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THE EFFECT OF FINANCIAL REPORTING QUALITY ON THE COST OF DEBT: SULTANATE OF OMAN EVIDENCE

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ABSTRACT

The cost of debt provides signals not only on firm financing but also on managerial ability to increase the bottom line. Thus, good quality financial reporting practice enable firms to optimize cost of debt. This study examines whether financial reporting quality influences the cost of debt. It uses a panel dataset for 68 companies listed on the Muscat Securities Market from 2012 to 2018. The study contributes to the literature by extending the scope of previous studies on cost of debt and financial reporting quality by considering the business environment in the Sultanate of Oman where the lending environment differs from that in developed countries. The study also considers quality of accounting earnings as a proxy for financial reporting quality, by utilizing the accounting-based accruals quality model developed by Francis et al. (2005) and performance matched procedure by Kothari, Leone, and Wasley (2005). The study relies on interest rate as a proxy for cost of debt. The empirical results of this study reveal that companies with higher financial reporting quality enjoy lower cost of debt. Findings of this study provide evidence to all financial reporting users that financial reporting quality has a central role in evaluating firm performance and eliminating information asymmetry.

JEL Classification: M41, M48

Key words: Financial reporting quality, Cost of debt, Oman

1. INTRODUCTION

Capital providers rely on financial reports to assess the extent of default risk. Existing financial reporting quality studies demonstrate that companies with high-quality financial reporting can positively influence creditor lending decisions to lower debt financing costs (Zhang, 2008; Ahmed et al., 2002). In particular, financial statements and accounting earnings are the most important single source of information to investors. Rational investors rely on reliable information about firms in their security pricing decisions. Therefore, accounting information plays a central role in evaluating firm performance and eliminating information asymmetry (Bharath, Sunder, and Sunder, 2006; Leuz and Verrecchia, 2004; Healy, 1996).

Literature that empirically link financial reporting quality with cost of debt use different measures of information quality as a proxy for financial reporting quality, such as disclosure score (Achek and Gallali, 2015), conservative accounting (Zhang, 2008; Ahmed et al., 2002), andaccruals quality (Bauwhede, Meyere, and Cauwenberge, 2015; Qi, Subramanyam, and Zhang, 2010; Francis et al., 2005). This study considers the quality of accounting earnings as a proxy for financial reporting quality. The proxies generally utilized are accounting-based accruals quality developed by Dechow and Dichev (2002) and modified by Francis et al. (2005), as well as the modified Jones (1991) model by Dechow, Sloan, and Sweeney (1995) adjusted for firm performance by Kothari et al. (2005). Accruals quality is an important indicator that maps the accounting accruals into operating cash flows. Poorer accruals quality rejects this mapping and therefore increases information risk. Francis et al. (2005) claim that cash flow is the fundamental component prized by investors. It is the basic premise when identifying accruals quality as the measure of information risk associated with earnings. Kothari et al. (2010) indicate that debt holders seek information about the firm's income generating ability (i.e., periodic firm performance), as an indicator of firm's ability to service the debt and to avoid a flow-based insolvency. Since the accruals quality is an accounting-based measure of earnings quality, it mostly reflects the information precision risk embedded in financial reporting.

While research has examined financial reporting quality and cost of debt in other contexts (Achek and Gallali, 2015; Bauwhede et al., 2015; Qi et al., 2010; Zhang, 2008; Francis et al., 2005; Ahmed et al., 2002), there is, however, a general lack of research investigating

this issue within the Arab or Middle East context, particularly in the Sultanate of Oman. This study extends that research to the Sultanate of Oman business environment, which is characterized by absence of a well-developed bond market, in which banks and other financial institutions are the main capital providers (Rao, Al-Yahyaee and Syed, 2007). According to Sbeiti (2010), the percentage of book and market leverage ratios in Oman are 49 and 44 percent; this ratio is considered higher than for the other countries in the region such as Saudi Arabia (having the lowest at 28 and 20 percent respectively) and for Kuwait (with 34 and 26 percent respectively). Moreover, borrowing cost in the Sultanate of Oman is phenomenally high by international standards (Rao et al., 2007). Now investors pay around 10 to 15 percent annually as interest rate to financial institutions. The high borrowing cost in Oman is mainly attributed to absence of a well-developed bond market; banks and other financial institutions are the main capital providers.This study also contributes to the literature by using different indices of financial reporting quality represented by accounting-based accruals quality computed using two models; the first model was developed by Dechow and Dichev (2002) and modified by Francis et al. (2005), and the second model is the modified Jones (1991) model by Dechow et al. (1995) and adjusted for firm performance by Kothari et al. (2005).

