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Article

Accrual-based, real activities earnings management and corporate social responsibility: A virtuous circle? emerging market evidence

Cogent Economics & Finance

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Suggested Citation: Nguyen Vinh Khuong; Huynh Thi Ngoc Ly; Le Huu Tuan Anh (2023) : Accrual-based, real activities earnings management and corporate social responsibility: A virtuous circle? emerging market evidence, Cogent Economics & Finance, ISSN 2332-2039, Taylor & Francis, Abingdon, Vol. 11, Iss. 1, pp. 1-28,
<https://doi.org/10.1080/23322039.2023.2209955>

This Version is available at:

<https://hdl.handle.net/10419/304073>

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To cite this article: Nguyen Vinh Khuong, Huynh Thi Ngoc Ly & Le Huu Tuan Anh (2023) Accrual-based, real activities earnings management and corporate social responsibility: A virtuous circle? emerging market evidence, Cogent Economics & Finance, 11:1, 2209955, DOI: [10.1080/23322039.2023.2209955](https://doi.org/10.1080/23322039.2023.2209955)

To link to this article: <https://doi.org/10.1080/23322039.2023.2209955>



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Published online: 08 May 2023.



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Received: 22 August 2022
Accepted: 29 April 2023

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Reviewing editor:
David McMillan, University of Stirling, Stirling, United Kingdom

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FINANCIAL ECONOMICS | RESEARCH ARTICLE

Accrual-based, real activities earnings management and corporate social responsibility: A virtuous circle? emerging market evidence

Nguyen Vinh Khuong^{1,2*}, Huynh Thi Ngoc Ly^{2,3} and Le Huu Tuan Anh^{1,2}

Abstract: The relationship between Earnings Management (EM) and Corporate Social Responsibilities (CSR) has raised a considerable number of attentions, especially, in financial and accounting field since they determine firms' performance as well as market positioning. On the contrary, in an emerging country as Vietnam, the number of relevant studies are rare together with several limitations. Thus, this paper is the pioneer investigating the cause and effect among Accruals Earnings Management (AEM), Real Earnings Management (REM) as two proxies for EM, and CSR. Next, Granger's causality replacing for traditional method is employed in order to interpret this nexus. The analysis relies on the sample size of 225 companies during the period 2014–2018 from Hanoi Stock Exchange (HNX) and Ho Chi Minh Stock Exchange (HOSE). We figured out executives prefer REM to AEM when implementing earnings manipulations. Consistent with the expectations and prior scholars, we found there is a negative correlation in the association of AEM and CSR while it is positive in the case of REM and CSR. Besides the consistent results with multivariate regression analysis (MRA) in terms of CSR-EM association, the fsQCA findings also explore more combinations regarding the relationship between CSR-EM. Additionally, all empirical results also provide evidence that there is cause-and-effect relationship in terms of AEM, REM and CSR which has never been researched and discussed over the past several years.

Subjects: Economic Theory & Philosophy; Business, Management and Accounting; Industry & Industrial Studies

Keywords: Accrual earnings management; real earnings management; corporate social responsibility; granger test

JEL Classification: G20; G30; M40

1. Introduction

Corporate social responsibility is an attractive topic that inspires considerable amount of research due to its effects on different perspectives in practice. As the beginning, only large corporations are dominated by CSR. Even in developed countries as Finland, once implying the impact of CSR on financial performance of Finish listed companies, Kooskora et al. (2019) concluded that in by 2017 CSR has not been paid attention accurately or adequately and it could be considered as a “long-

term investment". However, all businesses are currently considering CSR as one of key indicators to developing progress as information asymmetry and agency problems are mitigated thanks to transparent or ethical conditions from CSR disclosure. More frequently, firm's financial performance is measured by accounting- and market-based criteria; however, according to scholarly research, to achieve sustainable competitive advantage, firms must pursue CSR initiatives with comprehensive perception as well as disclosure. In other words, financial performance of firms pay attention to including CSR under one framework with other indicators (Abner & Ferrer, 2019; Nguyen Vinh Khuong & Anh, 2022; Mahmood, Qadeer, Sattar, A., & Aman, 2020). Besides, explaining for this tendency, academic scholars pointed out that responsible practices initiated by CSR positively impact to firm's financial performance (Abner & Ferrer, 2019; Mahmood et al., 2020; Mahrani & Soewarno, 2018; Popescu, 2019; Sial et al., 2018). As a result, stakeholder's benefits are also multiplied (Thornton, 2008; Y. Kim et al., 2012), moreover, competitive advantage of firms can be achieved sustainably. In a new insight, prior academicians indicated that firms whose financial performance is well performed will lead to high level of CSR orientation (Nguyen Vinh Khuong & Anh, 2022; Mahmood et al., 2020). Unexpectedly, driven by self-interests, executives intervene with earnings manipulation which modifies and strengthens companies' financial soundness then analysis forecasting is also misled. Identifying the urgency from manipulated activities, there are various scholars have been investigating about EM's effects in the association with CSR.

EM is considered as an intentional adjustment issued by managers with the aim at beautifying or magnifying the picture instead of expressing the real economic position of their companies. Behind magnifying companies' performance, private interests are overvalued in comparison with shareholders' benefits, then managerial decisions are able to take advantage (Chih et al., 2007; Martínez-Ferrero et al., 2014). To mitigate agency problems, policy makers, regulators, authorities, top managers, and investors have paid attention to CSR as it is believed that CSR disclosure motivates business organizations to well-performed ethical and transparent activities beyond self-interest (Chih et al., 2007; Ehsan et al., 2021; Rezaee et al., 2020; Thuy et al., 2022). A large and growing body of literature has investigated there is a nexus between EM and CSR; however, whether negative or positive relationship has received debates up to present. Chih et al. (2007) conducted a study across 1,653 firms divided into 2 groups: CSR and Non-CSR commitment in 46 countries and their findings are CSR and EM negatively affect each other. Similarly, the number of scholars supporting negative association among 2 variables is more dominant compared with positive direction (Ehsan et al., 2021; Ghaleb et al., 2021; Martínez-Ferrero et al., 2014; Rezaee et al., 2020; Sial et al., 2018). By contrast, the linkage between EM and CSR is different in a number of respects. Firstly, under financial transparency, García-Sánchez and García-Sánchez (2020) argued that CSR boots EM performance "to meet or beat the market expectation". For instance, business organizations whose corporate governance is weak are normally employed management entrenchment in which EM is highlighted. To do this, entrenched managers must involve CSR activities energetically at the same time so that stakeholders do not raise negative attitudes towards EM. Likewise, others stated higher EM leads to frequent CSR performance so as to conceal weaknesses or unexpected outcomes (Jo & Harjoto, 2012; Muttakin et al., 2015). Specifically, for developing countries both factors usually fluctuate positively (Hoang et al., 2018; Huynh, 2020). Additionally, other findings illustrate that developed countries have a large number of papers related to EM and CSR. By contrast, in developing ones, this linkage has not fully covered EM since scholars centralize CSR and AEM only instead of AEM and REM, two key drivers of EM. More importantly, causality is a common instrumental analysis when scholars determine the cause and effect in the relationship between financial performance and CSR (Abner & Ferrer, 2019; Bacha & Ajina, 2020; Kooskora et al., 2019; Mahmood et al., 2020; Mahrani & Soewarno, 2018; Popescu, 2019); however, in terms of the correlation between CSR and EM, causal research has not been implemented. Thus, our research makes contributions into not only extending the extant literature towards linkage among CSR, EM through AEM, REM and CSR's causality but also generating new analysis approach by employing Granger's causality including OLS and FE method. By doing this, the causality inside EM and CSR will be well-identified with strong evidence rather than

traditional methods. Besides OLS and FE methods, the fsQCA approach is also adopted to compare and validate the research findings.

