"Impact of credit rating downgrades and tightness of accounting standards on earnings management in listed SMES"

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BUSINESS PERSPECTIVES

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IMPACT OF CREDIT RATING DOWNGRADES AND TIGHTNESS OF ACCOUNTING STANDARDS ON EARNINGS MANAGEMENT IN LISTED SMEs

Abstract

Due to its nature, funding remains the main problem for listed small and medium-sized enterprises (SMEs) globally. To overcome such a problem, there is a trend of using credit rating as the benchmark to appraise funding opportunities and applications in listed SMEs. As credit rating levels vary across time, subject to the performance of the listed SMEs, changes in the credit rating levels might trigger attention from listed SMEs, and actions might then be taken by the management to ensure that the credit rating is at the desired level. Since the literature in this strand of study is limited, this study aimed to examine the effect of credit rating downgrade and tightness of accounting standards on earnings management in listed SMEs. Employing a 2x3 between-subjects experiment manipulating credit rating downgrades (category or notch) and tightness of accounting standards (less tight, moderately tight, tight), it is evidenced that credit rating downgrades, especially notch downgrades, lead to more earnings management behaviors in the presence of a tight and less tight set of accounting standards. Different classifications of credit rating downgrades – notches and categories – will have different implications for earnings management based on the extent to which they are subject to external monitoring. As a practical matter, it is recommended that regulators exercise equal monitoring regardless of whether credit rating downgrades occur by category or notch.

Keywords   credit rating downgrades, accounting standards, accounting reporting decision, experiment

JEL Classification   G24, M41, M48

INTRODUCTION

In most countries around the world, small and medium-sized enterprises (SMEs) have become a significant part of the economy and account for most of the businesses in the private sector (Downing & Gracia, 2021). Even though a SME has a prominent role in the country and the world's economy, due to its nature, this group of businesses is constantly facing the challenges of growth and capital raising (Rao et al., 2023) and relying mostly on external financing (such as bank or finance institution) to fund the business (Beck et al., 2008; Berger et al., 2011; Rao et al., 2023; Shankar, 2019).

Despite this fact, SMEs face challenges in obtaining external financing due to information asymmetry problems (Wellalage & Fernandez, 2019) or lack of proper financial records or credit history (Shankar, 2019). To overcome the funding difficulties, many countries in the world have started to introduce SME credit rating scores as a solution to fundraising among SMEs (Shankar, 2019; Yoshino & Taghizadeh-Hesary, 2019; Ubarhande & Chandani, 2021; Roy & Shaw, 2023; Taghizadeh-Hesary et al., 2019). Credit ratings provide important in-

sights to outsiders on the creditworthiness of a business entity (Kisgen, 2006) and will have an inverse relationship with the company's cost of raising capital in the longer term. Managers may then pay particular attention to the company's credit rating. With that, credit rating changes will impact managers' earnings management behavior (Hill et al., 2019). Managers may be motivated to engage in earnings management activities to maintain a desired credit rating level. Managers might utilize the level of latitude of prescription in the accounting standards, which refer to the tightness of accounting standards, to attain certain financial reporting outcomes (Ozlanski, 2019; Collins et al., 2012; Ewert & Wagenhofer, 2005). A tight set of accounting standards is argued to be associated with more aggressive financial reporting behavior as companies can structure the transactions that fit into the accounting prescriptions while fulfilling their reporting objective (Krische et al., 2012). On the other hand, a less tight set of accounting standards promotes the exercise of professional judgment and limits opportunism (SEC, 2003). Following this argument, the main objective of the study is to examine the interactive effect of a credit rating downgrade in SMEs and the tightness of accounting standards on the potential earnings management by managers.

1. LITERATURE REVIEW

Credit rating plays a vital and dominating role in SMEs in relation to the cost of raising capital (Dasilas & Papasyriopoulos, 2015). Credit rating is a well-accepted benchmark by market players as an indicator of the financial performance, health, and credit strength of a company in the long run (Asimakopoulos et al., 2021; Graham & Harvey, 2001; Iannotta et al., 2013; Kisgen, 2007). While credit rating has been a well-accepted benchmark for publicly listed companies regarding their creditworthiness, it is equally important when it comes to SMEs. Dasilas and Papasyriopoulos (2015) evidenced that credit rating plays an important role and will have a greater impact on the capital structure of SMEs, just like how it affects publicly listed companies.