This study employs panel data for companies listed on the Muscat Securities Market during the period 2012 to 2018. The findings of this study using random effect model reveal a significant negative association between financial reporting quality and cost of debt for both models of Francis et al. (2005) and Kothari et al. (2005). The results indicate that companies with higher financial reporting quality receive lower cost of debt. This finding supports that capital providers in Oman rely on reliable information in evaluating firm performance and eliminating information asymmetry to assess default risk. The remainder of the study is as follows: The next section discusses related literature and hypothesis development. These sections are followed by sections related to research method. Then comes the section related to the results and discussion, followed by the conclusion.

2. REVIEW OF RELATED LITERATURE

Existing financial reporting quality studies show that companies with high quality financial reporting can positively influence the lending

decisions of creditors and lower the cost of debt financing (Achek and Gallali, 2015; Bauwhede et al., 2015; Zhang, 2008; Ahmed et al., 2002). Poor quality reporting impairs coordination between firms and their investors with respect to firm's capital investment decisions, thereby creating information risk. Anticipating this, investors demand a higher risk premium; they charge a higher cost of capital (Leuz and Verrecchia, 2004). Several studies for example Easley and O'Hara (2004) and Leuz and Verrecchia (2004) have examined the effect of earnings quality and cost of capital. They predict that firms with more information risk will have a higher cost of capital. Gray, Koh, and Tong (2011) in Australia found that higher accrual quality leads to lower cost of capital. In addition, Barth, Konchitchki, and Landsman (2013) based on a US sample noted that firms with more transparent earnings enjoy lower cost of capital.

Some studies examine the influence of earning quality on cost of equity (e.g., Ben-Nasr and Al-Dakheel, 2014; Bhattacharya et al., 2012; AbdulLatiff and Md Taib, 2011; Othman, 2010; Gray et al., 2011; Francis et al., 2004). Using a multinational sample of firms privatized in developing and industrialized countries, Ben-Nasr and Al-Dakheel (2014) found robust evidence that firms with lower earnings quality are penalized with a higher cost of equity. Similarly, Bhattacharya et al. (2010) and Francis et al. (2004) in the US found that firms with lower earnings quality face higher equity cost. Abdul Latiff and Md Taib (2011) and Othman (2010) in Malaysia concluded that earnings quality measures (accrual quality, discretionary current and total accruals) as proxy to information quality significantly reduce equity cost. In addition, Dakhlaoui, Lajmi, and Gana (2017) using data on 26 listed companies in Tunisia noted that companies with higher financial information quality enjoy lower equity cost.

The literature however shows a general lack of research linking earnings quality with the cost of debt. For example, Francis et al. (2005) and Qi et al. (2010) reveal that firms in the US with poorer accruals quality face higher ratio of interest expense than firms with higher accruals quality. Ahmed et al. (2002) and Zhang (2008) show that in the US market, conservative accounting is an important characteristic of high quality financial reporting that can influence creditor lending decisions and lower debt financing costs. Bauwhede et al. (2015) examine the influence of financial reporting quality and cost of debt using a large and detailed dataset of financial statements of Belgian small and medium-sized enterprises (SMEs) over the period of 1997 to 2010. Using accruals quality as a proxy for quality

of SME financial reports, they find that quality of SME financial statements negatively related with effective interest cost. Achek and Gallali (2015) investigated effects of earnings reporting lag on cost of debt for the Tunisian setting. Their sample included 32 Tunisian companies for the period 2003-2012. Using timely disclosure as a proxy for earnings reporting lag they show that the association between earnings announcement lag and cost of debt is positive and significant. Moreover, Ding, Liu, and Wu (2017) find that better earnings quality increases private firms' access to debt financing and lower their cost of debt.

Based on the above mentioned arguments and empirical evidence provided by previous studies, it is expected that companies with high financial reporting quality in the Sultanate of Oman are more likely to receive lower cost of debt. Thus, this study proposes the following hypothesis:

H: Financial reporting quality is negatively associated to the cost of debt.