It is believed that CSR and EM's research are highly concerned by developed countries while this topic is still rare or provide fundamental understanding instead of comprehensive one. In Vietnam, relevant research on EM-CSR linkage is unpopular. Especially, recent studies have existed different limitations. Firstly, both AEM and REM are not included altogether in EM measurement. Secondly, these papers only pay attention to a single industry instead of diversity. Thirdly, to encourage CSR disclosure, Vietnam enacts the Circular 155/2015 only without any modifications up to now. Thus, the degree of CSR disclosure in Vietnam is lower than Asian countries as this emergent activity might be considered at the voluntary stage rather than mandatory requirement. Further, to measure EM, we combine AEM and REM; moreover, this implementing empirical study employs cause-and-effect analysis together with numerous proxies. Thus, this paper would characterize comprehensively EM's problems in CSR disclosure compared with prior ones. Based on that, policy-makers and regulators could reconstruct so as to improve and enhance CSR disclosure more efficiently.

The purpose of this study is first to concentrates on AEM and REM as two pillars of EM when evaluating their influence on CSR activities. Second, the aim is to further explore the role of AEM that has not been included when measuring the nexus of EM and CSR. This is a common factor in recent papers regardless of countries and religions (Grabiński & Wójtowicz, 2022; Mutuc et al., 2019; Song & Rimmel, 2021); however, it has not been appropriately considered in the context of Vietnam whose tragic scandals and problems arise from illegal activities in accounting. Third, the relationship between EM and CSR is analyzed more comprehensively by Granger's causality including OLS and FE method compared with traditional approaches. Third, from this study, the authors expect that related parties admitted the significance of CSR disclosure and attempts to be CSR-oriented companies.

Our paper contributes to not only extending the extant literature but also generating methodological contribution because there has not been any academic research explore the relationship among 3 key indicators by employing cause-and-effect method. Moreover, on the basis of our results, the researchers propose managerial implications which direct managers and policy makers to construct a comprehensive CSR regulatory framework in order to force well-performed CSR initiatives while avoiding EM's activities. Besides, managerial implications are also suggested for policy makers and managers to design CSR regulatory framework and standardize what companies should or should not to perform to comply with official CSR regulations.

After the introduction, the rest of this paper is divided into five sections. Firstly, institutional settings are clarified. Then, theoretical framework and hypothesis are developed in order to direct the remains. We also present how to collect data and build research model in research design. After that, results are analyzed and discussed in detail. From findings, this paper draws a conclusion as well as suggest implications for related parties.

2. Institutional settings

Recently, the interaction between EM and CSR has not been well-developed in Vietnam since none of published papers has deepen directly into this relationship. Firstly, past studies analyzed EM in a combination with other observations as cash holdings (Nguyen Vinh Khuong et al., 2020), firm performance (Khuong et al., 2019), audit quality, firm characteristics, cost of debt capital (Khanh & Nguyen, 2018; Thu et al., 2018; Thuy et al., 2022) and corporate ownership structure (D. Choi et al., 2020). Secondly, once applying EM, the number of common research found by Google Scholar and analyzing two proxies: REM and AEM at the same time is still rare. Furthermore, data collection in these papers' limits to energy firms (Khuong et al., 2019; Nguyen Vinh Khuong et al., 2020) only while EM is classified into one of agency problems in accounting field. As a result, EM (included AEM and REM) absence of different industries in the stock market exchange will lower objectivity or

fully reflects accounting insights of an emerging market like Vietnam. Thirdly, previous academic research employs traditional methodology as regression rather than others. To sum up, our paper will extent literature about the relationship between EM and CSR in which two proxies, AEM and REM, are analyzed simultaneously; moreover, we conduct an empirical study for the whole listed companies in Vietnam stock market exchange in order to understand adequately about a bigger picture. Besides, Granger's causality, new method, is employed to deepen the causal relationship between EM and CSR, which has never been implemented over the past several years. Finally, all previous studies only refer to how AEM and REM influences on CSR but none of them analyze the reverse direction. On account of this gap, our paper expects to interpret causal effects incurring among AEM, REM and CSR.

3. Theoretical framework and hypothesis development

As indicated previously, on the way implementing EM, AEM and REM are utilized as EM instruments so that managers manipulate accounting results, restructure transactions, firm's assets in financial reports, which leads stakeholders to misunderstanding information (Healy & Wahlen, 1999; Scholtens & Kang, 2013). Although there have been several investigations into the relationship between EM and CSR, so far, AEM and REM has not been symmetrically distributed in prior studies (Ehsan et al., 2021). Over the past decade, the relationship between CSR and AEM has received rare consideration compared with REM (D. Cohen et al., 2009; Prior et al., 2008; Scholtens & Kang, 2013; Shabbir & Wisdom, 2020). In the literature, the term AEM tends to be used to refer to adjusting assumptions along with accounting system estimation with unchanged cash flow; on the other hand, REM impacts cash flow directly (Graham et al., 2005). Past studies also suggested REM is highly weighted compared to AEM (D. Cohen et al., 2009) since AEM can be controlled by different legal levels as "external auditors, government authorities, and regulatory authorities" (Graham et al., 2005). On the other hand, REM's modifications are driven from internal business operations, which lessens legal intervention as well as responsibility (Ji et al., 2019; Zang, 2011).

According to principal agent theory Jensen and Meckling (1976); Ross (1973), within growth stages, firms have to perform responsibilities not only investors/creditors but also all parties in a pool of stakeholder. In addition, stakeholder theory (Freeman, 2010) advises that asymmetric information and conflicts of interests are assumed to be lessened as much as possible in order to meet the needs of alliance partners whose characteristics might be diversified. For companies complying with stakeholder theory, managers attempt to alignment between financial and non-financial reporting; therefore, EM and CSR must be thoughtfully considered (Boubaker et al., 2018; Velte & Stawinoga, 2017; Velte, 2016, 2019). In specialized accounting, to address EM, business organizations refer to CSR initiatives. CSR is considered as an indispensable channel to increase company's reputation, mitigate financial risks, enhance trustworthiness and maintain long-term relationship from customers (Liu et al., 2021; Lu & Abeysekera, 2021; Mutuc et al., 2019). Furthermore, if the quality of CSR disclosure is upgraded, firms are able to acquire market competitiveness which drives better firm performance (Lu & Abeysekera, 2021). Notably, CSR implementation must clarify to entirely serve firm's benefits; otherwise, it might lead to side effects. When executives exercise controlling EM, they risk losing shareholder confidence. CSR efforts addressing a wide variety of stakeholders will be carried out to mitigate these risks. One potential explanation for our findings is that the managerial connection between CSR performance and AEM is stronger in proportion to REM (Velte, 2019). Furthermore, excessive CSR is the way executives take advantage from exploiting internal resource without considering stakeholders' benefits. This action emerges irresponsibility and drags financial performance of firms (Song & Rimmel, 2021). Thus, our paper underlines deeper investigation of EM including REM and AEM in the association with CSR to contemplate the full picture of this nexus.

3.1. Accruals earnings management and corporate social responsibility

According to the accounting literature, AEM is in charge of a representative in order to measure EM as executives are willing to conduct discretionary adjustment related to accruals (DeAngelo, 1988; Paul M Healy, 1985). Consistently, AEM has been subjected to a proxy for EM in several papers over

the past decade (D. Cohen et al., 2009; J. Kim & Park, 2012; Jordaan et al., 2018; Zang, 2011). Following the stream, our research also employs AEM as the first proxy when evaluating EM. AEM manipulation discourages current unexpected losses while earnings growth is reported on purpose, which misleads analysts' forecasting (Burgstahler & Dichev, 1997). Accordingly, using AEM will arise problem in the future in which long-term profits will fall down due to previous accruals. Nevertheless, firms are normally ambitious so they "cook the book" continuously with AEM in order to beautify images year by year regardless of consequences in the long run. Therefore, empirical investigations provide that firms involving in higher level of AEM weakens CSR performance so as to mask unethical activities (Ji et al., 2019; Prior et al., 2008) or, in other words, AEM affects CSR negatively.