According to Afik et al. (2014), a credit rating may increase or decrease depending on the evaluation by the credit rating agencies. The upgrade or downgrade of a company's credit rating can be in the form of a "notch" (e.g., from AA1 to AA2) or a "category" (e.g., from AA3 to A1) change. While credit rating upgrades normally create positive impacts, prior studies show that there is a negative relationship between stock market reactions and credit rating downgrades As such, a downgrade might affect a company's share or bond valuation and hence its subsequent financing activities (Asimakopoulos et al., 2021; Hand et al., 1992; Jung et al., 2013). With that, Asimakopoulos et al. (2021) argued that due to the potential impacts that changes in the credit rating would bring, managers will place great emphasis on the credit ratings of the firms, and it mo-

tivates managers to maintain a desired credit rating. Remedy actions might be taken by the managers to reduce the negative impacts of credit rating downgrades in the long run.

Kaske (2014) documented that in determining a company's credit rating, many inputs are considered by the credit rating agencies, and the reported earnings of a company are one of the most important indicators. This is further supported by Standard and Poor's (2006) reports that the reported earnings and financial performance of a company serve as the main determinants of the decision on credit rating revision. Since the reported earnings of a company have a dominating impact on its credit rating, this might then motivate managers to manage the reported earnings in order to achieve a favorable credit rating (Alissa et al., 2013; Jung et al., 2013). Such actions, however, might be constrained by external monitoring parties. When a company experiences a credit rating downgrade, especially a category downgrade, it will trigger a greater market reaction and might draw greater monitoring attention by credit rating agencies; thus, more effort will be paid to monitoring the company's performance (Alissa et al., 2013; Jung et al., 2013). The professionally trained staff of credit rating agencies may detect earnings management actions by the companies and might result in further downward revisions of the credit rating (Mathis et al., 2009). Notch downgrading, however, is subject to less monitoring by external parties as it triggers less market reactions and attention compared with category downgrading (Alissa et al., 2013; Jung et al., 2013; Mester et al., 2007).

Given the fact that credit rating in SMEs has not received intensive attention from the researchers, drawing insights from the public-listed companies literature, this study argues that the benefits of lower costs of capital from maintaining the desired credit rating lower cost of capital will enhance the value of the SMEs. By raising its credit rating, market participants will perceive the company's default risk is on the low side and, hence, charging a lower finance cost (Kim & Gu, 2004; Van Horne, 1998). Articulating from the arguments above, when a company is experiencing credit rating downgrades, the need to maintain a good earnings trend for credit rating level restoration may motivate managers to be more aggressive in making financial reporting decisions (Alissa et al., 2013; Demirtas & Cornaggia, 2013; Jung et al., 2013; Kim et al., 2012). However, even though a category downgrade has a greater impact than a notch downgrade, managers' actions will be constrained by the extensive monitoring of external parties, such as financial analysts, and then be less motivated to engage in aggressive financial reporting behavior (Hanlon et al., 2014; Hoopes et al., 2012).

Viana et al. (2023) argue that earnings management can be done by manipulating the latitude in the accounting standards to attain the desired earnings level. Morais (2020) and Bennett et al. (2006) claim that the recent updates to accounting standards have resulted in a more complex set standard, hence, classifying the accounting standards into the two traditional extremes of rules-based and principles-based might not be meaningful. When the standards become more complex, a clear set of principle-set standards might not exist, as both hard rules and soft rules will lay the foundation for the standard. Hard rules set the structure of the standard, which provides clear prescriptions for the entire accounting concept. On the other hand, soft rules require professional interpretation and judgment when it comes to standard application and accounting treatments. This argument aligns with Alexander's (1999) study, which suggests there are levels of accounting treatments, namely, Types A, B, and C. Just like hard rules, Type A is normally general and establishes the overall principle of the treatment. In contrast, Type C is precise and detailed and sets specific measurements in solving a problem. Expectedly, Type B lies in between the two extremes. This level of accounting treatment

bridges Types A and C and provides useful context for evaluation and decision-making. This paper proposes that the tightness of accounting standards is enhanced when these three Types are in existence. Type A information is normally less tight as it prescribes general accounting principles. Type B of information is seen to be moderately tight as more prescriptions are added to explain the principle. Type C, however, is the tight set of accounting standards as it contains general principles and rules. An accounting standard lessens its tightness when only one or two of these levels exist.