3. METHODOLOGY

3.1 SAMPLE

This study considers a balanced panel dataset[1] having multiple observations on the same economic units. Each element has two subscripts, the group identifier, i (68 non-financial firms publicly listed in the Muscat Securities Market) and within the group index denoted by t (7 years), which identifies time (2012-2018), and the total number of observations is 476. These years were chosen for several reasons. Year 2012 was chosen to ensure availability of governance data in the annual reports and to ensure uniformity in corporate governance practice in all companies in Oman. The annual reports for these seven years from 2012 to 2018 are the latest source of information available at the time of initial study. The samples selected for the abovementioned seven years are depicted in Table 1.

After eliminating 31 banks and financial related companies, six companies with incomplete data, and 11 companies with no loans, the initial sample for each year was reduced to 68 for seven years (476 firm-year observations).

TABLE 1
Sample Selection for Each Year 2012-2018

Sample Selection	Total cases
Total number of companies extracted from Muscat Securities Market in 2018	116
Less:	
Banks and financial companies	(31)
Companies with incomplete data	(6)
Companies with no loans	(11)
Sample	68

3.2 PROXIES AND VARIABLE DEFINITIONS

3.2.1 COST OF DEBT

The dependent variable of this study is the cost of debt, which is calculated as the interest expenses for the year divided by the average of the total short-term and long-term debt (Hashim and Amrah, 2016; Lorca Ballesta, and Meca, 2011; Piot, Missonier, and Piera, 2010; Kimetal., 2009; Pittman and Fortin, 2004).

3.2.2 FINANCIAL REPORTING QUALITY

Accounting quality models in the literature are classified into three models, based on accruals, specific accruals, and frequency distribution. The models developed to predict earnings management start with the total accruals. Accrual in the accounting language is the recording of a financial event on time to the relevant account with regard to the periodicity principle regardless of cash inflow or outflow. According to accrual basis, the impact of transactions and other events are accrued to the relevant account not when cash or cash equivalents are collected or paid but when these transactions and events take place, and they are reported in the financial reports of that period (Örten, Kaval, and Karapınar, 2011).Most of the models that constitute the accounting quality and earnings management theory which is the most important indicator of this quality center on accruals because in essence accrual (as a system) can be more easily managed as compared to profit and cash flows. By using analyses based on accruals models, various methods have been developed by researchers. The measure employs a Dechow and Dichev's (2002) accrual quality model by Francis et al. (2005), which has recently been considered as a better proxy for financial reporting quality (Spiceland, Yang and Zhang,

2015; Yoo, Lim, and Chang, 2013; Biddle, Hilary and Verdi, 2009; Aboody, Hughes and Liu, 2005). However, Kothari, Leone, and Wasley (2005) argue that measuring discretionary accruals without controlling for firm performance will produce misspecification in the earnings management model. Therefore, this study uses the modified Dechow and Dichev (2002) model by Francis et al. (2005), and modified Jones (1991) model adjusted for firm performance by Kothari et al. (2005) of earning management as proxy for financial reporting quality. The variable is calculated using two models as in the following:

3.2.2.1 MODIFIED DECHOW AND DICHEV (2002) MODEL BY FRANCIS et al. (2005)

The Francis et al. (2005) model measure is based on the observation that accruals map into cash flow realizations and regardless of managerial intent, the accrual quality is affected by the measurement error in accruals. In Dechow and Dichev's (2002) approach, the estimated residuals from firm specific regressions of working capital accruals on past, present, and future cash flow from operation capture total accruals estimation error by management and are viewed as an inverse measure of earnings quality. Francis et al. (2005) extend the Dechow and Dichev (2002) original accrual quality model by adding two additional variables, namely change in revenue and property, plant and equipment (PPE) for more complete characterization of the relation between accruals and cash flow. The following equation of accruals quality is adopted:

$$\frac{\Delta TCA_{it}}{A_{it}} = \alpha_0 + \alpha_1 \frac{CFO_{it-1}}{A_{it}} + \alpha_2 \frac{CFO_{it}}{A_{it}} + \alpha_3 \frac{CFO_{it+1}}{A_{it}} + \alpha_4 \frac{\Delta REV_{it}}{A_{it}} + \alpha_5 \frac{PPE_{it}}{A_{it}} + \varepsilon_{it}$$

where

ΔTCA_{it} = Firms i total current accruals in year t = ($\Delta CA_{it} - \Delta CL_{it} - \Delta Cash_{it} + \Delta STD_{it} - Dep_{it}$).
ΔCA_{it} = Change in current assets between year t-1 and year t.
ΔCL_{it} = Change in current liabilities between year t-1 and year t.
$\Delta Cash_{it}$ = Change in cash and cash equivalents between year t-1 and year t.

