



Accruals quality and the cost of debt: Evidence from Vietnam

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ABSTRACT

This study investigates the impact of accruals quality (AQ) on the cost of debt. Using a sample of Vietnamese listed companies during the period 2012–2017, we show that AQ has a significant negative relation with the cost of debt. Particularly, the 10% best AQ firms enjoy a 1.35% lower interest costs than the 10% worst AQ firms. Furthermore, the discretionary AQ component has a significant negative association with the cost of debt, while innate AQ shows an insignificant impact on the cost of debt. The study delivers an important message to firms regarding the economic benefits of providing high-quality accounting information.

1. Introduction

Quality of accounting information and its impact on decision-making are important topics, which attract strong interest from scholars in the last decades. However, there are not many studies concerning this topic in the context of emerging markets. This research investigates whether the quality of accounting information influences the cost of debt using a data set of Vietnamese firms listed on the Ho Chi Minh City stock exchange covering the period 2012–2017.

Having access to high-quality accounting information is important for investors, creditors and corporate managers to make good investment and credit decisions. This is because firms' accounting information is considered an important factor in the capital market (Armstrong, Guay, & Weber, 2010; Azizkhani, Monroe, & Shailer, 2010; Dechow, Ge, & Schrand, 2010; Lim & Lee, 2015; Nahar, Azim, & Jubb, 2016) and theoretical studies suggest that information risk is diversifiable (Easley & O'hara, 2004; Leuz & Verrecchia, 2005; O'Hara, 2003). Thus the quality of accounting information can affect creditors' pricing decisions. Prior empirical studies show that lower accounting information quality is associated with a higher cost of debt (Bharath, Sunder, & Sunder, 2008; Eliwa, Gregoriou, & Paterson, 2019; Francis, Lafond, Olsson, & Schipper, 2005; Houcine & Houcine, 2020; Kim & Yasuda, 2019; Vander Bauwhede, De Meyere, & Van Cauwenberge, 2015). However, most prior empirical evidence is from studies using the context of developed countries such as the US, UK, Europe, and Australia. The evidence from

emerging markets on this topic is still limited.

In this study, accruals quality (AQ) is used as a proxy for the quality of accounting information, following prior literature such as Francis et al. (2005), Zhang (2019), Kim and Yasuda (2019), Soon Kim, Young Chung, Hwon Lee, and Cho (2020) and Houcine and Houcine (2020). In accounting, accruals refer to the portion of earnings that is not cash but are recorded on an accrual basis. Accruals, therefore, represent the difference between earnings and cash flows. Accruals can arise from the characteristics of business activities and result from the management choice of accounting policies and assumptions. As accruals can be affected by management discretion, accruals quality can be used to assess how well earnings are free from noise and can forecast future cash flows. Recent studies confirm the ability of accruals to predict a firm's future earnings and cash flows (Lewellen & Resutek, 2019; Nallareddy, Sethuraman, & Venkatachalam, 2020). AQ could be an issue to be considered by creditors when making credit decisions (Vander Bauwhede et al., 2015). Low AQ is likely to increase information risk, resulting in creditors charging a higher interest rate to compensate for higher risk.

Vietnam is one of the dynamic and growing emerging markets with its unique legal, cultural, and institutional characteristics. Vietnam is a small and incompletely open economy; its financial markets and institutional development are still slower than in developed countries. Ho Chi Minh City Stock Exchange - the biggest stock exchange in Vietnam, which was established in 2000 - is the first stock exchange in the

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country. Similar to many other emerging markets, information asymmetry, low level of transparency, weak corporate governance, limitations of the accounting system, and inadequate compliance with the accounting and auditing standards are the main issues indicating a relatively weak financial reporting environment in the country (Vo & Phan, 2019; World Bank, 2016). This institutional environment creates opportunities for management to manipulate firms' reported earnings, which raises concerns for financial statement users about the firms' quality of accounting information. Therefore, it is interesting to examine how the quality of financial reporting in a less developed financial market like Vietnam affects debt-pricing decisions made by creditors. In particular, we expect to find new evidence of the impact of AQ, especially AQ components, on the cost of debt. According to Francis et al. (2005), AQ can be decomposed into innate AQ, which is determined by economic fundamentals, and discretionary AQ, which is caused by management choices of accounting policies and estimates. Prior studies in developed markets have revealed that the innate AQ component has a more significant influence than discretionary AQ, meaning that debt-pricing decisions are more affected by fundamental risks (Eliwa et al., 2019; Gray, Koh, & Tong, 2009; Houcine & Houcine, 2020). In a developing market with a weaker financial reporting environment, we expect that creditors could be more concerned with management's opportunistic behavior, thus discretionary AQ could play a more determinant role in a credit pricing decision. This is an issue that has not been inspected in an emerging market context.

To investigate the impact of information quality on creditors' pricing of debts, we examine whether accruals quality (AQ) affects the cost of debt of listed firms in Vietnam. Following previous research, first, we investigate the impact of total AQ on the cost of debt. Then we decompose AQ into innate AQ – the part of AQ attributable to economic fundamentals such as economic environment and business structure, and discretionary AQ – AQ that is affected by management interventions, and continue exploring the interaction of these AQ components on the cost of debt. The study utilizes the data set of listed companies on the Ho Chi Minh City Stock Exchange in Vietnam over the period from 2012 to 2017. Our research applies Dechow and Dichev (2002) model, modified by McNichols (2002), to measure accruals quality.

The results show that AQ has a significant negative relation with the cost of debt, which means that firms with better AQ have a lower cost of debt than firms with poorer AQ. In particular, firms in the best AQ decile, on average, enjoy a 1.35% lower cost of debt than firms in the worst AQ decile. Regarding the impact of AQ components, discretionary AQ has a significant negative association with the cost of debt, while innate AQ does not significantly impact the cost of debt. The findings are consistent with prior studies concerning the impact of total AQ, but are different from prior research concerning AQ components' impact. The finding suggests that creditors require higher interest rates to firms with poor AQ related to discretionary AQ than poor AQ attributable to innate AQ in Vietnam. The inconsistency of the findings with prior research is possibly caused by the differences in Vietnam's economic and regulatory environment compared to other developed countries. A lower level of transparency, shortcomings of the accounting system, and concerns of management manipulation of accounting information may cause creditors to attach higher importance to AQ attributable to management choices. The results indicate that AQ and its components may not have the same influence on creditors' pricing decisions across different levels of capital market development and enforcement of accounting regulations.

The study extends the literature on the impact of financial reporting quality on the cost of debt in the context of an emerging market. First, the study supports the theory that information risk increases a firm's cost of capital. More specifically, lower AQ is related to a higher cost of debt. The result is consistent with prior literature that creditors reward firms with higher financial reporting quality by charging a lower cost of debt. Secondly, the study provides contrasting evidence to prior

literature regarding the impact of AQ components on the cost of debt. In particular, poor discretionary AQ caused by management discretion is related to a higher cost of debt, while innate AQ driven by business model does not significantly impact the cost of debt. We attribute this difference to the relatively low level of market development of Vietnam compared to developed countries.

The study has implications for firms and regulators. The results deliver an important message to firms regarding the possible economic benefits of providing high-quality financial reporting and the consequences of managing earnings. For regulators, the results indicate that the quality of financial reporting has significant impacts on market participants. Therefore, these impacts should be taken into account when future changes to accounting standards and regulations are proposed.