Studies such as Ewert and Wagenhofer (2005) found that earnings quality varies with tighter accounting standards. Prior studies evidenced that accounting standards are used to defend and justify a reporting decision (Pinto et al., 2020). Different levels of tightness in the accounting standards portray different reporting behaviors. Prior studies in the field have evidenced that tight accounting standards, which are accompanied by detailed bright lines, served as "safe harbors" to managers in defending a financial reporting decision that might not faithfully represent the economic substance of the transaction. Tight accounting standards could facilitate the opportunistic action of managers. On the other hand, less tight accounting standards advocate the exercise of professional judgment. Emphasis is given to the substance-over-form of the economic transaction and, hence, leaves less room for aggressive financial reporting behavior (Ozlanski, 2019; Collins et al., 2012; SEC, 2003). Drawing an inference from the literature, it is argued on the one hand that a tight set of accounting standards clarifies and reduces the ambiguity of the application of the accounting standards; on the other hand, it might promote opportunistic financial reporting behavior and vice versa. The key, hence, is how tight a set of accounting standards should be. The balance should be struck between clarity and true and fair financial reporting.

Integrating the above argument with credit rating downgrades, managers are motivated to manage earnings to avoid negative implications in the long run (Alissa et al., 2013; Demirtas & Cornaggia, 2013; Jung et al., 2013; Kim et al., 2012). Managers' actions, however, might be affected by the level of external monitoring (Alissa et al., 2013; Jung et al., 2013; Mathis et al., 2009). A category downgrade

attracts more external monitoring. Managers may exercise more caution when it comes to any opportunistic behavior (Alissa et al., 2013; Demirtas & Cornaggia, 2013; Jung et al., 2013; Kim et al., 2012). To avoid attracting more monitoring from external entities, such as regulatory parties, accounting standards might be used to defend their actions. Managers might be less aggressive when accounting standards come with a Type A, more aggressive when accounting standards contain Type A and B, and most aggressive when given Type A, B, and C. When experiencing a notch downgrade, managers may act more aggressively than under the category downgrade condition due to lower external monitoring. Therefore, the study expects to see similar behaviors as category downgrades but more pronounced levels of aggressiveness under the notch category condition.

With that, aligned with the main objective of the study to examine the effect of credit rating downgrade and tightness of accounting standards on earnings management in listed SMEs, the hypotheses of the study predict that:

H1: *Managers' intentions to engage in earnings management will be higher (lower) when there is a notch downgrade (category downgrade).*

H2: *Managers' intentions to engage in earnings management will be lowest when accounting standards are less tight and highest when accounting standards are tight.*

H3: *Managers' intentions to engage in earnings management will be lowest when accounting standards are less tight and highest when accounting standards are tight, particularly under notch downgrade compared to category downgrade.*

2. RESEARCH METHODOLOGY

The main objective of the study is to examine the interactive effects of credit rating downgrade and accounting standard tightness on earnings management in SMEs. Employing an experimental de-

signed, hypothetical case were randomly assigned to a total of 71 practicing accountants that served as the sample of the study. The sample selection and the research design and procedure are discussed in turn in the coming subsections.

2.1. Study sample

Due to the COVID-19 pandemic, data were collected online. Participants were recruited via Facebook and LinkedIn. Practicing accountants were solicited via Facebook group pages meant for accountants. For recruiting done via LinkedIn, potential participants' profiles were checked before soliciting them. Once consent was given by the participant, the URL link to the manipulated case study was sent to the participants on a random basis. A total of 71 sets of data were collected. Owing to the practical concern over the effort and cost incurred, most of the experimental studies employ a small sample (Weathington et al., 2017). This is further supported by the experimental study by Tan and Kao (1999). The study employed a three-way factorial design with a small sample size of 105 participants.