ΔSTD_{it} = Change in debt included in current liabilities between year t-1 and year t.
Dep_{it} = Depreciation and amortization expense for firm i in year t.
A_{it} = Average total assets for firm i in year t and year t-1.
CFO_{it} = Net cash flow form operation activities for firm i in year t.
ΔREV_{it} = Change in revenue for firm i from year t-1 to year t.
PPE_{it} = Gross property, plant, and equipment for firm i in year t.

For the model of each firm-year mentioned, the equation is estimated cross-sectionally for all firms (minimum ten firms within each industry groups[2]) by rolling seven year windows. Accrual quality is equal to the standard deviation of firm $_{it}$ estimated residuals. Larger standard deviations of residuals correspond to poorer accrual quality. Following DeFond, Hann, and Xuesong (2007) and Hashim and Devi (2008), in regression analysis the standard deviation score is multiplied by -1 so that higher score indicates higher earnings quality, therefore higher financial reporting quality.

3.2.2.2 MODIFIED JONES (1991) MODEL ADJUSTED FOR FIRM PERFORMANCE BY KOTHARI et al. (2005)

The study also uses discretionary accruals (DAC) based on the performance-adjusted model as another measure of accruals quality proxy for financial reporting quality. This model is known as the modified Jones (1991) model by Dechow et al. (1995) adjusted for firm performance by Kothari et al. (2005). Following the Kothari et al. (2005) DAC model, the equation (1) is to calculate total accruals (TAC) as follows:

$$(1) \quad TAC_{it} = \text{Net Income}_{it} - CFO_{it}$$

where

Net Income_{it} = Net income for firm i in year t.
CFO_{it} = Net cash flow form operation activities for firm i in year t.

After determining the total accruals for each company in year t (TAC_t), accruals quality was measured by the discretionary accrual technique, which is a measurement of accruals quality through non-cash operating transactions. According to the Kothari et al. (2005) model, in equation (2) discretionary accruals are measured by subtracting nondiscretionary accruals from total accruals as follows:

(2) $$\frac{TAC_{it}}{A_{it-1}} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{(\Delta REV_{it} - \Delta AR_{it})}{A_{it-1}} + \alpha_3 \frac{PPE_{it}}{A_{it-1}} + \alpha_4 ROA_{it} + \varepsilon_{it}$$

where

A_{it-1} = Total assets for firm i at beginning of year t.
ΔREV_{it} = Change in revenue for firm i from year t-1 to year t.
ΔAR_{it} = Change in accounts receivable for firm i from year t-1 to year t.
PPE_{it} = Gross property, plant and equipment for firm i in year t.
ROA_{it} = Return on assets on year t for firm i.α_1, α_2, α_3, and α_4 = firm specific parameters.
ε_{it} = is the residual, which represents the firm specific discretionary portion of total accruals.

In order to calculate coefficients in equation (2) α_1, α_2, α_3, and α_4 linear regression has been used. Then coefficient values have been adjusted in equation (3) to calculate non-discretionary accruals NDAC as follows:

(3) $$NDAC_2 = \alpha_1 \left(\frac{1}{A_{it-1}}\right) + \alpha_2 \left\{\frac{(\Delta REV_{it} - \Delta AR_{it})}{A_{it-1}}\right\} + \alpha_3 \left(\frac{PPE_{it}}{A_{it-1}}\right) + \alpha_4 (ROA_{it}) + \varepsilon_{it}$$

The values of coefficients α_1, α_2, α_3, and α_4 from equation (2) were inserted in equation (3) to measure non-discretionary component of total accruals. As previously defined, discretionary accruals are equal to the difference between total accruals and non-discretionary accruals, so in equation (4) the following equation has been used to find out the discretionary accruals (DAC) as follows:

(4) $$DAC_t = \frac{TAC_{it}}{A_{it-1}} - NDAC_t$$

where

DAC_t = Absolute value of discretionary component of accruals.
DAC_t = Non-discretionary accruals.