The remainder of the paper is organized as follows: Section 2 describes the institutional background of the study; Section 3 provides the literature review and hypotheses to be examined; Section 4 outlines the methodology and the sample selection; the results and discussion are shown in Section 5; Section 6 provides the conclusion of the study.

2. Institutional background

Vietnam is a developing economy that has attracted foreign investors' interest in recent years (Vo & Chu, 2019). The Ho Chi Minh City Stock Exchange, the biggest stock exchange in Vietnam, which was established in 2000, is the country's first stock exchange. During the period 2000–2005, the stock exchange's size grew slowly with less than 40 listed firms at the end of 2005. In the year 2006, Vietnam joined the World Trade Organization; and the government implemented important policies and regulations to stimulate the development of the financial market, including the introduction of the Law on Securities and income tax incentives for newly listed firms, causing a boost to the number of listed firms in the stock exchange. The number of listed firms started to increase quickly during the period 2006–2018. At the end of 2018, there are 373 listed firms in the Ho Chi Minh City stock exchange, including both financial and non-financial firms.

Like many other emerging markets, information asymmetry and a low level of transparency remain an issue of the Vietnamese stock market, despite the government's efforts in facilitating the development of the market (Vo & Phan, 2019). These issues prevent companies from accessing finance through the stock market (Vo, 2017). According to the World Bank (2012), World Bank (2016), Vietnam is one of the lowest-ranked countries with regard to corporate governance in Southeast Asian countries.

Regarding the financial reporting standards, Vietnamese firms are required to apply Vietnamese accounting standards, which were issued in 2005, and have become outdated compared with the International Financial Reporting Standards. The market participants generally believe that the firms' financial statements are of low quality due to weak corporate governance, shortcomings of the accounting standards, and insufficient compliance with accounting and auditing standards (World Bank, 2016). These factors indicate a weak environment for financial reporting quality compared to more developed markets. There have been instances of financial statement frauds discovered in recent years. Besides, the percentage of listed firms having earnings restated after their financial statements have been audited is remarkably high at more than 70% during the period 2012–2016 (Nguyen, 2020). Dang (2011) also provides empirical evidence that small and medium-sized enterprises' compliance with accounting standards in Vietnam is limited. These situations cause great concerns for users about the firms' opportunistic earnings management behavior, which increases information risk to creditors and investors and, consequently, affects the pricing of the firms' capital.

3. Literature review

3.1. Accruals quality and the cost of debt

There is an amount of research examining the relation between accruals quality (AQ) and cost of debt, such as Francis et al. (2005), Gray et al. (2009), Vander Bauwhede et al. (2015), Eliwa et al. (2019) and Houcine and Houcine (2020). These studies' motivation stems from the theories that high-quality accounting information decreases a firm's debt and equity cost by reducing information asymmetry and information risk (Easley & O'hara, 2004; Lambert, Leuz, & Verrecchia, 2012). According to the theoretical model developed by Easley and O'hara (2004), information risk may arise because of information asymmetry between informed and uninformed investors. Uninformed investors will demand higher returns to compensate for higher information risk. Firms may reduce capital cost by lowering information risks to uninformed investors by providing precise accounting information (Easley & O'hara, 2004). Lambert et al. (2012) also argue that companies' uncertainty or imprecision of information disclosed impacts the cost of capital.

Based on the theoretical research findings that information risk is not diversifiable (Easley & O'hara, 2004), Francis et al. (2005) conduct a study on the relation between AQ and the cost of debt and equity capital. In the study, AQ is calculated as the standard deviation of residuals from regressions linking current accruals to cash flows. Using US data from 1970 to 2001, the results suggest that lower accruals quality is associated with a higher debt and equity cost. Bharath et al. (2008) study how accounting quality influences borrowers' debt market choice of private versus public debt market and how the form of debt contract changes corresponding to the differences in accounting information quality in the two debt markets. The findings show that the quality of accounting information affects the choice of the market. In particular, borrowers with poorer accounting quality prefer a private lending unit. The results also reveal that interest cost is higher for borrowers with worse accruals quality.

Regarding the relationship between financial statement verification and debt pricing, Minnis (2011) conducts research for private companies - a business sector in the US in which information transparency is opaque and financial statement audits are not required. Research results show that audited companies have lower interest costs, and lenders set interest rates based on audited financial information. The author also provides evidence that accruals from audited financial reports are better predictors of future cash flows.

Spiceland, Yang, and Zhang (2016) investigate the link between accounting quality, proxied by accruals quality, and the strictness of debt covenant and interest cost. The findings show that firms with lower accruals quality is related to more stringent debt covenants, and higher accruals quality is more relevant in lowering the borrowing costs than strict debt covenants.

Recent studies in countries other than the US also find evidence of the inverse relationship between accruals quality and debt cost. With a large sample of small and medium-sized enterprises in Belgium over the period from 1997 to 2010, Vander Bauwhede et al. (2015) examine the relationship between financial reporting quality - using AQ metric as a proxy - and the cost of debt. This study reports evidence of a significant negative relation between AQ and the cost of debt, indicating that firms with better accruals quality enjoy lower interest costs. Beltrame, Floriani, and Scip (2017) study the association between earnings quality and the cost of debt for Italian small and medium firms. They report that firms with a lower accruals quality have a higher cost of debt. Similarly, Eliwa et al. (2019) also find evidence that AQ has a significant negative association with debt cost in European countries. This indicates that AQ is a significant determinant of the cost of debt in the European market.

Kim and Yasuda (2019) explore the relationship between financial reporting quality and credit availability and pricing decisions in the Japanese context. The results show that better accruals quality is related to a higher use of government-guaranteed loans and a lower interest for

non-guaranteed loans, implying the link between accounting information quality and firms' borrowing costs. Houcine and Houcine (2020) examine the impact of accruals quality on the cost of debt for French listed firms during 2005–2015. The study shows that higher accruals quality is related to a lower cost of debt.

Zaher, Mohamed and Basuony (2020) investigate the impact of timely loss recognition and accruals quality on the corporate bond spread in the international bond markets. The results indicate that accruals quality has a favorable effect on the bond spread, and that effect varies with the level of law enforcement and market development in a particular country.

In general, these prior studies provide evidence of an inverse relation between AQ and the cost of debt. Therefore, our study's first hypothesis examines whether there is a negative relation between AQ and the cost of debt in Vietnam. Specifically, we test the following hypothesis:

H1. : *The cost of debt for firms with poorer accruals quality is higher than for firms with better accruals quality.*

3.2. Innate accruals quality versus discretionary accruals quality and the cost of debt

Besides examining the impact of total AQ, previous studies also investigate the impact of different components of AQ on the cost of capital. Francis et al. (2005) argue that AQ can be decomposed into two components: innate AQ arising from economic fundamentals such as the operating environment and business model; and discretionary AQ caused by management reporting choices on accounting policies and estimates. Based on earnings management theory, the authors suggest that there could be differences in these two components' pricing impacts. While poor AQ caused by a firm's operating environment and business model is likely to increase information risk, discretionary AQ's effect is not clear. Because discretionary AQ could be caused by either management's attempt to improve the quality of earnings to better reflect performance, or management's opportunistic behavior to manipulate reported income for undue reasons, thus the pricing effect may be mixed. Based on this argument, the authors examine whether the two components of AQ significantly impact debt cost. The results reveal that both components have a significant negative relation to the cost of debt, with innate AQ having a larger effect than discretionary AQ in terms of both the coefficient and significance level. The findings confirm that poor innate and discretionary AQ are related to a higher cost of capital, but the innate component's impact is larger than that of the discretionary component.