Of the total sample of 71, 38 and 33 participants were randomly assigned to category and notch downgrade groups, respectively. For the tightness of accounting standards, 21, 29, and 21 participants were randomly assigned to less tight (Type A), moderately tight (Type B), and tight (Type C), respectively.

Of the total 71 participants, 30 are male and 41 are female, which make up 42.3% and 57.7% of the total sample, respectively. Over half of the total participants (53.5%) are experienced auditors who have been practicing for one or more years, and 42.3% of participants are junior accountants who have been practicing for less than a year[1]. The participants are associated with publicly listed companies (14.1%), subsidiaries of publicly listed companies (8.5%), small and medium-sized enterprises (42.3%), and other types of enterprises such as audit firms or public sectors (35.2%).

2.2. Procedures

A URL link to the Google Forms document was facilitated to the participants. The google form

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1   An independent t-test has been performed on the mean difference between junior and experienced accountants. Statistical results suggest that there is no difference between the two groups in terms of the amount of revenue suggested to be recognised (p = .233).

comes in three sections. Section A contains a hypothetical case, an excerpt of IFRS 15, and the questions related to the hypothetical case. Participants were informed not to return to Section A when answering Section B, which contains a set of manipulation checks. Section C consists of demographic questions. Last, participants are given a privacy notice on the data usage of all the data collected via this form. They are required to read and agree with such notice before submission.

2.3. Study design

This study employs a 2x3 between-subjects design, with the independent variables of a credit rating downgrade classification (category or notch) and tightness of accounting standard (less tight, moderately tight, tight). The case study is adapted from Lim et al. (2017) with slight modifications to ensure that the context of the case is aligned with the research objective of the study. These modifications are as follows: (1) including the credit rating downgrades information, (2) adjusting the level of accounting standard tightness for financial reporting decision-making purposes, and (3) the participants were asked to indicate the revenue (in dollars) that should be recognized from the contract (earnings management).

The manipulation of credit rating downgrade varies according to the type of downgrade the hypothetical company is experiencing. This variable is included as one of the study's mitigating variables. For category downgrades, participants were told that the hypothetical company's credit rating had been downgraded by a category (i.e. from the category of AA3 to A1) and that it triggered the company's management concern as there is a plan to issue new bonds in the coming year. For notch downgrades, the same scenarios were presented, except that the company's credit rating had been downgraded by a notch level (i.e., from AA1 to AA2).

Similar to Lim et al. (2017), this study manipulates the level of tightness of IFRS 15 *Revenue from Contracts with Customers*. The relevant accounting paragraphs are classified into Types A, B, and C accordingly. Since paragraph 31 outlines

the general principle of control, this paragraph is classified as Type A. Further descriptions of control and the context that constitutes control are defined in paragraphs 31 and 33. These two paragraphs are Type B as they connect the general principle with some details. Paragraphs 35 to 38 and B3 to B8 prescribe detailed implementation rules to explain the passing of control to the customers. As these paragraphs provide a high level of detailed information regarding the application of IFRS 15 in different accounting contexts and, hence, financial reporting decision-making, these paragraphs are classified as Type C. Depending on which context the participants were assigned, they will be getting different excerpts of accounting standards. Participants are randomly assigned to (i) Less tight (i.e., Type A), (ii) Moderate tight (i.e., Type A and B), (iii) Tight (i.e., Type A, B, and C) manipulations.

In this study, participants take on the role of a company's chief financial officer (CFO) and decide about the correct accounting treatment of a contract. Following Lim et al. (2017), the case begins with a hypothetical publicly traded company[2], Advanced Technology Berhad (ATB), operating in IT. The company faces two problems for the year ending June 30, 2020. First, there has been a credit rating downgrade in the hypothetical company (either by one notch or one category, depending on the assigned scenario). Since there was a plan for the company to issue new bonds in a year's time, management is not happy about the downgrade. Second, there is a disagreement with the auditor over the accounting treatment of the recognition of revenue from a contract the company entered into earlier this year.