3.2.3 CONTROLVARIABLES

This study includes control variables that had been shown to have a significant impact on borrowing cost (Ballesta and Meca, 2011; Lorca et al., 2011; Anderson et al., 2004, 2003). It includes firm size as one of the main control variables measured by the natural logarithm of firms' total assets (Ghosh and Sirmans, 2005). Generally, larger firms have lower risks and are expected to have economies of scale in the cost of debt (Blackwell et al., 1998). Leverage is calculated as the percentage of firms' total debt to total assets for the differences in the financial structure of firms and to proxy default risk (Fields et al., 2010). Firms with greater debt intensity present higher risk to debt providers, and, thus, are expected to have a higher cost of debt. This study includes return on assets measures by dividing firms' net profit to total assets as an indicator of firm's financial performance (Haniffa and Huduib, 2006). Interest coverage rate is calculated as the ratio of operating profit over interest expense for the period as a proxy of default risk (Anderson et al., 2004) with lower interest coverage rate values reflecting a greater risk of default.

Following Lorca et al. (2011), this study uses Big 4 proxy for auditor's reputation and measures this as dummy variable, a value of one when the firm has a Big 4 auditor and zero otherwise. Based on the argument of Lorca et al. (2011) that different types of industry lead to different default risks, the non-financial sectors in the Muscat securities market are divided into two types of sectors (industrial and service sector). Therefore, this study includes the industry dummy variable (INDS) by assigning a value of one for firms listed under the industrial sector and zero for firms listed under the service sector in order to control for possible industry effects on the cost of debt. The study also includes year control to control the possible effects of some events accrued during the sample period (e.g., global financial crisis, Dubai debt crisis) on the cost of debt.

3.3 PANEL DATA ESTIMATION

This study employs panel data analysis to examine the influence of financial reporting quality on the cost of debt. Panel data analysis has been adopted by previous accounting studies (e.g., Ming and Gee, 2008; Leng, 2008; Ballesta and Meca, 2007; Bhattacharya et al., 2006; Banker et al., 2002). These studies evidence the usefulness and power of this type of data analysis in terms of making the results applicable more generally and giving more reliable estimations. Panel data may

have group effects, time effects, or both. These effects are either fixed or random. A fixed effects model assumes differences in intercepts across groups or time periods, where as a random effects model explores differences in error variances. The main difference between the two models is whether the unobserved effects (the error term) are correlated with included independent variables (Wooldridge, 2003). For a given observation, an intercept varying over units results in the structure:

$$\begin{aligned} \mathrm{CODit} = {} & \mathrm{a0} + \beta 1\mathrm{FRQit} + \beta 2\mathrm{FSit} + \beta 3\mathrm{LEVit} + \beta 4\mathrm{ROAit} \\ & + \beta 5\mathrm{ICRit} + \beta 6\mathrm{Big4it} + \beta 7\mathrm{INDSit} + \beta 8\mathrm{YEARit} \\ & + (\mathrm{ui} + \varepsilon \mathrm{it}) \end{aligned}$$

Where: i represent company, t time period, COD is cost of debt, FRQ is financial reporting quality, FS is firm size, LEV is leverage, ROA is return on assets, ICR is interest coverage rate, Big4 is auditor reputation, INDS is industry type, YEAR is time control, ui is the individual-level effect, and ε is the disturbance term. The ui are either correlated or uncorrelated with predictor variables. The ui are always assumed to be uncorrelated with εit. If the ui are uncorrelated with the predictor variables, it is known as the random effects model, but if the ui are correlated with the predictor variables, it is known as the fixed effects model. The Hausman test is used to differentiate between the fixed effects model and the random effects model. This test uses the difference between the two estimated covariance matrices (which is not guaranteed to be positively definite) to weigh the difference between the fixed effects model and the random effects model vectors of slope coefficients.