Similarly, Eliwa et al. (2019) find evidence that innate AQ has a larger effect on the cost of debt than discretionary AQ for a sample of European firms. Houcine and Houcine (2020) also report a significant negative impact of both AQ components on interest costs, and the innate component has a greater effect than the discretionary component for a sample of French listed companies.

Gray et al. (2009) also examine the impact of innate AQ and discretionary AQ on the cost of debt for Australian listed firms. The result is different from what was reported by Francis et al. (2005), Eliwa et al. (2019), and Houcine and Houcine (2020). Although innate AQ has a significant effect on the cost of debt, there is no evidence showing that discretionary AQ affects the cost of debt. The authors argue that Australian firms must follow a continuous disclosure scheme and use more private debts than public debts, which decreases information risk associated with the discretionary component.

Most of the prior literature on the relation between AQ and the cost of debt is from the US and Europe, while evidence from emerging markets is very limited. The most recent remarkable study in less developed economies that we could find is the one conducted by Orzalin & Akhmetzhanov, 2019 on the impact of earnings management and audit quality on the cost of debt of listed firms in Kazakhstan. In the study, the authors use the absolute value of discretionary accruals

estimated from Jones (1991) model, modified by Dechow, Sloan, and Sweeney (1995) and Kothari, Leone, and Wasley (2005) that relate total accruals with the change in revenues, property, plants and equipment, and returns on assets, as the proxy for financial reporting quality. The results show that a lower reporting quality is associated with higher borrowing costs. However, the study does not address the impact of different components of AQ on the cost of debt.

As discussed in Section 2, Vietnam is an emerging market with a relatively weak legal environment, outdated accounting standards, and weak compliance with accounting and auditing regulations. Recent financial reporting frauds by listed firms and widespread variances in the audited and unaudited financial statements have caused concerns for financial statements users about the quality of firms' accounting information. In this context, management's discretion in selecting accounting policies and estimates may be considered as increasing information risk to investors and creditors. Thus we expect discretionary AQ to have a significant pricing effect on the cost of debt, and that effect could be even larger than the impact of the innate component. Therefore, we state our second hypothesis as follows:

H2. : Discretionary AQ has a stronger effect on the cost of debt than innate AQ.

4. Research design

4.1. Accruals quality

In line with prior literature (Eliwa, Haslam, & Abraham, 2016; Francis et al., 2005; Houcine & Houcine, 2020; Kim & Yasuda, 2019; Vander Bauwhede et al., 2015; Xu, Gong, & Gong, 2017), AQ is measured based on the model developed by Dechow and Dichev (2002), modified by McNichols (2002). This measure is applied in our study as it shows how earnings are related to cash flows (García-Teruel, Martínez-Solano, & Sánchez-Ballesta, 2014; Houcine & Houcine, 2020; Vander Bauwhede et al., 2015), which is an essential factor to be considered in a credit contract. Accruals quality is widely used in the current literature on the association between financial reporting quality and debt cost (Eliwa et al., 2019; Houcine & Houcine, 2020; Kim & Yasuda, 2019).

In the Dechow and Dichev (2002) model, working capital accruals are regressed on the prior, current, and future periods' operating cash flows. This model is based on the idea that the timing of a company's earnings often differs from the timing of the cash flow realizations. The role of accruals is to adjust for these timing differences between earnings and related cash flows. The expected value of the accruals from the model represents accruals that map into cash flows realizations. Whereas the unexplained portion of accruals from the regressions represent accruals that are not associated with cash flow realizations, thus can be used as a proxy for AQ where a higher unexplained portion is associated with poorer accruals quality. McNichols (2002) extends the model by adding the change in sales, the gross amount of property, plant, and equipment. AQ is therefore calculated from the following equation:

$$TCA_{i,t} = \alpha_0 + \alpha_1 CFO_{i,t-1} + \alpha_2 CFO_{i,t} + \alpha_3 CFO_{i,t+1} + \alpha_4 \Delta Rev_{i,t} + \alpha_5 PPE_{i,t} + \theta_{i,t} \quad (1)$$

where $TCA_{i,t}$ represents firm i 's total current accruals in year t ; $TCA_{i,t} = \Delta CA_{i,t} - \Delta Cash_{i,t} - \Delta CL_{i,t} + \Delta STDEBT_{i,t}$. $CFO_{i,t-1}$, $CFO_{i,t}$, $CFO_{i,t+1}$ represent operating cash flows in year $t-1$, t and $t+1$, respectively. $\Delta Rev_{i,t}$ is the change in revenues between year $t-1$ and year t . $PPE_{i,t}$ the gross amount of property, plant and equipment in year t . $\Delta CA_{i,t}$ is the change in current assets between year $t-1$ and year t . $\Delta Cash_{i,t}$ is the change in cash liabilities between year $t-1$ and year t . $\Delta STDEBT_{i,t}$ is the change in debt in current liabilities between year $t-1$ and year t .

All variables are scaled by the average total assets to avoid the heteroscedasticity problem. Following most prior studies (Eliwa et al.,

2019; Francis et al., 2005; Gray et al., 2009; Soon Kim et al., 2020), we estimate Eq. (1) cross-sectionally for each four-digit GICS industry sector using OLS, with at least ten firms in year t . The residual values from the regression refer to the accruals that are explained by neither cash flows, nor the change in revenues and non-current assets.

In the next step, a firm-year specific accrual quality $AQ_{i,t}$ is calculated as the standard deviation of the residuals from Eq. (1) of the firm from year $t-4$ to year t . A higher standard deviation indicates a poorer AQ (Dechow & Dichev, 2002). Standard deviation measure is used instead of the residual itself so that a firm with constantly large residuals can be regarded as having comparatively good AQ because of the lower uncertainty associated with its accruals (Francis et al., 2005). To facilitate the interpretation of this variable, we multiply the standard deviations calculated with -1 , so that a higher AQ figure indicates better AQ.

4.2. Accruals quality and the cost of debt

After estimating accruals quality proxy, the study tests the relation of accruals quality and the cost of debt based on the following model:

$$CoD_{i,t} = \beta_0 + \beta_1 AQ_{i,t} + \beta_2 Size_{i,t} + \beta_3 Leverage_{i,t} + \beta_4 IntCover_{i,t} + \beta_5 \sigma(NI)_{i,t} + \beta_6 ROA_{i,t} + \beta_7 CFperform_{i,t} + \beta_8 Ind_Dummy_{i,t} + v_{i,t} \quad (2)$$

Following prior research (Francis et al., 2005; Minnis, 2011; Vander Bauwhede et al., 2015), the cost of debt ($CoD_{i,t}$) is calculated as firm i 's interest expense in year $t+1$ divided by the firm's average total debts in year $t+1$. This measure allows us to work with a larger sample, while other measures of the cost of debt such as interest rates on bank loans or bond spreads are not available. The independent variable is accruals quality ($AQ_{i,t}$) estimated as the standard deviation of the residuals from Eq. (1). $Size_{i,t}$ is the natural logarithm of total assets at the end of the year. $Leverage_{i,t}$ is the ratio of total debts to total assets at the end of the year. $IntCover_{i,t}$ is the ratio of operating profit to interest expense of the year. $\sigma(NI)_{i,t}$ is the standard deviation of income before tax over the previous five years, divided by average total assets. $ROA_{i,t}$ is the return on assets, calculated as net profit after tax divided by average total assets. $CFperform_{i,t}$ is cash flow performance, calculated as the cash flows from operations divided by total assets. Ind_Dummy represents dummy variables for the industry group.