In terms of the effect between CSR and AEM, most studies documented that CSR-oriented organizations tend to lessen AEM activities (Ehsan et al., 2021; Hong & Andersen, 2011; Ji et al., 2019; Jordaan et al., 2018; Mutuc et al., 2019; Song & Rimmel, 2021; Y. Kim et al., 2012). These executives strongly believe that firm value increases whereas shareholder equity loss decreases thanks to CSR's fulfillment as implementing sustainable approach strengthens relationship with stakeholders and reduces asymmetric information (Chen & Hung, 2020). In contrast, other scholars argued AEM is generally associated with CSR in positive interaction (Muttakin et al., 2015; Prior et al., 2008). This results from agency theory whose conflicts of interests between principles and agents awake. During the financial economics literature, agency theory is always taken into a consideration since there are several issues arisen between owners (principals) and managers (agents) (Hill & Jones, 1992). In this nexus, owners who are investors contribute economic resources to agents so that both parties capture as much returns as possible; agents are responsible for wealth maximization whereas loss minimization by designing strategic business plans (Adams, 1994). This is implied that agents play an important role in monitoring and moderating uncertainties in business organizations. Nevertheless, as direct insiders with comprehensive information, managers take this privilege to serve only for their self-interest instead of increasing returns for all relevant parties. On the other hand, asymmetric information also restricts principals from data accessing; therefore, they unable to evaluate how efficient the managers' decisions are. These moral hazard problems definitely lead to conflicts of interests among the communication between principals and agents (Adams, 1994; Donaldson & Davis, 2016). To address, CSR disclosure is adopted to consolidate owners' trust as well as attract new investors because it is belied to enhance transparency in turn lower asymmetric information (Gallego Álvarez et al., 2008; H. -W. Kim & Kwahk, 2007). On the contrary, besides truly CSR-oriented firms, there have been still many companies employing CSR in order to foster AEM with the aim at earnings manipulation in order to pull the wool over principals' eyes. Understanding demands in public towards CSR disclosure, agents employ or commit performing ethical activities as a tactic to intentionally mask errors (B. B. Choi et al., 2013; J. Kim & Park, 2012). In fact, managers interchange bribes and tacit agreement with stakeholders' silence and secure votes without concerning or analyzing earnings manipulation (Ehsan et al., 2021), then disadvantages of companies will be covered up and public is misled by obtaining only advantages after manipulated. This implied that higher level of CSR disclosure does not always reflect entirely financial soundness of business organizations, but it motivates AEM manipulations. In other words, AEM and CSR nexus significantly relates to principals and agents' benefits which directly affect to firm development. Hence, further investigation towards this relationship cannot be ignored. Although there still have been different arguments towards the impact of AEM to CSR and vice versa, relevant papers have been limited. Accordingly, examining the association AEM with CSR must be significant. Thus, the following hypotheses are proposed as below:

Hypothesis 1a. *AEM is negatively related to CSR.*

Hypothesis 1b. *Since a strong AEM lowers CSR, and this lowering stimulates CSR practices, there is a virtuous circle between AEM and CSR.*

3.2. Real earnings management and corporate social responsibility

In line with AEM, REM was also taken into a consideration to be another proxy for EM. Accordingly, in this study, we decide to inherit and use REM as a second proxy (J. Kim & Park, 2012; Sial et al., 2018). The relationship of CSR and REM is positive, and a considerable number of studies related to the correlation between EM and CSR have been measured by REM instead of AEM or both (D. A. Cohen et al., 2008; D. Cohen et al., 2009; Graham et al., 2005) even though it is too costly (Zang, 2011). Especially, after Sarbanes Oxley Act issued in 2002, REM takes higher priority than AEM (D. A. Cohen et al., 2008). A possible explanation is that REM must perform frequently within a financial year relying on changes in operations of business organizations (Zang, 2011). In accordance with (Ji et al., 2019; Zang, 2011) clarifies level of legal responsibility and expense will be lower if managers apply REM or in other words, REM centralizes abnormal management actions rather than direct manipulation into earnings like AEM. Firstly, discounted price and lenient credit terms are offered to achieve sales growth. Secondly, cost of goods sold is also declined by lower fixed costs through overproduction and finally, selling, general and administrative expenses included advertising and R&D expense is reduced with the aim at increasing profits (Roychowdhury, 2006; Zang, 2011). Notwithstanding advantages, implementing REM also arises long-term unexpected consequences. After a period enjoying low price, customers' mind set is not willing to buy at higher one despite any reasonable explanation. Furthermore, risky debts raise up once firms encourage lenient credit sales and companies will lose their position in the market if managers make a decision on arbitrary cutting advertising as well as R&D budget. However, executives still have been performing REM and a rational explanation is that sales growth, cost reduction ... contribute to higher profit that is one out of a few pillars in CSR (Carroll, 1979, 2016; Elkington, 1997). Hence, these outcomes amplify a signal that companies are highly committed CSR's benchmark. In addition, past findings ascertain there is a positive correlation between CSR and firm performance whose profit is well-considered (Cheng et al., 2015; Zhu et al., 2013), so higher profits will enrich performance leading to higher CSR orientation. As a result, it is inferred that increasing REM enhances CSR and CSR is also encouraged by REM growing. Thus, we propose the following hypotheses as below:

Hypothesis H2a. *REM is positively related to CSR.*

Hypothesis H2b. *Since a strong REM increases CSR, and this enhancement stimulates CSR practices, there is a virtuous circle between REM and CSR.*

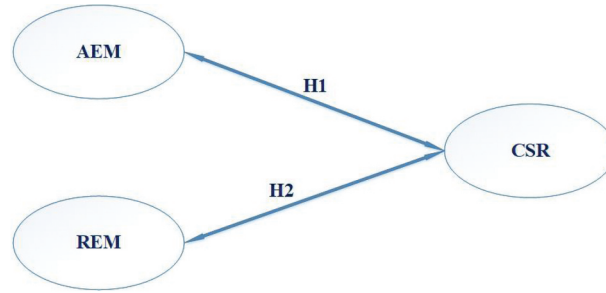
In Vietnam context, an emerging market in which several accounting problems have been arising and need controlling considerably, although a few studies have mentioned on CSR and EM, there has not been any above-50-citation paper. In addition, these papers have been limited by using REM alone as proxy. The number of studies investigating both tools is still rare (Khuong et al., 2019; Trung et al., 2020). Therefore, to shed the light of the between CSR and EM, our research will include AEM and REM at the same time. Besides, we attempt to interpret cause-and-effect relationship among CSR, AEM and REM by Granger's causality—a different analysis method which scholars have not investigated since their association is complex and unfamiliar with an emerging market as Vietnam. Figure 1 describes the research framework.

4. Research design

4.1. Data

The current study collects data from 225 companies during the period from 2014 to 2018. Regarding this sample size, the expected total observation for this study is 1125 observations (strongly balanced panel). However, due to the lack of data (financial data is missing from financial statements) and some specific variables that require the lagged value (some are missing due to the 1-year lag variable), the observations differ from the expected total observation and the final

Figure 1. Research framework.



total observations for the regression analyses is 862 observations. Based on the market capitalization criteria, these companies comprise 80% of the Vietnam market.

Begin with the initial sample of 650 Vietnamese-listed companies in 2014. To avoid bias in the research sample, we excluded financial and insurance companies due to the difference in operation process and financial statement structure. Besides, to eliminate outliers, we also discard all companies that cannot collect complete information because of missing annual reports and not yet listed. The same approach is also applied in the following years. The sample collection process is described in Table 1.