One possibility is that the result of this model may be driven by endogeneity problem. According to Wooldridge (2010), endogeneity problem is generally caused by one or more of three elements: omitted variables, measurement error and simultaneity. Researchers should be aware of this problem and should address it to avoid an erroneous conclusion. Econometrics studies present two methods for solving this problem, fixed effects model and instrumental variable (Wooldridge, 2010; Baltagi, 2008). Instrumental variable method requires accurately exogenous instrumental variables which are particularly difficult to identify (Larcker et al., 2010). Hence, this study utilizes a fixed effects model method to check the effect of this problem on the study's results. Fixed effects model can control for endogeneity by including dummy variables in regression to represent a company-specific effect

(Himmelberg et al., 1999) which is assumed to be correlated with the explanatory variables and uncorrelated to the error term (Wooldridge, 2010; Baltagi, 2008). By including time dummy variables, unobservable time-specific effect can further be controlled (Baltagi, 2008).

4. RESULTS AND DISCUSSION

4.1 DESCRIPTIVE STATISTICS

Table 2 reports the descriptive statistics for the sample. The average cost of debt is 6.29 percent with a maximum and minimum value of 12.9 and 1.2 percent, respectively. The standard deviation of cost of debt is 2.20 percent. These descriptive values of cost of debt are quite similar with the previous studies which use same cost of debt measurement. For example, Ramly (2013) shows that average value of the cost of debt in Malaysia is 9 percent with maximum and minimum of 21 and 1 percent respectively, the standard deviation is 4 percent. Lorca et al. (2011) in Spain describe that average value of the cost of debt is 7 percent with maximum and minimum values 12 and 2 percent, the median and standard deviation of 5 and 8 percent respectively.

For financial reporting quality (FRQ) using the Francis et al. (2005) model, the mean value is 0.626 with a maximum and minimum value of 4.422 and 0.012, respectively. The standard deviation of FRQ for the Francis et al. (2005) model is 0.639. In addition, the descriptive statistics for financial reporting quality using the Kothari et al. (2005) model show the mean value is 0.204 with a maximum and minimum value of 2.123 and 0.000, respectively. The standard deviation of FRQ for the Kothari et al. (2005) model is 0.285. The values in descriptive statistics for both financial reporting quality models indicate that the larger standard deviation of residuals for Francis et al. (2005) model and the larger discretionary component of accruals for Kothari et al. (2005) model correspond to poorer accrual quality and therefore, lower financial reporting quality.

As for the control variables, Table 2 shows that the mean for firm size (FS) as measured by the natural log of total assets for Muscat Securities Market companies is 7.13 with a minimum value of 5.44 and a maximum value of 8.85. These figures reveal that the Muscat Securities Market companies are relatively small when compared to the companies listed in the Egypt (20.52) and UAE (21.27) capital market (Khasharmeh and Aljifri, 2010; Afify, 2009). With regard to leverage (LEV), this analysis revealed that, on average, the proportion

of total debt to total assets is 54.7 percent with minimum and maximum proportions 5 percent and 109 percent respectively. The results reveal that the reliance on debt in Omani companies is relatively high compared to companies listed in Kuwait (34 percent) and Saudi Arabia (28 percent) (Sbeiti, 2010). The maximum value of LEV is more than 100 percent because some companies have large values of accumulated losses over the years causing their total liabilities to exceed their total assets.

TABLE 2
Descriptive Statistics

	Obs	Minimum	Maximum	Mean	Std. Deviation
COD	476	0.012	0.129	0.063	0.022
FRQ Francis et al. (2005) model	476	0.012	4.422	0.626	0.639
FRQ Kothari et al. (2005) model	476	0.000	2.123	0.204	0.285
FS	476	5.440	8.851	7.131	0.605
LEV	476	0.053	1.091	0.546	0.251
ROA	476	-0.288	0.298	0.043	0.088
ICR	476	-61.114	102.119	12.133	24.378
BIG4	476	0.000	1.000	0.592	0.492

Notes:

1. COD (Cost of Debt) = Interest expenses for the year divided by the average of short-term and long-term debt.
2. FRQ Francis et al. (2005) model = absolute value of standard deviation of firm residuals, from years t-7 to t from annual cross-sectional estimations of the Francis et al. (2005) model.
3. FRQ Kothari et al. (2005) model = absolute value of discretionary component of accruals from years t-7 to t from annual cross-sectional estimations of the Kothari et al. (2005) model.
4. FS (Firm Size) = Natural logarithm of total assets.
5. LEV (Leverage) = Percentage of total debt to total assets.
6. ROA (Return on Assets) = Percentage of the net profit to total assets.
7. ICR (Interest Coverage Rate) =Ratio of operating profit over interest expense for the period.
8. Big4 (auditor reputation) = A value of one (1) for firms with Big 4 audit firm as the auditor, and zero (0) otherwise.