Participants were then required to decide on the correct accounting treatment and how much revenue (in millions) should be recognized related to this project as of June 30, 2020. In accordance with the details of the transaction, no revenue shall be recognized as the control of the hardware has not been passed to the customer. Any revenue recognized would imply that the manager intended to engage in earnings management. Since participants are asked to indicate the amount of revenue

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2   Bursa Malaysia has the option for companies to be listed under ACE market and LEAP market. These markets are companies with growth prospects or emerging companies, including small- and medium-sized enterprises which require access or visibility through the capital market.

to be recognized in dollar signs, the higher the proposed revenue to be recognized, the higher the intent to engage in earnings management.

3. RESULTS

ANOVA test is performed on the data collected. However, before the ANOVA test result could be interpreted, manipulation check is essential in ensuring the validity, quality and replicability of the findings of an experimental study. The manipulation check and the result of the subsequent statistical tested are discussed in turn in the coming subsections.

3.1. Manipulation check

Two manipulation checks are included in Part B of the instrument. For the tightness of the accounting standard based on the excerpt of the IFRS 15 attached, participants are asked to select the paragraphs that were included in the excerpt, namely paragraphs 31, 33, or 35 to 37 and B3 to B8. For credit rating downgrades, participants are asked to select which credit rating downgrade scenario the company faces (category or notch).

## 3.2. Credit rating downgrades, level of tightness, and earnings management

Descriptive analysis is performed to gauge the data collected (Panel A of Table 1). This is followed by univariate analyses to further examine the hypotheses developed (Panel B of Table 1). Planned contrast is then performed (Panel C of Table 1) to further examine the interactive effects found under the univariate analysis.

As evidenced by Table 1, Panel A, the amount of revenue recognized is higher when there is a notch downgrade compared to a category downgrade (mean RM 8.01 million versus RM 16.39 million). Such findings are attested by the Univariate analysis presented in Table 1, Panel B, where there is a significant relationship between credit rating downgrades and earnings management (p = .092). Such results provide evidence to support *H1* that companies with a notch credit rating downgrade will attract less monitoring from outsiders and, hence, managers will be more aggressive in taking remedial actions to restore their company's credit rating level (Alissa et al., 2013; Jung et al., 2013; Mester et al., 2007). This study's findings reaffirm

Table 1. Descriptive and univariate analyses

	Panel A: Descriptive analysis		
	Credit Rating Downgrades (CRD)		**Total**
	Category (N = 38)	**Notch (N = 33)**	
	Mean (SD)	**Mean (SD)**	
Accounting Standard Tightness	6.36 (5.26)	10.63 (3.03)	7.78 (5.00)
Less tight (N=21)	8.50 (4.44)	6.61 (5.34)	7.52 (4,93)
Moderately tight (N=29)	8.01 (6.48)	33.40 (51.39)	22.09 (38.57)
Tight (N= 21)	8.01 (5.36)	16.39 (31.48)	11.01 (22.05)
Panel B: Univariate analysis					
	Sum of Squares	**df**	**Mean Square**	**F-value**	**p-value**
Intercept	10392.117	1	10392.117	24.245	.000
CRD	1257.102	1	1257.102	2.933	.092*
Tightness	2701.44	2	1350.722	3.151	.049**
Tightness x CRD	2071.517	2	1035.758	2.416	.097*
Error	27860.909	65	4428.629		
Panel C: Planned contrast					
Category x Less tight *vs* Category x Moderately tight					.785
Category x Less tight *vs* Category x Tight					.702
Category x Moderately tight *vs* Category x Tight					.894
Notch x Less tight *vs* Notch x Moderately tight					.673
Notch x Less tight *vs* Notch x Tight					.026**
Notch x Moderately tight *vs* Notch x Tight					.002**