4.2. Model

To analyze the impact of AEM on CSR (H1a), we build a model as follows:

$$CSR_{it} = \alpha + \beta_1 AEM_{it} + \beta_2 AEM_{it-1} + \beta_3 CSR_{it-1} + \gamma X_{it} + \varepsilon_{it} \quad (1)$$

We estimate the following research equation after studying each link between CSR and AEM in the opposite direction according to Granger (1969) (Hypothesis H1b):

$$AEM_{it} = \alpha + \beta_1 CSR_{it} + \beta_2 CSR_{it-1} + \beta_3 AEM_{it-1} + \gamma X_{it} + \varepsilon_{it} \quad (2)$$

Then, to test hypothesis H2a about the link between REM and CSR, we build the next regression model:

$$CSR_{it} = \alpha + \beta_1 REM_{it} + \beta_2 REM_{it-1} + \beta_3 CSR_{it-1} + \gamma X_{it} + \varepsilon_{it} \quad (3)$$

According to Granger (1969), after examining each relationship in the opposite direction between CSR and REM (hypothesis H2b), we arrive at the following research equation:

$$REM_{it} = \alpha + \beta_1 CSR_{it} + \beta_2 CSR_{it-1} + \beta_3 REM_{it-1} + \gamma X_{it} + \varepsilon_{it} \quad (4)$$

4.2.1. Control variables

X is a set of control variables that have been utilized in prior research lineage models to account for the influence of enterprise characteristics on the dependent variable (Ghaleb et al., 2021; Nguyen Vinh Khuong & Anh, 2022; Nguyen Vinh Khuong et al., 2022; Rezaee et al., 2020; Shabbir & Wisdom, 2020; Thuy et al., 2022). Rev_grow: the proportion of current-year sales to previous-year sales; SIZE: the natural logarithm of the end-of-year book value of total assets; LEV: total debt to total assets; ROA refers for return on assets, and age is defined as the natural logarithm of the difference between the current and foundation years; ε_{it} : random error. Based on prior studies, we expect a positive relationship with EM for rev_grow, lev, size, roa. Besides, age is expected to have

Table 1. Sample collection								
Year	Basic Materials	Consumer Cyclicals	Consumer Non- Cyclicals	Energy	Healthcare	Industrials	Technology	Utilities
2014	56	39	12	7	9	76	7	19
2015	56	39	12	7	9	76	7	19
2016	56	39	12	7	9	76	7	19
2017	56	39	12	7	9	76	7	19
2018	56	39	12	7	9	76	7	19
Grand Total	280	195	60	35	45	380	35	95

a negative relationship with EM (Ghaleb et al., 2021; Nguyen Vinh Khuong & Anh, 2022; Nguyen Vinh Khuong et al., 2022; Rezaee et al., 2020; Shabbir & Wisdom, 2020; Thuy et al., 2022).

The description of variables used in this study is presented in Appendix A.

4.3. Estimation strategy

To assess the correlation between EM—CSR and the opposite direction between CSR—EM, the MRA approach is adopted. Specifically, for panel data, the OLS, FE, and RE are common approaches to assess the relationship between research factors (Wooldridge, 2015). After conducting necessary tests such as Hausman, Breusch, and Pagan LM test and F-test, the OLS and FE methods are chosen to measure the EM—CSR relationship as well as its opposite association.

To make the research findings more robust, the new recent method called fsQCA is used. The fsQCA technique is a newly researched approach that uses the principle of Boolean algebra (Ragin, 2008). Instead of proving the correlation or regression results to assess the impact of independent variables on dependent variables, fsQCA can build up several configurations of conditions (variables) to explain the outcomes (Kraus et al., 2017). Therefore, this method can improve the weakness of MRA and explore inconsistent results of prior research (Cuadrado-Ballesteros et al., 2017; Woodside, 2017).

5. Results and discussion

5.1. Descriptive statistics

Table 2 presents the descriptive statistics for dependent variable as CSR and independent variables as AEM and REM in the study model. CSR means is 0.2794, a lower figure than prior studies (B. B. Choi et al., 2013; Cho & Chun, 2015; Prior et al., 2008); accordingly, only 25.59% sampled companies commit CSR, which also reflects the current CSR situation in an emerging market as Vietnam where CSR disclosure is still weak and not appropriately standardized. AEM is calculated under Jones and Kothari modified model and the results are 0.0198; 0.014, respectively. In case REM, the mean is −0.0001 resulting from the average mean of r_{cfo} , r_{prod} and r_{disx} . It can be implied that with firms operating in Vietnam, AEM is likely more prominent than REM, which is consistent with prior findings of (Sial et al., 2018). For control variables describing firm's characteristics, the size variable has the mean value is 28.284. Besides, the figures for rev_grow , lev , age and roa are 0.1956, 0.2505, 2.8105 and 0.0991, respectively. Moreover, the roa variable has the Std. Dev. value quite the same as the Mean value (0.0909 in comparison with 0.0991).

Table 2. Descriptive statistics of variables

Variable	Obs	Mean	Std. Dev.	Min	Max
CSR_all	862	.2794417	.1467802	0	.9393939
aem_jones	862	.0198783	.1392275	−.5362092	1.231.337
aem_kothari	862	.0137309	.1386722	−.5147431	1.238.111
r_{cfo}	862	.0101958	.1543661	−1.110.523	.8216203
r_{prod}	862	−.0138581	.176287	−.6085648	1.729.609
r_{disx}	862	.001026	.0787152	−.1895448	.5085886
rm_proxy	862	−.0001438	.1496032	−1.112.264	1.834.393
rev_grow	862	.1956827	.7197505	−.8509265	920.336
size	862	28.28428	1.277.746	2.473.013	3.199.059
lev	862	.2505155	.1883887	0	.7356519
roa	862	.0991352	.0909397	−.2894412	.5891411
age	862	2.810525	.4473604	1.386.294	4.779.123

Table 3 illustrates the Pearson correlation coefficient matrix of CSR and EM factors. CSR is negatively correlated with *aem_jones*, *aem_kothari*, *r_prod*, *rm_proxy*, *rev_grow*, and *lev* while positively correlated with *r_cfo*, *r_disx*, *size*, *roa* and *age*. The highest correlation is 0.4864, which is still in the limitation of 0.8. Besides, the variance inflation factor (VIF) values are all smaller than 2, so there is no multicollinearity among various variables.

5.2. Empirical results

In order to clarify the interaction among CSR, AEM and REM, hypotheses H1a, H1b and H2a, H2b are separately analyzed by Granger causality including OLS and FE regression models. In Table 4, all AEM results are totally negative even in Jones or Kothari method (both variables and lagged variables that represent for AEM are negatively related to CSR); accordingly, AEM values are consistent. On the other hand, negative outcomes are evidence to prove that increasing AEM leads to CSR reduction. This means that H1a and H1b are statistically supported. These findings are consistent with (Ehsan et al., 2021; Hong & Andersen, 2011; J. Kim & Park, 2012; Ji et al., 2019; Jordaan et al., 2018; Prior et al., 2008). Thus, once CSR's level grows up, AEM is reduced simultaneously. From our findings, it can be implied that a company which expects to lessen EM should concentrate on building CSR orientation because higher CSR's performance diminishes AEM, a component of EM.

Table 5 presents causality test between CSR and AEM in which CSR positively impacts AEM according to Jones and Kothari method. In opposite side, Table 5 is responsible for causality between CSR and AEM. With CSR_all's coefficients are -0.118 , -0.113 , -0.140 and -0.139 in the testing with *aem_jones* and *aem_kothari* as reported, CSR is negatively influenced on AEM. In other words, CSR disclosure is a shield to hedge AEM activities, then EM manipulations by using AEM also decreases, which refers to the consistency of previous contributions (D. A. Cohen et al., 2008; Graham et al., 2005; S. H. Kim et al., 2018). Moreover, all results are validated at a significant level of 10%, 5% and even 1%, so they are highly significant in statistics.