Regarding company profitability, it appears that the average return on assets (ROA) in the Muscat Securities Market is 4.3 percent with minimum and maximum value of -29 percent and 30 percent, respectively. The negative sign of the ROA implies that some firms experienced losses during the study period. This suggests that Muscat Securities Market companies were less profitable compared to Egyptian companies that, on average, were profitable at 10 percent (Afify, 2009). The interest coverage rate (ICR) is defined as the ratio used to determine how easily a company can pay interest on outstanding debt. It is calculated as the ratio of operating profit over interest expense for the period. It is used as a proxy for a firm's ability to service its debt. The result shows that the average value of ICR is 12.13 percent with minimum and maximum value of -61.11 percent and 102.12 percent, respectively. These figures reveal that the ICR of Omani companies is relatively small when compared to the companies listed in Malaysia (17.60 percent) (Ramly, 2013). There is considerable evidence that Big 4 audit firms have a high reputation in auditing technique and quality. The Big 4 have sought to differentiate themselves from other auditors by investing more in reputation capital, and are viewed as providing higher quality audits (Beatty, 1989). Since Big 4 auditors have more to fear from potential damage to reputation than non-Big 4 auditors, they are expected to provide higher quality audits consistent with their brand name reputation (Lennox, 1999; Simunic and Stein, 1996). The literature also supports the notion that auditor reputation attributes lead to lower interest rates on firm debt (Kim et al., 2009; Mansi et al., 2004; Pittman and Fortin, 2004). The results show that 59.2 percent of Omani companies are audited by Big 4 audit firms (Deloitte, KPMG, PwC and Ernst and Young) and the other 40.80 percent are audited by local Omani audit firms.

4.2 REGRESSION RESULTS

Table 3 displays the results for random effect regressions for the sample. Based on the random effects model statistically approved by Hausman test and Breusch-Pagan (LM) test for both Francis et al. (2005) and Kothari et al. (2005) models in Table 3, the finding using Francis et al. (2005) model as a proxy for financial reporting quality shows a significant and negative effect of financial reporting quality on cost of debt (at p-value <0.01). Likewise, the result using Kothari et al. (2005) model as a proxy for financial reporting quality reveals a significant FRQ influence on the cost of debt (p-value < 0.05) in the predicted negative direction. The results suggest that increasing the quality of financial reporting leads to reducing the cost of debt.

TABLE 3
Random Effect Regressions

COD	FRQ Francis et al. (2005) Model		FRQ Kothari et al. (2005) Model	
	Coefficients	t-statistics	Coefficients	t-statistics
FRQ	-0.0045	-3.14***	-0.0036	-2.45**
FS	-0.0022	-0.71	-0.0031	-0.95
LEV	-0.0045	-0.72	-0.0049	-0.85
ROA	0.0001	0.00	-0.0083	-0.59
ICR	-0.0002	-2.21**	-0.0001	-2.25**
BIG4	-0.0086	-3.49***	-0.0081	-3.44***
INDS	-0.0027	-0.60	-0.0011	-0.23
Years	Included	Included	Included	Included
Constant	0.0837	3.66***	0.0903	3.84***
R^2	0.152		0.192	
N	476		476	
Wald Chi-square	1083.87***		1226.29***	
Hausmantest	4.23		9.89	
Breusch-Pagan (LM) test	341.73***		112.32***	

Notes:

1. ***, ** and* indicate level of significance at 1%, 5% and 10% respectively.
2. Refer to Table 2 for a description of details except FRQ Francis et al. (2005) model = absolute value of standard deviation of firm residuals, from years t-7 to t from annual cross-sectional estimations multiplied by -1. FRQ Kothari et al. (2005) model = absolute value of discretionary component of accruals from years t-7 to t from annual cross-sectional estimations multiplied by -1. INDS = Dummy variable by assigning a value of one for firms listed under industrial sector and zero for firms listed under service sector. Year = Dummy variable by assigning a value of one for specific year and zero otherwise.