Note: * Significant at the 10% significance level, ** significant at the 5% significance level.
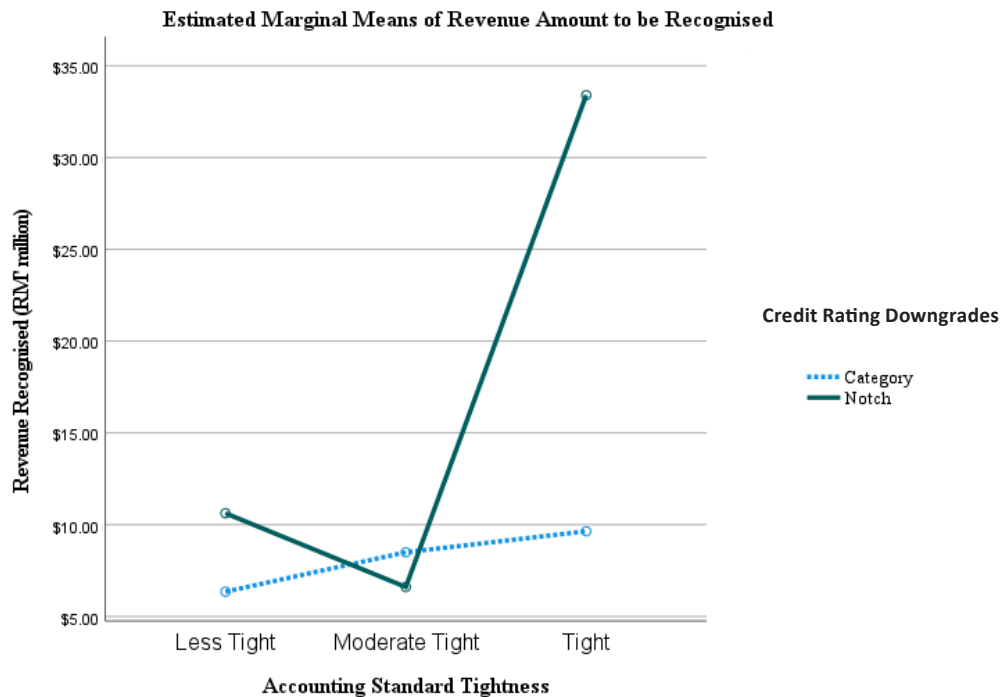
Figure 1. Interactive graph

the prior studies' argument that credit rating plays an important role in SMEs when it comes to external financing. To ensure a favorable financing condition, a credit rating downgrade serves as a motivator to the company to ensure that the credit rating is at a desirable level. The company will undertake remedy action to restore the credit rating by reporting aggressively (Alissa et al., 2013; Hill et al., 2019; Jung et al., 2013). Even though a category downgrade is seen as more serious than a notch downgrade, the managers' intention to report aggressively will be constrained by the external monitoring of various stakeholders. A notch downgrade, however, might not receive much attention from the external parties and, hence, motivates managers to take remedial actions to ensure that the credit rating will not be further downgraded by reporting aggressively. The results confirm that such an argument is true.

As for accounting standard tightness, as noticed from Table 1, Panel A, the amount of revenue recognized is highest under tight (mean = RM 22.09 million), followed by less tight (mean = RM 7.78 million), and last moderately tight (mean = RM 7.52 million). Table 1, Panel B further provides statistical evidence to support the argument that

accounting standard tightness will impact managers' earnings management (p = .049). These findings provide evidence to support *H2* and conform to the contention in the prior studies by Agoglia et al. (2011), Donelson et al. (2012), and Xu and Doupnik (2016) that opportunistic behaviors could be aggravated by the tightness of accounting standards. It is interesting to note that when a set of accounting standards is too general or too detailed, it provides considerable room for interpretation, and hence, managers may take advantage of such leeway and interpret the accounting standard in a manner that supports their desired financial reporting outcome. A set of accounting standards that comes with a balance of rules and principles (moderate tight) is effective in curbing managers' opportunistic reporting behavior (refer to Figure 1).