We use similar technique to validate REM and CSR's causality. The results from Table 6 indicate that executives' policies mechanisms towards governance and sales and administrative expenses positively affect CSR's performance of firms. Furthermore, with positive numbers as 0.042 and 0.038 by OLS and FE method respectively, *rm_proxy* is consistent with H2a, so H2a is confirmed. Surprisingly, the role of production costs is uncertain as its values are insignificant in statistics. It means production cost is irrelevant in the relationship between REM and CSR. In different side from CSR to REM, it is obviously to observe that only positive numbers are statistically significant in Table 7. Therefore, the nexus among two variables must be positive and H2b is validated as expectation.

Our findings suit Vietnam, an emerging market with an incomplete legal framework for protecting investors and low market transparency. Vietnamese-listed firms trade off AEM and REM according to their relative costs, and hence AEM and REM are commonly perceived as substitutes (D. A. Cohen et al., 2008; Zang, 2012). Prior studies also indicate that depending on the time; managers will select AEM or REM (Zang, 2012). However, whether they choose AEM or REM to apply, investing in CSR activities always plays an essential role in firms' business strategy to enhance their image and reputation. The fact is that CSR expenses can significantly account for the total of a firm's expenses, and for an emerging market with an incomplete legal framework in Vietnam, companies always try to apply EM for the "window dressing" financial statement purpose. The findings about the virtuous circle regarding the relationship between AEM/REM and CSR confirmed this explanation.

5.3. Further tests

To strengthen there is no bias in our sample, we examine the bootstrap test as presented in Table 8. All hypotheses are verified again through robustness and results are generated in Table 9. All results are totally consistent with Granger's causality method in which AEM negatively impacts CSR, REM positively impacts to CSR and production cost is not strong enough to prove statistical significance. Accordingly, analyzing testing from both tables consolidates that generated findings

Table 3. Pearson's correlation coefficient matrix

	CSR_all	aem_jones	aem_kothari	r_cfo	r_prod	r_disx	rm_proxy	rev_grow	size	lev	roa	age	VIF
CSR_all	1												1.15
aem_jones	-0.022	1											1.04
aem_kothari	-0.036	0.981*	1										1.02
r_cfo	0.035	-0.719*	-0.790*	1									1.32
r_prod	-0.114*	0.134*	0.241*	-0.541*	1								1.62
r_disx	0.133*	0.011	-0.038	0.172*	-0.521*	1							1.20
rm_proxy	-0.021	-0.599*	-0.588*	0.560*	0.287*	0.121*	1						1.11
rev_grow	-0.084*	0.037	0.046	0.114*	0.056	0.116*	0.288*	1					1.03
size	0.277*	-0.004	0.033	-0.137*	0.193*	-0.090*	-0.005	-0.013	1				1.28
lev	0.002	0.015	0.086*	-0.280*	0.303*	-0.214*	-0.072	-0.031	0.348*	1			1.38
roa	0.109*	0.135*	0.005	0.445*	-0.601*	0.260*	-0.055	0.006	-0.242*	-0.450*	1		1.35
age	0.119*	-0.005	-0.011	-0.019	-0.114*	0.220*	-0.050	-0.152*	0.008	0.061	0.024	1	1.04

Table 4. The OLS and FE regression models used to assess Granger causality between AEM and CSR (H1a)

Variables	OLS	OLS	FE	FE
	CSR_all	CSR_all	CSR_all	CSR_all
aem_jones	−0.039** [−2.00]		−0.034* [−1.74]	
L.aem_jones	−0.043*** [−2.65]		−0.044*** [−2.71]	
aem_kothari		−0.037* [−1.89]		−0.034* [−1.74]
L.aem_kothari		−0.044*** [−2.68]		−0.044*** [−2.70]
L.CSR_all	0.841*** [41.50]	0.841*** [41.49]	0.225*** [6.62]	0.225*** [6.63]
rev_grow	−0.001 [−0.29]	−0.001 [−0.29]	−0.001 [−0.43]	−0.001 [−0.42]
size	0.010*** [4.37]	0.010*** [4.36]	0.017* [1.67]	0.016 [1.61]
lev	0.01 [0.61]	0.011 [0.65]	−0.02 [−0.48]	−0.02 [−0.47]
roa	0.095*** [2.76]	0.078** [2.30]	0.077 [1.21]	0.075 [1.20]
age	−0.009 [−1.42]	−0.009 [−1.45]	0.168*** [4.53]	0.169*** [4.56]
_cons	−0.210*** [−3.06]	−0.208*** [−3.03]	−0.727*** [−2.83]	−0.713*** [−2.78]
N	862	862	862	862
R-sq	0.713	0.713	0.223	0.222

Note: *, **, *** denote the level of significance of 10%; 5% and 1% respectively;

by Granger's causality examination is significant. Specifically, EM_all (Bozzolan et al., 2015) in Table 9 is designed as a combination of AEM and REM in order to investigate EM's effect on CSR. With negative value at a level of significance of 10%, it is rational to conclude that the interaction between EM and CSR is opposite; therefore, more earnings manipulations lessen CSR performance of business organizations. In contrast, if companies discourage self-interest, executives will enforce CSR orientations.

Research in accounting and finance usually face endogeneity issues that can bias the regression results. In particular, the endogeneity problem arises here when the dependent variable (EM/CSR) is affected by factors that simultaneously affect the independent variables (CSR/EM) or the reverse relationship can be exists (Ehsan et al., 2021). Moreover, the endogeneity problem also takes place when abnormal accruals might drive an impact on governance measures/firm's characteristics measures, and consequently, the direction of the causality is not clearly established (Saona et al., 2020). So, we apply the two-stage least square (2SLS) approach with the firm's characteristics as our instrument variables to solve the endogeneity problem.

In Tables 10 and 11, we perform 2SLS regression as another robustness check. To ascertain the validity of the estimates, we conduct two tests: Hausman test for the endogeneity and Sargan test for the overidentification. In Table 10, the p-value of Hausman test is higher than 5 per cent, indicating that the

Table 5. The OLS and FE regression models used to assess Granger causality between CSR and AEM (H1b)

Variables	Model 1	Model 2	Model 3	Model 4
	aem_jones	aem_kothari	aem_jones	aem_kothari
L.CSR_all	0.045 [0.74]	0.043 [0.69]	0.1 [1.41]	0.099 [1.41]
CSR_all	−0.118** [−2.00]	−0.113* [−1.89]	−0.140* [−1.74]	−0.139* [−1.74]
L.aem_jones	−0.016 [−0.55]		−0.242*** [−7.60]	
rev_grow	0.009 [1.39]	0.01 [1.53]	0.001 [0.09]	0.002 [0.26]
size	0.002 [0.57]	0.002 [0.48]	0.02 [0.95]	0.014 [0.70]
lev	0.073** [2.53]	0.084*** [2.89]	0.390*** [4.67]	0.418*** [5.06]
roa	0.353*** [6.02]	0.128** [2.16]	0.957*** [7.77]	0.871*** [7.13]
age	−0.007 [−0.67]	−0.009 [−0.84]	0.019 [0.25]	0.039 [0.51]
L.aem_kothari		−0.037 [−1.29]		−0.265*** [−8.49]
_cons	−0.06 [−0.50]	−0.033 [−0.27]	−0.758 [−1.45]	−0.671 [−1.29]
N	862	862	862	862
R-sq	0.047	0.022	0.171	0.178

Note: *, **, *** denote the level of significance of 10%; 5% and 1% respectively;

current value and lag of order one of AEM and REM are endogenous variables, thus necessitating the use of two-stage least squares estimation technique to avoid bias associated with endogeneity issue. The Sargan test for overidentification is passed, confirming that the additional variables are exogenous, which is prerequisite for the use of 2SLS. We use the median values of AEM and REM and the industry dummies to serve as instruments for AEM- and REM-related variables. Likewise, for the models in Table 11, we use median values of CSR-all and the industry dummies to serve as instruments for CSR-all. Again, the Hausman test and Sargan test are passed, confirming the validity of the estimates. The results of the sign and significance of the main variables in Tables 10 and 11 are consistent with the above tables, confirming the robustness of our findings.