In line with prior research such as Francis et al. (2005), Gray et al. (2009) and Vander Bauwhede et al. (2015), we use the decile rank of AQ instead of the raw AQ figure to control for outliers and non-linearity and to facilitate the interpretation of the economic impact of AQ on the cost of debt. Companies in decile ten have the highest AQ and signify the best AQ, while companies in decile one have the lowest AQ, which represents the poorest AQ. The raw AQ score is later used as a robustness check of the model. A negative coefficient on the AQ variable indicates that firms with better AQ enjoy lower interest costs.

The study includes a number of control variables suggested by prior research as probably associated with the cost of debt. Firm size ($Size$) is included as larger firms are considered as having less financial risk, so a negative relationship with the cost of debt is expected. Secondly, leverage ($Leverage$) is included as higher leverage is often associated with higher financial risk. The expected sign of the coefficient on leverage is positive. Nevertheless, some prior research such as Minnis (2011), Francis et al. (2005), Beatty, Ramesh, and Weber (2002), Vander Bauwhede et al. (2015), document a negative coefficient on this variable. A possible explanation is that firms that can borrow at lower rates tend to borrow larger amounts. Thirdly, interest coverage ($IntCover$) signifies a firm's ability to pay interest cost, so a negative coefficient is assumed. Fourthly, the standard deviation of net income before tax ($\sigma(NI)_{i,t}$) represents earnings volatility, which should be positively correlated with the cost of debt. Lastly, the ability of a firm's assets to earn profits (ROA) and generate cash flows ($CFperform$) reduces financial risk and improves the ability to pay debts, so a negative coefficient

on these two is expected. We also include industry dummy variables to control for industry effects.

Following the prior research, all continuous variables are winsorized at 1st and 99th percentiles to reduce the impact of the outliers.

4.3. Innate and discretionary accruals quality and the cost of debt

To separate total AQ into innate and discretionary components, we use five innate factors affecting accruals quality that are applied in the prior literature. Innate and discretionary AQ are estimated from the following equation:

$$AQ_{i,t} = \phi_0 + \phi_1 SIZE_{i,t} + \phi_2 \sigma(CFO)_{i,t} + \phi_3 \sigma(Sales)_{i,t} + \phi_4 OpCycle_{i,t} + \phi_5 NegEarn_{i,t} + \phi_6 Ind_Dummy_{i,t} + v_{i,t} \tag{3}$$

where $AQ_{i,t}$ represents the total accruals quality of firm i in year t . $Size_{i,t}$ is the natural logarithm of total assets at the end of the year. $\sigma(CFO)_{i,t}$ is the standard deviation of the operating cash flows over the last five years. $\sigma(Sales)_{i,t}$ is the standard deviation of revenues over the last five years. $OpCycle_{i,t}$ is the natural logarithm of the operating cycle in year t . $NegEarn_{i,t}$ is the number of years with reported negative income before tax over the last five years. Ind_Dummy represents dummy variables for the industry group.

Prior research (Dechow & Dichev, 2002; Francis et al., 2005) suggest that the five independent variables in Eq. (3) represent economic determinants of innate AQ. Consistent with prior research, we regress the total AQ that is estimated from Eq. (1) on these five innate factors. According to Dechow and Dichev (2002), firm size is expected to have a positive relation with AQ as bigger firms' operations are more stable and predictable, so higher AQ is anticipated. The expected sign of standard deviation of sales, cash flows, and the length of the operating cycle is negative because higher standard deviation and longer operating cycle indicate higher uncertainty. The frequency of negative earnings also suggests volatile cash flows and larger estimation errors, so a negative coefficient is expected. We also include industry dummy variables to control for industry effects.

The predicted values from Eq. (3) represent the innate component of AQ (*InnateAQ*), whereas the residuals are the proxy for the discretionary component of AQ (*DisAQ*). Next, the total AQ variable in Eq. (2) is replaced with *InnateAQ* and *DisAQ* to estimate the impact of two AQ components on the cost of debt.

Following the prior studies (Eliwa et al., 2016; Francis et al., 2005; Vander Bauwhede et al., 2015), we apply Fama and Macbeth (1973) time-series standard errors regression to estimate Eq. (2) and (3). Besides, we also use Newey and West (1987) standard errors regression to mitigate autocorrelation and heteroscedasticity effects to test the robustness of the previous results.

4.4. Data and sample selection

The initial sample for the study consists of 3348 observations of 347 non-financial firms listed on the Ho Chi Minh City Stock Exchange during the period 2007–2018. We collect the data from the year 2007 as this year marked a significant increase in the number of listed firms on the Ho Chi Minh City Stock Exchange. The accounting data of the firms are drawn from the database provided by Thomson Reuters. Because the computation of AQ requires lead and lag cash flows, and is based on five annual residuals, a firm must have at least seven years of complete data to be included in the final sample. The computation of AQ means that in order to be included in the final sample in the year 2012, a firm must have complete financial data from 2007 to 2013. As the initial sample period is 2007–2018, AQ can only be calculated for firm-year observations within the 2012–2017 period. In addition, AQ is only calculated for industries with at least ten firms in each industry-year. Firms in the industries with less than ten observations in an industry-year are removed from the sample. These selection procedures cause the sample

size to be reduced significantly to 1037 observations. Finally, observations without information on interest expense and accounting data to calculate the five innate factors that proxy for economic fundamentals affecting AQ (Eq. (3)) are also dropped from the sample. These selection steps lead to the final sample of 199 firms with 889 firm-year observations. Table 1 provides a breakdown of the sample by year and industry. Industry groups are classified based on four-digit Global Industrial Classification Standard (GICS) codes.

5. Results and discussion

5.1. Descriptive statistics of the sample

Table 2 provides the descriptive statistics of the variables included in the cost of debt regression. The mean value of the cost of debt is 6.3%, which is lower than figures reported by Francis et al. (2005) in the US, Gray et al. (2009) in Australia, and Vander Bauwhede et al. (2015) in Belgium of 9.9%, 8.7%, and 9.6% respectively. A low-interest-rate environment in Vietnam possibly causes this lower cost of debt during the study period. In particular, the Vietnamese overnight interbank rate ranged from 1% to 4.5% during the 2013–2017 period (State Bank of Vietnam, 2017), whereas the average overnight Federal fund rate in the US during Francis et al. (2005) sample period 1970–2001 was 7.26%, and in Australia, during Gray et al. (2009) study period 1998–2005 was 5.1% (Gray et al., 2009). However, the variation of the cost of debt in the sample is considerable, with the standard deviation of 5.2% and the 10th and 90th percentiles being 2.4% and 9.5%, respectively. Fig. 1 provides the exact average value of the cost of debt by year.

