.05	0.03	0.01	.03	0.15**	.15**	.08	-.09	-.15**		
ACSize	0.15**	.01	.03	-.06	-.07	.28***	.01	-.06	.30***	.24***	.22***	
ACMeet	0.02	.07	.13	-.02	-.05	.04	.01	.11	-.05	.06	.26***	.12

No serious multicollinearity among the independent variables; ***Significant at 1%; **Significant at 5%; * Significant at 10%

4.2 Multivariate analysis

We ran four OLS models to test this study's main hypothesis study. Table 5 summarizes the findings of these models. *First*, in order to test hypothesis H_{1a} , this study ran model 1. Table 5 illustrates that model 1 is significant at $p < 0.0000$ and the adjusted R^2 is 31.9%. The findings demonstrate that AAC has an impact on CoE. This suggests that the lower the AAC value the higher the EQ value which, in turn, reduces CoE. This means that, when EQ is measured by AAC, information earnings are priced and, hence, the ACC's coefficient is negative. This result can be explained by agency theory which postulates that high disclosure quality, derived from high EQ, mitigates the conflict between managers and shareholders. This leads to more information being made available to investors who become more confident about increasing their investments. Hence, this reduces the CoE. Further, this result is consistent with Francis's et al.'s (2004) and Pietro and Wagenhofer's (2014) findings. Accordingly, hypothesis H_{1a} is accepted.

Second, in order to test hypothesis H_{1b} , this study ran model 2. Table 5 illustrates that model 2 is significant at $p < 0.0000$ and the adjusted R^2 is 32%. The findings indicate that EPRS has a positive association with CoE. This suggests that the lower the sustainable and continuous earnings, the higher the CoE. Saudi Arabian companies, characterised by low levels of

persistence, are more likely to have low levels of EQ and, hence, high levels of CoE. Increasing EPRS reduces the information risk related to future earnings. In turn, this encourages investors to be more confident about the earnings information disclosed by the companies and leads them to reduce the uncertainty surrounding the companies and, hence, reduce CoE. Signalling theory explains this result in that companies, characterised by high EPRS, signal their good performance to their investors. In turn, this reflects their stability and encourages the investors to increase their investments. In addition, this result is consistent with Francis et al.'s (2004) and Pietro and Wagenhofer's (2014) findings. Accordingly, hypothesis H_{1b} is accepted.

With regard to hypotheses H_{1c} and H_{1d} , this study ran model 3 and 4. Both models are significant at $p < 0.0000$ and their adjusted R^2 are 31.1% and 31.3% respectively. Neither EPRD nor ES are significantly associated with CoE. Therefore, both hypotheses H_{1c} and H_{1d} are rejected. Among the EQ attributes, EPRS is the highest attribute and has higher explanatory power in relation to the variation in CoE. This is followed by the attributes, namely, AAC, ES and EPRD.

As shown in all four models, in terms of control variables, only profitability and audit committee size have positive associations with CoE.

Table 5: Regression results for the impact of IM on FP

	Model 1		Model 2		Model 3		Model 3	
	Coeff.	T Stat.						
Constant	-.006	-.800	1.12	1.83*	1.44	2.35**		
AAC	-.011	-1.800*						
EPRS			0.117	1.869*				
EPRD					0.070	1.121		
ES							0.089	1.337
Size	0.042	0.577	.023	0.315	0.032	0.441	0.031	0.435
Lev	0.078	1.187	0.070	1.066	0.085	1.286	0.069	1.054
Prof	0.570	8.903***	0.558	8.687***	0.569	8.838***	0.596	8.910***
BSize	-0.066	-0.929	-.068	-.958	-0.063	-0.879	-0.045	-0.614
NonExc	0.097	1.431	0.108	1.583	0.095	1.380	0.103	1.512
Meet	-0.068	-0.984	-.067	-0.973	-0.070	-1.004	-0.063	-0.897
ACSize	0.178	2.545***	0.183	2.621***	0.175	2.490***	0.168	2.373***
ACMeet	0.002	0.032	0.010	0.154	-0.006	-0.091	-0.008	-0.127
<u>Other statistics</u>								
F-Ratio (sig.)	10.423***		10.466***		10.089***		10.179***	
Adjusted R^2	0.319		0.320		0.311		.313	
Max. IF	1.396		1.382		1.384		1.386	
Min. Tolerance	0.716		0.724		0.723		0.722	

***Significant at 1%; **Significant at 5%; * Significant at 10%; Tolerance values are more than 0.1 and VIF values are less than 5, which indicate non-existence of Multicollinearity problem.

5. CONCLUSION

Investors need useful information to decide whether or not to invest in one company. Earnings information is one of the essential pieces of information which influences the disclosure quality and, hence, CoE. Many previous studies investigated the relationship between CoE and EQ in different contexts. By using a sample of Saudi Arabian companies listed on the Saudi Arabian Stock Exchange between 2015 and 2016, this study aimed to examine the association between CoE and different earnings attributes.

The descriptive findings show that most of the Saudi Arabian companies, listed on the Saudi Arabian Stock Exchange, have, on average, a minimum CoE. Further, all earnings attributes indicate that most of the sampled companies have high EQ. For the purposes of this study, we ran four OLS model to test the relationship between CoE and earnings attributes. The regression findings demonstrate that, as measured by AAC and EPRS, EQ, has a significant impact on CoE.

This study's findings have important implications. For academic researchers, by using many attributes for EQ, this study extends the previous studies that examined the association between CoE and EQ. The study's findings show that more attention should be given to testing the earnings attributes of companies in different Gulf countries that have similar characteristics to those in Saudi Arabia. For companies, the impact of the different earnings' attributes on CoE should encourage their managers to pay greater attention to the quality of earnings' disclosure.

There were some limitations in conducting this study. First, the study period ranged from 2015 to 2016. Future research may extend this period. Second, this study measured EQ by accounting based measurements. We recommend that future research studies examine the impact of marketing based measurements and that they investigate which measurements have most influence on CoE. Third, this study depended on Omran and Pointon's (2004) measurement of CoE. We recommend that future research studies use different measurements of CoE.

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