5.4. FsQCA findings

The outcomes of the fsQCA method are presented based on the two following equations:

$$CSR = f(AEM; REM; REV_GROW; SIZE; LEV; ROA; AGE) \quad (5)$$

$$EM_ALL = f(CSR; REV_GROW; SIZE; LEV; ROA; AGE) \quad (6)$$

In this study, we used fsQCA 3.1 software to investigate the CSR—EM relationship and its opposite association. Based on suggestion of Pierno et al. (2006), all solution with consistency score below 80 are discarded when doing the calibration step. In this study, both complex, intermediate, and

Table 6. The OLS and FE regression models used to assess Granger causality between REM and CSR (H2a)

Variables	OLS		OLS		OLS		FE		FE	
	CSR_all	CSR_all	CSR_all	CSR_all	CSR_all	CSR_all	CSR_all	CSR_all	CSR_all	CSR_all
r_cfo	0.034*						0.038*			
	[1.69]						[1.92]			
L.r_cfo	0.024						0.044**			
	[1.41]						[2.53]			
r_prod		-0.033						-0.035		
		[-1.37]						[-1.32]		
L.r_prod		-0.016						-0.043*		
		[-0.77]						[-1.66]		
r_disx			0.201***						0.155*	
			[2.63]						[1.78]	
L.r_disx			-0.118*						-0.033	
			[-1.65]						[-0.42]	
rm_proxy					0.042*					0.038*
					[1.91]					[1.72]
L.rm_proxy					0.02					0.037*
					[1.17]					[1.88]
L.CSR_all	0.844***	0.841***	0.839***	0.844***			0.222***	0.197***	0.222***	0.197***
	[41.60]	[40.23]	[41.17]	[40.50]			[6.54]	[5.63]	[6.49]	[5.63]
rev_grow	-0.003	0	-0.005	-0.005			-0.003	0.001	-0.004	-0.003
	[-0.73]	[-0.01]	[-1.28]	[-0.90]			[-0.86]	[0.20]	[-1.11]	[-0.59]
size	0.010***	0.011***	0.010***	0.010***			0.015	0.014	0.015	0.013
	[4.27]	[4.26]	[4.38]	[4.18]			[1.45]	[1.19]	[1.50]	[1.09]
lev	0.009	0.004	0.009	0.005			-0.014	-0.052	-0.04	-0.033
	[0.54]	[0.25]	[0.53]	[0.31]			[-0.32]	[-1.23]	[-0.98]	[-0.75]

(Continued)

Table 6. (Continued)

Variables	OLS	OLS	OLS	OLS	FE	FE	FE	FE
	CSR_all	CSR_all	CSR_all	CSR_all	CSR_all	CSR_all	CSR_all	CSR_all
roa	0.037 [0.94]	0.032 [0.74]	0.066* [1.92]	0.090** [2.54]	0.03 [0.50]	0.003 [0.05]	0.054 [0.88]	0.048 [0.75]
age	-0.009 [-1.44]	-0.011* [-1.69]	-0.012* [-1.92]	-0.009 [-1.32]	0.177*** [4.76]	0.195*** [4.89]	0.166*** [4.45]	0.204*** [5.10]
_cons	-0.201*** [-2.91]	-0.207*** [-2.81]	-0.198*** [-2.87]	-0.213*** [-2.90]	-0.687*** [-2.68]	-0.712** [-2.33]	-0.666*** [-2.59]	-0.708** [-2.31]
N	863	817	863	817	863	817	863	817
R-sq	0.711	0.71	0.713	0.71	0.223	0.218	0.217	0.219

Note: . , * , ** , *** denote the level of significance of 10%, 5% and 1% respectively;

Table 7. The OLS and FE regression models used to assess Granger causality between CSR and REM (H2b)

Variables	OLS		OLS		OLS		FE		FE		FE	
	r_cfo	r_prod	r_disx	rm_proxy	r_cfo	r_prod	r_disx	rm_proxy	r_cfo	r_prod	r_disx	rm_proxy
L.CSR_all	-0.068 [-1.12]	0.02 [0.38]	-0.016 [-1.04]	-0.073 [-1.27]	-0.076 [-1.09]	-0.014 [-0.25]	0.001 [0.06]	-0.076 [-1.14]	-0.076 [-1.09]	-0.014 [-0.25]	0.001 [0.06]	-0.076 [-1.14]
CSR_all	0.100* [1.69]	-0.071 [-1.37]	0.040*** [2.63]	0.106* [1.91]	0.152* [1.92]	-0.084 [-1.32]	0.032* [1.78]	0.130* [1.72]	0.152* [1.92]	-0.084 [-1.32]	0.032* [1.78]	0.130* [1.72]
L.r_cfo	0.035 [1.20]				-0.246*** [-7.47]				-0.246*** [-7.47]			
L.r_prod		0.325*** [11.58]				-0.209*** [-5.39]				-0.209*** [-5.39]		
L.r_disx			0.812*** [51.78]				0.201*** [5.72]				0.201*** [5.72]	
L.rm_proxy				-0.036 [-1.31]				-0.286*** [-8.38]				-0.286*** [-8.38]
rev_grow	0.021*** [3.17]	0.009 [1.23]	0.015*** [9.18]	0.079*** [9.73]	0.030*** [4.38]	0.003 [0.44]	0.017*** [10.97]	0.079*** [9.73]	0.030*** [4.38]	0.003 [0.44]	0.017*** [10.97]	0.079*** [9.73]
size	0.001 [0.17]	0.002 [0.59]	0 [-0.45]	0 [-0.06]	0.008 [0.39]	0.061*** [3.34]	-0.009** [-1.97]	0.039* [1.75]	0.008 [0.39]	0.061*** [3.34]	-0.009** [-1.97]	0.039* [1.75]
lev	-0.058** [-2.02]	0.014 [0.54]	-0.008 [-1.12]	-0.068** [-2.48]	-0.407*** [-4.94]	-0.110* [-1.67]	-0.009 [-0.47]	-0.539*** [-6.90]	-0.407*** [-4.94]	-0.110* [-1.67]	-0.009 [-0.47]	-0.539*** [-6.90]
roa	0.689*** [10.92]	-0.743*** [-12.75]	0.034** [2.19]	-0.201*** [-3.62]	0.117 [0.96]	-0.706*** [-7.39]	-0.029 [-1.05]	-0.641*** [-5.59]	0.117 [0.96]	-0.706*** [-7.39]	-0.029 [-1.05]	-0.641*** [-5.59]

(Continued)

Table 7. (Continued)

Variables	OLS	OLS	OLS	OLS	FE	FE	FE	FE
	r_cfo	r_prod	r_disx	rm_proxy	r_cfo	r_prod	r_disx	rm_proxy
age	0.012 [1.18]	-0.031*** [-3.16]	0.009*** [3.29]	0.003 [0.31]	-0.104 [-1.38]	-0.06 [-0.96]	0.002 [0.09]	-0.152** [-2.03]
_cons	-0.113 [-0.95]	0.099 [0.90]	-0.026 [-0.85]	0.007 [0.06]	0.145 [0.28]	-1.456*** [-3.10]	0.245** [2.08]	-0.496 [-0.87]
N	863	817	863	817	863	817	863	817
R-sq	0.228	0.498	0.801	0.12	0.131	0.143	0.201	0.271

Note: *, **, *** denote the level of significance of 10%, 5% and 1% respectively;