Regarding the value of AQ estimated from Eq. (1), AQ has a mean and median value of -0.123 and -0.105 , respectively. The AQ figures are negative, as we multiply the standard deviation of five-year residuals estimated from the model with -1 to ease the interpretation of the variable, with a lower AQ figure indicating poorer accruals quality. The absolute value of the statistics is higher than those reported in prior studies. For example, Francis et al. (2005), Gray et al. (2009), and Eliwa et al. (2016) report mean (median) AQ of 0.0442 (0.0313), 0.081 (0.064), and 0.084 (0.059), respectively, which indicates that Vietnamese firms in the sample period have poorer AQ than firms in the US, Australia, and the UK. This is in line with Leuz, Nanda, and Wysocki (2003) finding that AQ tends to be better in Anglo-Saxon countries. The firms in the sample are profitable, with median ROA of 4.4% and have a healthy financial structure with median leverage of 27.9% and median interest coverage of 2.8.

Fig. 2 reports the average cost of debt by AQ quintiles, and Table 3 presents the univariate test on the cost of debt between the best and the worst AQ quintiles.

Fig. 2 shows that firms with poorer AQ (Q1 and Q2) have a higher cost of debt than better AQ firms (Q3, Q4, and Q5). In Table 3, the

Table 1
Sample breakdown by year and industry.

| Panel A: by year | | | Panel B: by industry | | |
|------------------|---------------------|--------|------------------------------|---------------------|--------|
| Year | No. of observations | % | Industry | No. of observations | % |
| 2012 | 84 | 9.45 | Materials | 183 | 20.58 |
| 2013 | 138 | 15.52 | Industrials | 245 | 27.56 |
| 2014 | 160 | 18.00 | Transportation and logistics | 82 | 9.22 |
| 2015 | 164 | 18.45 | Consumer Discretionary | 50 | 5.62 |
| 2016 | 167 | 18.79 | Consumer Staples | 134 | 15.07 |
| 2017 | 176 | 19.80 | Utilities | 66 | 7.42 |
| | | | Real estate | 129 | 14.51 |
| Total | 889 | 100.00 | Total | 889 | 100.00 |

Table 2
Descriptive statistics of the variables.

| Variables | Mean | Std Dev | 10% | 25% | Median | 75% | 90% |
|-------------------------|---------|---------|--------|--------|--------|---------|---------|
| CoD | 0.062 | 0.052 | 0.024 | 0.038 | 0.058 | 0.076 | 0.095 |
| AQ | -0.123 | 0.070 | -0.233 | -0.160 | -0.105 | -0.070 | -0.051 |
| InnateAQ | -0.123 | 0.019 | -0.144 | -0.130 | -0.118 | -0.109 | -0.102 |
| DisAQ | 0.000 | 0.067 | -0.102 | -0.036 | 0.018 | 0.047 | 0.068 |
| Leverage | 0.292 | 0.177 | 0.054 | 0.152 | 0.279 | 0.418 | 0.549 |
| IntCover | 33.955 | 155.23 | 0.001 | 0.739 | 2.848 | 11.423 | 48.510 |
| $\sigma(NI)$ | 0.037 | 0.039 | 0.009 | 0.015 | 0.028 | 0.046 | 0.071 |
| ROA | 0.057 | 0.075 | 0.002 | 0.015 | 0.044 | 0.084 | 0.140 |
| CFperform | 0.051 | 0.120 | -0.077 | -0.018 | 0.041 | 0.115 | 0.196 |
| <i>Innate variables</i> | | | | | | | |
| Size | 14.375 | 1.256 | 12.826 | 13.488 | 14.250 | 15.038 | 16.089 |
| $\sigma(CFO)$ | 0.083 | 0.090 | 0.029 | 0.044 | 0.067 | 0.102 | 0.150 |
| $\sigma(Sales)$ | 0.207 | 0.203 | 0.045 | 0.084 | 0.158 | 0.256 | 0.389 |
| OpCycle (in days) | 143.766 | 879.398 | 39.027 | 44.457 | 63.128 | 105.641 | 209.010 |
| OpCycle | 4.349 | 0.721 | 3.664 | 3.794 | 4.145 | 4.660 | 5.342 |
| NegEarn | 0.301 | 0.672 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| N | 889 | | | | | | |

This table represents descriptive statistics of variables in the study. *AQ* is -1 time standard deviation of firm i 's residuals, over the years $t-4$ to t from annual cross-sectional regressions of the modified [Dechow and Dichev \(2002\)](#) model as in Eq. (1); *CoD* is interest expense in year $t + 1$ divided by average total debts in year $t + 1$; *Leverage* is total debts divided by total assets; *IntCov* is the ratio of operating profit to interest expense; $\sigma(NI)$ is the standard deviation of income before tax over the previous five years, divided by average total assets; *ROA* is the return on assets, calculated as net profit after tax divided by average total assets; *CFperform* is cash flow performance, calculated as the cash flows from operations divided by total assets; *Size* is the natural logarithm of total assets at the end of year t (in millions Vietnamese Dong); $\sigma(CFO)$ is the standard deviation of cash flows from operations over the previous five years; $\sigma(Sales)$ is the standard deviation of revenues over the previous five years; *OpCycle* is the natural logarithm of the operating cycle; *NegEarn* is the number of years with reported negative income before tax over the last five years.

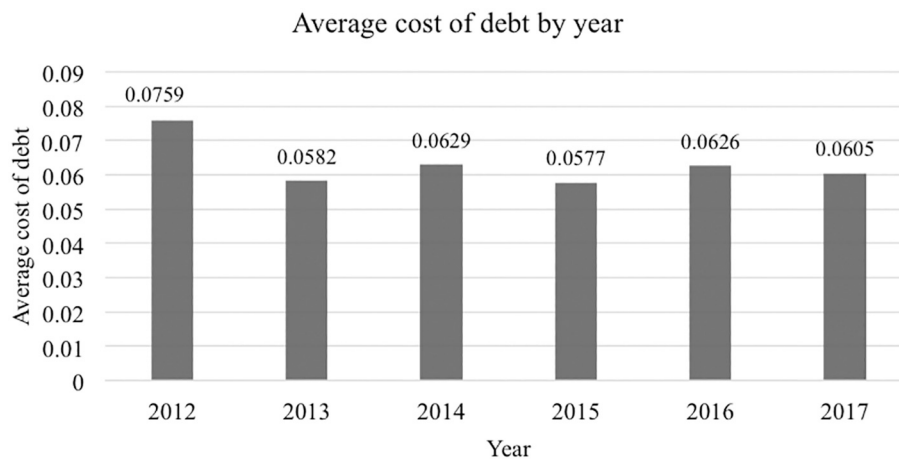


Fig. 1. Average cost of debt by year.

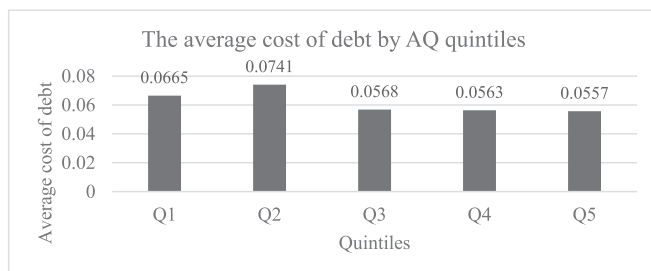


Fig. 2. The average cost of debt by AQ quintiles.

average cost of debt of the 20% worst AQ observations (Q1) is 6.65%, while that of the 20% best AQ firms (Q5) is 5.57%. The difference between Q1 and Q5 is 1.08%, and it is significant at the 5% level, therefore supporting H1. This is the initial evidence indicating that the best AQ firms enjoy a lower interest than the poorest AQ group.