The result further indicates that the financial reporting quality is important in the cost of debt referring to the unique contribution of financial reporting quality in explaining the cost of debt in the Sultanate of Oman. This suggests that accounting information plays a central role in evaluating firm performance and eliminating information asymmetry. Therefore, the outside investors (i.e., shareholders and debt holders) are expected to discount the future firm value at a lower rate of return. The results of this study also support

previous studies by Francis et al. (2005), Qi et al. (2010) and Bauwhede et al. (2015) and Ding et al. (2017) who find that companies with higher earnings quality receive lower cost of debt. Among the control variables, the coefficient estimates for auditor types and interest coverage are significant and negative at *p*-value<0.1 and 0.5 respectively. This means that firms with higher interest coverage and those that use one of the Big 4 company auditors face lower cost of debt financing as they face a lower default risk. The results also indicate no significant relationship between firm size, leverage, performance, and industry type with the cost of debt.

4.3 ROBUSTNESS ANALYSIS RESULTS

Table 4 presents the results of the main model of the cost of debt for both Francis et al. (2005) and Kothari et al. (2005) models, by using a two-way fixed effects model.

TABLE 4
2-Way Fixed Effects Model for Controlling Endogeneity in FRQ

COD	FRQ Francis et al. (2005) Model		FRQ Kothari et al. (2005) Model	
	Coefficients	t-statistics	Coefficients	t-statistics
FRQ	-0.0046	-3.19***	-0.0029	-1.93*
FS	0.0067	0.74	0.0056	0.93
LEV	-0.0059	-0.74	-0.0061	-0.80
ROA	0.0027	0.19	-0.0061	-0.40
ICR	-0.0001	-1.45	-0.0001	-1.97**
BIG4	-0.0089	-2.55**	-0.0086	-3.28***
Years	Included	Included	Included	Included
Constant	0.0009	0.29	0.0299	0.73
R^2	0.0898		0.0667	
N	476		476	
Wald Chi-square	3.10***		2.36***	

Notes:
1. ***, ** and* indicate level of significance at1%, 5% and 10% respectively.
2. Refer to Table 2 for a description of details.

The main interest in this analysis is to check whether the previous results related to the financial reporting quality effects are driven by endogeneity problem. If the results of the fixed effects

model reports that financial reporting quality is insignificantly correlated with cost of debt, this indicates that the reported negative association between financial reporting quality and cost of debt is driven by endogeneity problem (omitted company and time-specific variables). However, the results reveal that the coefficients on financial reporting quality remain negatively associated and statistically significant at the one percent level for the Francis et al. (2005) model and five percent for the Kothari et al. (2005) model. This suggests that the negative association between financial reporting quality and cost of debt proxies in previous results is not driven by endogeneity caused by omitting individual and time invariant specific effects. Therefore, this study infers the robustness of prior results relating to the effect of financial reporting quality and cost of debt.

5. CONCLUSION

This study aimed at examining the relationship between financial reporting quality (FRQ) and cost of debt. This study implemented balanced panel dataset for companies listed on the Muscat Securities Market from 2012 to 2018. The empirical results of this study show that companies with higher FRQ enjoy lower cost of debt. Findings of this study have potential implications to all financial reporting users (e.g., regulators and policy makers, investors, creditors, auditors, and researchers) by providing evidence that the level of FRQ plays a central role in evaluating firm performance and eliminating information asymmetry.

Nevertheless, this study has some limitations. First, the quality of the results can be judged based on the quality of the sample data. Second, the sample only focuses on non-financial companies listed on the Muscat Securities Market. Other non-listed companies and financial companies are totally ignored. Therefore, the conclusions might not hold for financial companies and other companies outside those lists. This study only focuses on accruals quality measurement as proxy for financial reporting quality, which applies the modified Dechow and Dichev (2002) accrual quality model by Francis et al. (2005) and Modified Jones (1991) model by Dechow et al. (1995) adjusted for firm performance by Kothari et al. (2005). Otherinformation quality measures as proxies of financial reporting quality, such as disclosure score and conservative accounting were not examined. Following these limitations highlighted, future research could examine the issue

of the cost of debt in different contexts (different economic cycles, different stock exchanges or different cultures). In particular, the validity of this model can also be examined in the different contexts of the GCC countries, in different time periods, and with different sample sizes.

ENDNOTES

1. Balance panel data allows an observation of the same unit (e.g., individual, company, person, etc.) in every time period (e.g., year, month, etc.), which reduces the noise introduced by unit (individual, etc.) heterogeneity.
2. In the Sultanate of Oman, there are two industry groups - Industrial and Services.

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