Table 8. Bootstrap test analysis

Dependent Variable	Independent Variable	Coef.	S.E.	Z-value	P>Z	LL 95% CI	UL 95% CI
CSR_all	aem_jones	-0.039	0.017	-2.28	0.022	-0.073	-0.006
	L. aem_jones	-0.043	0.018	-2.41	0.016	-0.078	-0.008
	aem_kothari	-0.037	0.017	-2.14	0.032	-0.071	-0.003
	L. aem_jones	-0.044	0.018	-2.43	0.015	-0.079	-0.008
	r_cfo	0.034	0.018	1.87	0.061	-0.002	0.069
	L.r_cfo	0.024	0.020	1.2	0.232	-0.015	0.062
	r_prod	-0.033	0.023	-1.39	0.165	-0.078	0.013
	L.r_prod	-0.016	0.020	-0.81	0.417	-0.054	0.022
	r_disx	0.201	0.090	2.23	0.026	0.024	0.378
	L.r_disx	-0.118	0.084	-1.4	0.163	-0.283	0.047
aem_jones	rm_proxy	0.042	0.020	2.14	0.033	0.004	0.081
	L.rm_proxy	0.020	0.017	1.17	0.242	-0.014	0.055
	CSR_all	-0.118	0.049	-2.43	0.015	-0.213	-0.023
	L. CSR_all	0.045	0.051	0.89	0.376	-0.055	0.145
	CSR_all	-0.113	0.050	-2.23	0.026	-0.212	-0.014
	L. CSR_all	0.043	0.053	0.8	0.425	-0.062	0.147
	r_cfo	0.100	0.051	1.94	0.052	-0.001	0.201
	L. CSR_all	-0.068	0.055	-1.24	0.213	-0.176	0.039
	CSR_all	-0.071	0.046	-1.55	0.121	-0.160	0.019
	L. CSR_all	0.020	0.048	0.43	0.67	-0.074	0.115
r_cfo	CSR_all	0.040	0.017	2.43	0.015	0.008	0.072
	L. CSR_all	-0.016	0.015	-1.09	0.275	-0.046	0.013
	CSR_all	0.106	0.049	2.17	0.03	0.010	0.203
	L. CSR_all	-0.073	0.052	-1.4	0.161	-0.174	0.029
	CSR_all	-0.071	0.046	-1.55	0.121	-0.160	0.019
	L. CSR_all	0.020	0.048	0.43	0.67	-0.074	0.115
	CSR_all	0.040	0.017	2.43	0.015	0.008	0.072
	L. CSR_all	-0.016	0.015	-1.09	0.275	-0.046	0.013
	CSR_all	0.106	0.049	2.17	0.03	0.010	0.203
	L. CSR_all	-0.073	0.052	-1.4	0.161	-0.174	0.029

Table 9. Robustness results for testing all hypotheses

Variables	OLS	FE	OLS	FE
	CSR_all	CSR_all	EM_all	EM_all
EM_all	−0.041*	−0.032		
	[−1.94]	[−1.46]		
CSR_all			−0.112*	−0.114
			[−1.94]	[−1.46]
L.EM_all	−0.033**	−0.036**	−0.045*	−0.249***
	[−2.09]	[−2.08]	[−1.73]	[−8.12]
L.CSR_all	0.842***	0.199***	0.044	0.093
	[40.40]	[5.67]	[0.73]	[1.37]
rev_grow	−0.003	−0.001	−0.039***	−0.037***
	[−0.54]	[−0.22]	[−4.62]	[−3.96]
size	0.011***	0.014	0.003	−0.027
	[4.26]	[1.20]	[0.68]	[−1.19]
lev	0.006	−0.04	0.084***	0.545***
	[0.34]	[−0.91]	[2.96]	[6.79]
roa	0.146***	0.083	1.071***	1.632***
	[3.40]	[1.16]	[17.71]	[13.91]
age	−0.008	0.198***	0.002	0.111
	[−1.24]	[4.98]	[0.17]	[1.45]
_cons	−0.224***	−0.730**	−0.158	0.201
	[−3.04]	[−2.38]	[−1.30]	[0.35]
N	816	816	816	816
R-sq	0.711	0.219	0.323	0.329

parsimonious solutions are consistent. Tables 12 and 13 present the fsQCA findings from Equation 1 and Equation 2.

Regarding the CSR-EM relationship that is represented through Equation 1. The fsQCA finding in Table 12 is consistent with MRA analysis when firms usually prefer REM and AEM (configurations 2, 5, 8, 11, and 12). Besides, the reverse relationship between AEM and CSR (configurations 2, 3, 4, 10, and 11) along with a positive relationship between REM and CSR (configurations 2, 5, 8, 11, 12) association is also found. However, some combinations show results different from MRA analysis (configuration 1 when REM is negatively related to CSR and AEM is positively associated with CSR). Therefore, the advantage of fsQCA compared to MRA is proved when this method can explore more combinations of research factors and explain the consistent results of previous studies. With the EM-CSR association, the fsQCA result in Table 13 is also consistent with MRA when only a configuration of individual factor is CSR positively affect the outcome of EM.

6. Conclusions and implications

Supremely different from previous contributions, our study is the first and unique that successfully verifies that there is a causality among AEM, REM and CSR, which has never been explored or discussed before. Therefore, not only do AEM and REM determine CSR but also CSR dominate AEM regulates the level of AEM and REM's manipulations. To the best of our knowledge, this is also the first study that can combine both MRA and fsQCA approaches to explain the EM-CSR relationship as well as its opposite relation. Regarding the research context, this paper contributes to the extent of literature about the relationship between EM and CSR in an emerging country as Vietnam where moral hazard as well as accounting problems still has occurred more complexly. Firstly, the

empirical study enlarges sample size when covering all listed companies with various industries in Hanoi Stock Exchange and Ho Chi Minh Stock Exchange, the two biggest stock market exchange in Vietnam, instead of analyzing a single industry or non-financial firms as prior studies (D. Choi et al., 2020; Khanh & Nguyen, 2018; Khuong et al., 2019). These changing shapes an entire picture towards the nexus among EM and CSR of Vietnam companies. Secondly, REM is also included as another proxy for EM in line with AEM to evaluate EM while past investigations have not paid adequately attention to REM with the quantity of research combining both AEM and REM is still rare (Khanh & Nguyen, 2018; Khuong et al., 2019). Thirdly, this is the first time Granger's method together with OLS and FE have been employed to identify and validate the causality among CSR, AEM and REM. Specifically, advanced tests as bootstrap and Robustness are performed, which supports as well as strengthens the validation of all proposed hypotheses. Accordingly, the correlation among CSR and EM is deepened further.

The empirical results in our study indicate that the relationship between EM and CSR is negative that is consistent with prior findings (Chih et al., 2007; Ehsan et al., 2021; Ghaleb et al., 2021; Martínez-Ferrero et al., 2014; Rezaee et al., 2020; Sial et al., 2018). Hence, in an emerging market as Vietnam, firms having earnings manipulation mechanism will sacrifice CSR performance in order to maximize self-benefits. In contrast to this, organizations tend to mitigate EM to enhance CSR commitment. After analyzing two EM's proxies as AEM and REM, our study confirms AEM has negative impact to CSR and vice versa while REM has positive impact to CSR and vice versa. AEM in the context of Vietnam is consistent with prior studies, especially, research for Asian firms (Ehsan et al., 2021; Hong & Andersen, 2011; Ji et al., 2019; Jordaan et al., 2018; Mutuc et al., 2019; Song & Rimmel, 2021; Y. Kim et al., 2012) but this result is contrast to some Western countries (Muttakin et al., 2015; Prior et al., 2008; Velte, 2019), for example Polish (Grabiński & Wójtowicz, 2022). For REM, our findings have consistent result with the majority of previous studies (Cheng et al., 2015; Grabiński & Wójtowicz, 2022; Mutuc et al., 2019; Velte, 2019; Zhu et al., 2013). It means firms with dense moral hazard lessen appropriate CSR activities; however, CSR-oriented business organizations are not driven by manipulations. Our study together with other research conducting the same topic within Asian countries strengthen that Asian firms have similar AEM characteristics and those with lower participation in CSR disclosure signals higher AEM manipulations. In terms of REM, a strong REM increases CSR, and this enhancement stimulates CSR practices. The most distinct investigation in this paper is REM is dominant compared with AEM though previous findings are opposite (D. A. Cohen et al., 2008). It might conclude that Vietnam tends to apply REM by implementing abnormal management actions rather than intervene in accruals and stakeholders' relationship.