As for *H3*, the univariate analysis reported under Panel B of Table 1 reveals that credit rating downgrade (p = .092), tightness of accounting standards (p = .049), and the interaction between the two (p = .097) are all found significant at 5% and 10% levels of significance, which provides statistical evidence to support *H3*. Figure 1 and the planned contrast in Panel C of Table 1 help to further scrutinize the

interactive effect between credit rating downgrade and tightness of accounting standards. The post-hoc test provides statistical evidence to partially support *H2* that under notch credit rating downgrade, managers' reporting is most aggressive when accounting standards are tight compared to a less tight and moderately tight set of accounting standards. Results are significant at the 5% level of significance (p = .026; p = .002). Results were not significant for the category credit rating downgrade under different levels of accounting standard tightness. This result is further support-ed by the interactive graph presented in Figure 1 that shows the more aggressive reporting behavior is reported under notch credit rating downgrade compared to category credit rating downgrade as regardless of the tightness of the accounting standards, the amount of revenue recognized (a proxy for earnings management) is always higher under the notch downgrades condition (solid line as in Figure 1). However, when there are notch downgrades and with the presence of a set of tight accounting standards, the earnings management by the SME managers recorded to highest amount.

CONCLUSION

With the main objective of examining the impact of credit rating downgrades and accounting standard tightness on earnings management activities in listed SMEs, the statistical results of the study show that listed SMEs' managers will aggressively use the tightness of the accounting standards to their advantage under notch downgrade and engage in earnings management activities.

Such findings provide several important implications, both literature and practical. First, it adds to the literature on the importance of credit ratings to SMEs by examining the aggressiveness of reporting based on two different types of credit rating downgrades. It was found that notch credit rating downgrades may lead to higher earnings management than category credit rating downgrades, which provides useful information for monitoring parties to be particularly vigilant despite the types of credit rating downgrades. Hence, monitoring of a listed SME should be employed whenever there is a credit rating downgrade. Close monitoring when there is a category downgrade but not a notch downgrade might open the door for managers to report aggressively.

Second, this study reaffirms the argument that accounting standards are used as tools for managers to defend and argue a reporting stand. It has been found that managers are more inclined to report aggressively when they know that they are less likely to be monitored (i.e. notch credit rating downgrades) and the standards are very prescriptive. Useful insights could be drawn by the accounting standard setters when drafting the accounting standard as to what extent the prescriptions should be included in the accounting standard in assisting the managers in financial information preparation. In the event that standard setters revamp and improve the current set of financial reporting standards, considerations have to be given to the tightness of the standard. Such a finding enriches the literature by examining how the behavior of managers varies under different levels of accounting standards tightness. While it is inevitable for the business environment and transactions to become more complex in the future, the level of tightness of accounting standards may need to vary in the accounting standards to curb opportunistic actions by managers and hence ensure the public interest will always be safeguarded. Therefore, accounting standard setters need to choose wisely the areas of accounting that need to be tightened.

This study, however, has a few limitations. First, the data are collected from a developing country that has adopted IFRS and there may be slight differences in interpretation of IFRS 15 into practice. Second, the study is small and thus might affect the statistical power of the results. Future research might consider collecting data during scheduled seminars or talks that grant the practitioners CPD hours. This would help expand the sample size of the study. Third, as the participants are required to assume the role of CFO in administering the case assigned, junior accountants may have lacked experience with such a complex reporting decision. Having a data sample comprising a different level of experienced

practitioners may prove fruitful for future research. Fourth, the effect of moderately tight accounting standards in the study's findings is peculiar and cannot be explained by the study. Therefore, future studies could explore the effect of having moderately tight accounting standards in curbing aggressive earning management practices.

AUTHOR CONTRIBUTIONS

Conceptualization: Ying Zhee Lim, Anna Azriati Che Azmi, Tuan Hock Ng.
Data curation: Ying Zhee Lim, Anna Azriati Che Azmi.
Formal analysis: Ying Zhee Lim, Anna Azriati Che Azmi.
Funding acquisition: Ying Zhee Lim, Anna Azriati Che Azmi.
Investigation: Ying Zhee Lim, Anna Azriati Che Azmi.
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Project administration: Ying Zhee Lim, Anna Azriati Che Azmi.
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Writing – original draft: Ying Zhee Lim, Anna Azriati Che Azmi, Tuan Hock Ng.
Writing – review & editing: Ying Zhee Lim, Anna Azriati Che Azmi, Tuan Hock Ng.

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