Table 4 provides the correlation matrix among the variables included

Table 3
Univariate test on the cost of debt.

| Quintiles | Average cost of debt |
|------------------------|----------------------|
| Q1 (worst AQ) | 0.0665 |
| Q5 (best AQ) | 0.0557 |
| Difference (Q5 – Q1) | 0.0108 |
| <i>t</i> -statistics | 2.0305** |
| <i>Prob</i> > <i>t</i> | 0.0217 |

** Statistically significant at the 5% level.

in the cost of debt regression. The cost of debt has a negative correlation with the decile rank of AQ at 1% significance level. This is in line with the expectation that the cost of debt has a negative relation with AQ. The cost of debt also has a significant negative correlation with firm size, interest coverage, and ROA. All variables are included in the cost of debt regression as the correlations are not high (less than 0.4).

Table 4
Correlations among variables.

| | CoD | AQrank | Size | Leverage | IntCover | σ(NI) | ROA | CFperform |
|-----------|-----------|-----------|----------|-----------|----------|----------|-------|-----------|
| CoD | 1 | | | | | | | |
| AQ | -0.112*** | 1 | | | | | | |
| Size | -0.099*** | -0.019 | 1 | | | | | |
| Leverage | -0.0523 | -0.105*** | 0.208*** | 1 | | | | |
| IntCover | -0.121*** | 0.095*** | -0.033 | -0.281*** | 1 | | | |
| σ(NI) | 0.002 | 0.066* | -0.078** | -0.254*** | 0.145*** | 1 | | |
| ROA | -0.137*** | 0.145*** | 0.037 | -0.383*** | 0.366*** | 0.293*** | 1 | |
| CFperform | -0.019 | 0.163*** | -0.029 | -0.260*** | 0.162*** | 0.121 | 0.373 | 1 |

This table reports correlations among the variables used in the Eq. (2): $CoD_{i,t} = \beta_0 + \beta_1AQ_{i,t} + \beta_2Size_{i,t} + \beta_3Leverage_{i,t} + \beta_4IntCover_{i,t} + \beta_5\sigma(NI)_{i,t} + \beta_6ROA_{i,t} + \beta_7CFperform_{i,t} + \beta_8IndDummy_{i,t} + v_{i,t}$. The dependent variable is the interest expense. The explanatory variables are accruals quality, firms' size, leverage, interest coverage, the standard deviation of net income before tax, returns on assets and cash flow performance. The definitions for the variables are given in footnotes of Table 1. ***, **, and * indicate significance at 1%, 5% and 10% levels (two-tailed), respectively.

5.2. Estimating innate and discretionary AQ

To analyze the impact of AQ components on the cost of debt, we estimate innate AQ and discretionary AQ from the regression of total AQ on five innate factors in Eq. (2). Innate AQ is the fitted values, and discretionary AQ is the residuals from the regression. Descriptive statistics of innate and discretionary AQ are reported in Table 1, and time-series mean coefficients and Fama-Macbeth t-statistics from annual cross-sectional regressions of Eq. (2) over the period 2012–2017 are reported in Table 5. The mean value of discretionary AQ reported in Table 1 is 0 as expected because it is the regression residuals. Table 5 shows that the size of total assets negatively relates to AQ, which means bigger firms have poorer AQ. The other four factors have a negative coefficient, which means that bigger standard deviations of cash flows and sales, the longer operating cycle, and more negative earnings are associated with poorer AQ. The results are in line with expectations and findings of prior research in other countries (Francis et al., 2005; Gray et al., 2009), except for the sign of the total assets' coefficient. Higher standard deviations indicate higher volatility of the business environment, leading to a lower AQ. The standard deviation of sales appears to have the most significant impact, followed by the standard deviation of cash flows, which implies that sales fluctuation is the primary cause for lower AQ for Vietnamese firms. A possible explanation for the negative coefficient on total assets is that bigger firms have more complex business transactions and different accounting policy choices, which cause larger accrual estimation errors than expected.

5.3. Regression results on the relation between accruals quality and the cost of debt

Table 6 presents the regression results of the cost of debt on AQ

Table 5
Estimating innate and discretionary AQ.

| Variables | Pred. signed | Coefficient | t-stat |
|-------------------------|--------------|-------------|---------|
| Size _{i,t} | + | -0.0029 | -2.97** |
| σ(CFO) _{i,t} | - | -0.1750 | -1.96 |
| σ(Sales) _{i,t} | - | -0.0846 | -2.84** |
| OpCycle _{i,t} | - | -0.0017 | -0.34 |
| NegEarn _{i,t} | - | -0.0024 | -0.87 |
| Industry dummy | | Yes | |
| Average R ² | | 0.2080 | |

Table 5 reports the results of Eq. (3): $AQ_{i,t} = \phi_0 + \phi_1SIZE_{i,t} + \phi_2\sigma(CFO)_{i,t} + \phi_3\sigma(Sales)_{i,t} + \phi_4OpCycle_{i,t} + \phi_5NegEarn_{i,t} + \phi_6Ind_Dummy_{i,t} + v_{i,t}$. The dependent variable is accruals quality. The explanatory variables are firms' size, the standard deviation of operating cash flows, the standard deviation of revenues, the natural logarithm of the operating cycle and the number of years with reported negative income and industry dummy variables. The definitions for the variables are given in the footnotes of Table 1. The model is estimated with industry dummies, the results of which are not tabulated. ***, **, and * indicate significance at 1%, 5%, and 10% levels (two-tailed), respectively.

Table 6
Impact of AQ on the cost of debt.

| Variables | Pred. Sign | Total AQ (1) | | AQ components (2) | |
|------------------------|------------|--------------|---------|-------------------|----------|
| | | Coefficient | t-stat | Coefficient | t-stat |
| AQ | - | -0.0015 | -3.81** | | |
| InnateAQ | - | | | 0.0006 | 1.48 |
| DisAQ | - | | | -0.0015 | -3.87** |
| Size | - | -0.0021 | -2.71** | -0.0018 | -2.26* |
| Leverage | + | -0.0297 | -3.65** | -0.0280 | -4.05*** |
| IntCover | - | -0.0000 | -1.30 | -0.0000 | -1.31 |
| σ(NI) | + | -0.0035 | -0.06 | 0.0069 | 0.12 |
| ROA | - | -0.0912 | -1.95 | -0.0910 | -1.98 |
| CFperform | - | 0.0071 | 0.61 | 0.0068 | 0.57 |
| Constant | | 0.0462 | 2.15* | 0.0457 | 2.07* |
| Industry dummies | | Yes | | Yes | |
| N | | 889 | | 889 | |
| Average R ² | | 0.1495 | | 0.1544 | |

This table reports the results of the cost of debt regression based on Eq. (2): $CoD_{i,t} = \beta_0 + \beta_1AQ_{i,t} + \beta_2Size_{i,t} + \beta_3Leverage_{i,t} + \beta_4IntCover_{i,t} + \beta_5\sigma(NI)_{i,t} + \beta_6ROA_{i,t} + \beta_7CFperform_{i,t} + \beta_8IndDummy_{i,t} + v_{i,t}$. The dependent variable is the interest expense. The explanatory variables are the decile rank of accruals quality, firms' size, leverage, interest coverage, the standard deviation of net income before tax, returns on assets, cash flow performance and industry dummy variables. The accruals quality is the total accruals quality in column (1), and the two AQ components in column (2). The definitions for the variables are given in footnotes of Table 1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels (two-tailed), respectively.

decile rank and other control variables based on Eq. (3). The cost of debt is the dependent variable. The main independent variable of interest is the total AQ and AQ components. Column (1) shows the results for total AQ; Column (2) shows the results for AQ components. AQ variables are measured using decile ranks, with higher ranks indicating better AQ.

Column (1) shows that total AQ is negatively correlated with CoD at 5% significance level. The negative coefficient on total AQ means that better AQ firms have a lower cost of debt, which supports H1. The coefficient on total AQ of -0.0015 indicates that the best AQ firms (decile ten) enjoy a 1.35% (0.0015 times nine deciles difference) lower cost of debt than the worst AQ firms (decile one). The result is in line with previous studies such as Francis et al. (2005), Vander Bauwhede et al. (2015), Eliwa et al. (2019), and Houcine and Houcine (2020).

In Column (2), total AQ is replaced by innate and discretionary AQ to investigate AQ components' impact on CoD. The results show that innate AQ has a positive and insignificant relation with CoD, whereas discretionary AQ has a significant negative relationship with CoD. This indicates that only the discretionary AQ component has a significant impact on the cost of debt. The coefficient of discretionary AQ in Column (2) is close to that of total AQ in Column (1) of -0.0015. This implies that most of the impact of total AQ is from the discretionary AQ component, and creditors require a higher cost of debt to firms with

lower AQ that corresponds to discretionary factors. The results confirm that discretionary AQ increases the information risk of Vietnamese firms.

The result, therefore, supports H2. It is also contrary to evidence documented in previous research. In particular, Francis et al. (2005), Eliwa et al. (2019), and Houcine and Houcine (2020) find that both innate and discretionary AQ has a significant negative relation with the cost of debt, and the effect of discretionary AQ is weaker in terms of both coefficient estimate and statistical significance. Whereas Gray et al. (2009) document that only innate AQ has a significant negative relation with the cost of debt, discretionary AQ has no significant association with debt cost.

There are several possible interpretations of the results. Firstly, the insignificant impact of innate AQ could come from the low explanatory power of the innate AQ factors in Eq. (3). As demonstrated in Table 5, innate factors explain only 20.8% of the variation of total AQ, which is lower than the figure reported in prior research of 45% and 31% by Francis et al. (2005) and Gray et al. (2009), respectively. This means that only a small portion of total AQ reflects economic fundamentals such as business models and operating environment, whereas a more significant portion of total AQ comes from other factors such as management discretion of accounting policy choices. In other words, AQ for Vietnamese firms in the study can be more affected by management choices than by economic fundamentals. Secondly, the results indicate the creditors attach higher importance to AQ attributable to management discretion than AQ from economic fundamentals. The inconsistency of the findings with prior research is possibly caused by the differences in Vietnam's economic and regulatory environment compared to other developed countries. The lower level of transparency and the accounting system (Vo & Phan, 2019; World Bank, 2016) may create opportunities for management intervention in the financial reporting process. This fact may cause creditors to punish firms with higher discretionary AQ.

Regarding the control variables, firm size in terms of total assets and leverage is negatively correlated with CoD in both Columns (1) and (2), in which leverage appears to have the most significant impact on the dependent variable. The results indicate that bigger firms can borrow at a lower interest cost. This is in line with findings documented in prior literature such as Minnis (2011) and Francis et al. (2005). Although the negative coefficient on leverage is not consistent with the general expectation, it is in line with several prior research such as Minnis (2011), Francis et al. (2005), Gray et al. (2009), Vander Bauwhede et al. (2015), Beatty et al. (2002) and Booth (1992). A possible explanation suggested by Beatty et al. (2002) and Booth (1992) is that firms that can borrow at a lower interest rate tend to lend more, especially bigger firms. In addition, Minnis (2011) mentions a possible econometric reason that the significant negative correlation between leverage and interest coverage ($-0.281, p < 0.01$ as in our sample) may also affect the estimation of the coefficient on leverage.

Of other control variables, interest coverage and ROA have negative coefficients as expected, while the coefficients on the standard deviation of net income and cash flow performance are not in line with expectation. However, all these control variables do not have a significant association with the cost of debt.

The overall results are sensible in the context of a developing financial market in Vietnam. According to the World Bank (2016), the quality of financial reporting of Vietnamese companies are still low, despite recent improvements in the institutional framework for corporate financial reporting, as a result of weak corporate governance, shortcomings of the accounting standards, insufficient enforcement of compliance with accounting and auditing standards by the authorities, and the currently limited capability of financial statements preparers and auditors. The Vietnamese accounting standards are issued in 2001 to 2005 and have become outdated compared to the International Financial Reporting Standards. In addition, there are inconsistencies between the accounting standard and other accounting regulations (World Bank, 2016). This situation is likely to reduce the comparability

and transparency of accounting information, thus raising information risk as a particular risk factor to be considered in debt contracts. As accruals are recorded based on management's estimates and judgment, they can be used to manipulate reported earnings. Therefore, it is not surprising that creditors are concerned with AQ, especially AQ arising from management discretion. This economic and legal environment explains why creditors price discretionary AQ more than innate AQ when charging interest costs.

5.4. Sensitivity tests

To check the robustness of the results, we perform several sensitivity tests concerning the measurement of AQ and model specification for the impact of discretionary AQ. Firstly, to test the impact of AQ and AQ components on the cost of debt, we use the raw value of AQ estimated from Eq. (1), and the raw value of innate AQ and discretionary AQ estimated from Eq. (3) instead of the decile rank of these variables. The results presented in Table 7 remain consistent with the original test results reported in Table 6. Total AQ and discretion AQ continue to show a significant negative relation with the cost of debt, while innate AQ shows insignificant association with the cost of debt.

Secondly, to test the impact of the discretionary AQ component on the cost of debt, we include the five innate factors as control variables in Eq. (2) together with total AQ rank, instead of using separate innate and discretion AQ components estimated from Eq. (3). The reason for using this method is that, in Eq. (3), the possible omission of innate factors can lead to model misspecification, causing an increase in the measurement error of discretionary AQ. Therefore prior studies such as Francis et al. (2005) and Gray et al. (2009) suggest that the five innate factors in Eq. (3) to be included directly as control variables in Eq. (2) together with total AQ. Based on this method, the coefficient on total AQ represents the impact of the part of AQ that is incremental to the impact of the innate factors, which means the discretionary AQ's pricing effect. Table 8 presents the results of the test. The results consistently show that discretionary AQ has a significant and negative relationship with the cost of debt, implying that poorer discretionary AQ increases the interest costs.

Table 7
Impact of AQ on the cost of debt using raw AQ values.

| Variables | Pred. sign | Total AQ (1) | | AQ components (2) | |
|------------------------|------------|--------------|---------|-------------------|----------|
| | | Coefficient | t-stat | Coefficient | t-stat |
| AQ | - | -0.0516 | -3.40** | | |
| InnateAQ | - | | | 0.0501 | 1.26 |
| DisAQ | - | | | -0.0595 | -3.10** |
| Size | - | -0.0022 | -2.72** | -0.0021 | -2.47* |
| Leverage | + | -0.0313 | -3.78** | -0.0289 | -4.56*** |
| IntCover | - | -0.0000 | -1.30 | -0.0000 | -1.25 |
| σ (NI) | + | -0.0144 | -0.26 | -0.0019 | -0.03 |
| ROA | - | -0.0911 | -1.94 | -0.0929 | -2.00 |
| CFperform | - | 0.0059 | 0.51 | 0.0067 | 0.56 |
| Constant | | 0.0503 | 2.22* | 0.0523 | 2.15* |
| Industry dummies | | Yes | | Yes | |
| N | | 889 | | 889 | |
| Average R ² | | 0.1456 | | 0.1518 | |

This table reports the results of the cost of debt regression based on Eq. (2): $CoD_{i,t} = \beta_0 + \beta_1 AQ_{i,t} + \beta_2 Size_{i,t} + \beta_3 Leverage_{i,t} + \beta_4 IntCover_{i,t} + \beta_5 \sigma(NI)_{i,t} + \beta_6 ROA_{i,t} + \beta_7 CFperform_{i,t} + \beta_8 Ind_{Dummy}_{i,t} + v_{i,t}$. The dependent variable is the interest expense. The explanatory variables are the raw values of accruals quality, firms' size, leverage, interest coverage, the standard deviation of net income before tax, returns on assets, cash flow performance and industry dummy variables. The accruals quality is the total accruals quality in column (1), and the two AQ components in column (2). The definitions for the variables are given in footnotes of Table 1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels (two-tailed), respectively.

Table 8
Impact of discretionary AQ on the cost of debt.

| Variables | Pred. signed | Coefficient | t-stat |
|------------------------|--------------|-------------|----------|
| DisAQ | – | –0.0017 | –4.17*** |
| Size | – | –0.0021 | –2.92** |
| Leverage | + | –0.0287 | –3.53** |
| IntCover | – | –0.0000 | –1.22 |
| σ(NI) | + | –0.0299 | –0.66 |
| ROA | – | –0.0757 | –1.32 |
| CFperform | – | 0.0102 | 0.81 |
| σ(CFO) | + | –0.0280 | –1.87 |
| σ(Sales) | + | –0.0030 | –0.84 |
| OpCycle | + | 0.0003 | 0.15 |
| NegEarn | + | 0.0038 | 1.68 |
| Constant | | 0.0581 | 2.98** |
| Industry dummy | | Yes | |
| Average R ² | | 0.1673 | |

This table reports the results of the cost of debt regression based on Eq. (2): $CoD_{i,t} = \beta_0 + \beta_1AQ_{i,t} + \beta_2Size_{i,t} + \beta_3Leverage_{i,t} + \beta_4IntCover_{i,t} + \beta_5\sigma(NI)_{i,t} + \beta_6ROA_{i,t} + \beta_7CFperform_{i,t} + \beta_8Ind_{Dummy}_{i,t} + v_{i,t}$, including the five innate factors as control variables and using the decile rank of AQ to represent the discretionary AQ component. The dependent variable is the interest expense. The explanatory variables are accruals quality, firms' size, leverage, interest coverage, the standard deviation of net income before tax, returns on assets, cash flow performance, the standard deviation of operating cash flows, the standard deviation of revenues, the natural logarithm of the operating cycle, the number of years with reported negative income and industry dummy variables. The definitions for the variables are given in footnotes of Table 1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels (two-tailed), respectively.

6. Conclusion

This study investigates the impact of accruals quality (AQ) on the cost of debt on a sample of listed firms in Vietnam during the period 2012–2017. Following previous research, first, we investigate the impact of total AQ on the cost of debt. Then we decompose AQ into innate AQ – the part of AQ attributable to economic fundamentals, and discretionary AQ – AQ that is affected by management intervention, and continue exploring the impact of these AQ components on the cost of debt. Our research applies Dechow and Dichev (2002) model, modified by McNichols (2002) to measure AQ.

The results show that AQ has a significant negative relation with the cost of debt, which means that firms with better AQ have a lower cost of debts than firms with poorer AQ. In particular, firms in the best AQ decile, on average, enjoy a 1.35% lower cost of debt than firms in the worst AQ decile. Regarding the impact of AQ components, discretionary AQ has a significant negative association with the cost of debt, while innate AQ does not significantly impact the cost of debt. The findings are consistent with prior studies with regard to the impact of total AQ but are not in line with prior research in relation to the impact of AQ components. More specifically, prior studies find that both AQ components to have a significant negative relation to the cost of debt, with larger impact of the innate component than the discretionary component (Eliwa et al., 2019; Francis et al., 2005); or only the innate component having a significant impact on interest costs (Gray et al., 2009). This finding suggests that creditors require higher interest rates to firms with poor AQ related to discretionary AQ than poor AQ attributable to innate AQ. The inconsistency of the findings with prior research is possibly caused by the differences in Vietnam's economic and regulatory environment compared to other developed countries. The lower level of transparency, shortcomings of the accounting system, and concerns of management manipulation of accounting information may cause creditors to attach higher importance to AQ attributable to management choices. The results indicate that AQ and its components may have different impacts on capital cost across different accounting systems and levels of capital market development.

The study extends prior literature on the impact of accounting information quality on the cost of debt in an emerging market. The study

has implications for firms and regulators. The findings deliver an important message to firms regarding the economic benefits of providing high-quality financial reporting and the possible consequences of managing earnings. Given the economic significance of the interest cost difference between better and poorer AQ firms, it is worthy for managers to take efforts to ensure the quality of accounting information, such as by strictly complying with accounting standards when presenting and disclosing true and fair information. For regulators, the results indicate that the quality of financial reporting has significant impacts on market participants. Therefore, these impacts should be taken into account when future changes to accounting standards and regulations are proposed.

The limitation of the study is the use of a single measure of AQ as a proxy for earnings quality. Although the use of AQ to proxy for financial reporting quality is popular in relation to credit pricing, future studies may consider other measures of earnings quality such as earnings predictability and earnings persistence to assess the impact of those measures on capital cost.

Author statement

Ha Thi Thu Le

| | |
|----------------------------|--|
| Conceptualization | Ideas; formulation or evolution of overarching research goals and aims |
| Methodology | Development or design of methodology; creation of models |
| Formal analysis | Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data |
| Writing - Original Draft | Preparation, creation and/or presentation of the published work, specifically writing the initial draft |
| Writing - Review & Editing | Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre-or post-publication stages |
| Project administration | Management and coordination responsibility for the research activity planning and execution |

Xuan Vinh Vo

| | |
|----------------------------|--|
| Conceptualization | Ideas; formulation or evolution of overarching research goals and aims |
| Writing - Review & Editing | Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre-or post-publication stages |
| Supervision | Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team |
| Project administration | Management and coordination responsibility for the research activity planning and execution |

Thi Thuc Vo

| | |
|--------------------------|---|
| Writing - Original Draft | Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation) |
|--------------------------|---|

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