This study also generates theoretical, methodological and managerial contributions under. First, our findings is valuable to extend extant literature of EM in the context of Vietnam economy. We are not entirely based on REM to measure EM but AEM is included as a second proxy since its significance towards CSR has been proved even in Vietnam with rarity. Thus, a more comprehensive analysis how two components, AEM and REM, will be representative for EM on the correlation with CSR. Second, methodological contributions cannot be ignored while this is the first time causes and effects is deeply scrutinized and mined thanks to Granger's causality. Third, managerial implication towards emerging market as Vietnam. First, there is an emergent demand for constructing regulatory framework which standardizes CSR. Up to now, there has been any official Circulars or Degrees enacted so as to ratify that CSR is mandatory for all business operations; existing documents only encourages firms to disclose CSR based on SA 8000, AA1000, ISO 14,000. ... However, inspiration is inadequate in the context of global competition where business operations are required to perform fully CSR. Otherwise, they might lose their competitive advantage. In fact, recently, CSR has been standardized globally under ISO26000 emphasizing forcefully in digital economy transformation. This standard is also integrated at the same time with ISO 14,000 to maximize CSR commitment. However, their combination is almost too rare in Vietnam. Consequently, firms find challenge to compete against rivals that have already well performed both ISO26000 and ISO14000. Hence, export activities to CSR-oriented countries, for example, Europe areas, US ... have to face reduction. This issue can be addressed only is Vietnam authorities define CSR framework as an instruction for standards applied and punishment. Each economy exists specific characteristics arising CSR problems, for instance, accounting issues in the context of Vietnam.

Table 10. 2SLS results for hypothesis H1a and H2a

Variables	CSR_all	CSR_all	CSR_all
aem_jones	−0.037*		
	[−1.68]		
L.aem_jones	−0.025		
	[−1.37]		
aem_kothari		−0.037*	
		[−1.68]	
L.aem_kothari		−0.027	
		[−1.43]	
rm_proxy			0.057**
			[2.17]
L.rm_proxy			0.005
			[0.24]
L.CSR_all	0.916***	0.915***	0.928***
	[31.52]	[31.43]	[31.70]
rev_grow	0.005	0.005	0.004
	[1.27]	[1.28]	[0.69]
size	0.009***	0.009***	0.008**
	[3.14]	[3.16]	[2.52]
lev	−0.007	−0.006	−0.011
	[−0.36]	[−0.34]	[−0.54]
roa	0.035	0.022	0.022
	[0.95]	[0.61]	[0.56]
age	−0.008	−0.008	−0.009
	[−1.12]	[−1.13]	[−1.23]
_cons	−0.215***	−0.215***	−0.171**
	[−2.65]	[−2.64]	[−1.97]
N	656	656	596
R-sq	0.760	0.760	0.769
Hausman test for endogeneity	Fail to reject	Fail to reject	Fail to reject
Sargan test for overidentification	Fail to reject	Fail to reject	Fail to reject

Note: *, **, *** denote the level of significance of 10%; 5% and 1% respectively;

Therefore, the results of this paper notably strengthen the significant role of including REM, AEM, a part of accounting's perspective towards formation CSR's regulatory framework. Thus, Circulars or Degrees later should clarify and include relevant items driven by REM and AEM to assess EM and detect fallacy of companies in performing CSR. Vietnam official CSR regulation enables authorities to hedge and even penalize appropriately companies violating CSR's criteria. Second, from firm's perspective, obligatory CSR navigates enterprises as well as corporations. Indeed, right direction at the initial stage positively impacts to startups whose both internal and external resource are still limited, so they might be unable to comprehensively learn and cover CSR's standards themselves. Therefore, do the right thing at the first time with standardized CSR framework assists startups to move ahead concisely and efficiently. Third, this paper delivers a message for financialists about increasing and concentrating REM. The reason why is that REM has been ignored for a long time in Vietnam situation when evaluating EM level while this factor accelerates CSR commitments in a positive direction. Therefore, firms figure out that investing in

Table 11. 2SLS results for hypothesis H1b and H2b

Variables	aem_jones	aem_kothari	rm_proxy
CSR_all	−0.191**	−0.198**	0.148*
	[−2.20]	[−2.23]	[1.91]
L.CSR_all	0.061	0.050	−0.080
	[0.67]	[0.54]	[−0.99]
L.aem_jones	−0.637***		
	[−11.96]		
L.aem_kothari		−0.695***	
		[−12.69]	
L.rm_proxy			−0.651***
			[−12.59]
rev_grow	0.008	0.010	0.103***
	[0.91]	[1.07]	[9.32]
size	−0.004	−0.003	0.007
	[−0.64]	[−0.46]	[1.31]
lev	0.149***	0.163***	−0.093**
	[3.61]	[3.88]	[−2.52]
roa	0.459***	0.111	−0.264***
	[5.72]	[1.36]	[−3.72]
age	−0.034**	−0.036**	0.004
	[−2.20]	[−2.27]	[0.28]
_cons	0.152	0.163	−0.191
	[0.83]	[0.87]	[−1.16]
N	637	637	596
R-sq	0.760	0.760	0.769
Hausman test for endogeneity	Fail to reject	Fail to reject	Fail to reject
Sargan test for overidentification	Fail to reject	Fail to reject	Fail to reject

Note: *, **, *** denote the level of significance of 10%; 5% and 1% respectively;

gREM will assist them to be well perform CSR initiatives, then their performance will be enhanced subsequently.

7. Further recommendations

Since this is the first paper exploring the causality among Accruals Earnings Management (AEM), Real Earnings Management (REM) as two proxies for EM and CSR in the context of Vietnam, there are various dimensions for researchers to investigate so as to achieve full coverage of this phenomenon. Our limitations would be an opportunity for future research. First, data analyzed in this study exclude financial instructions due to inhomogeneous operational business as well as financial statement structure. Therefore, future research observes the nexus of EM and CSR by employing data from financial institutions to investigate and even compare with the results of this paper. More importantly, in the year of 2022, Vietnam financial market has just been shaken out by the scandal of Sai Gon Joint Stock Commercial Bank (SCB) which manipulates AEM at the same time lessens CSR standards to mask illegal activities; therefore, this research direction is demanded at this time and even in the future. Second, CSR is a broad concept which is implemented in numerous industries with different measurement scale. In the scope of this paper, the authors use

Table 12. FsQCA findings regarding CSR-EM relationship									
CSR	Configurations	AEM	REM	REV_GROW	SIZE	LEV	ROA	AGE	
	1	●	~						
	2	~	●		~				
	3	~			●		~		
	4	~				●	~		
	5		●			~	●		
	6	●			●		●		
	7			●	~		~		~
	8		●	~			●		●
	9		~	~		~			
	10	~		~		~			
	11	~	●						~
	12		●		●		●		~
Solution coverage		0.659071							
Solution consistency		0.998065							

Note: ● indicate the presence of causal conditions. ~ indicate the absence or negation of causal conditions. The blank cells indicate “don’t care conditions” (Kraus et al., 2017)

Table 13. FsQCA results in terms of EM-CSR relationship								
EM	Configurations	CSR	REV_GROW	SIZE	LEV	ROA	AGE	
	1	•						
	Solution coverage			0.998694				
	Solution consistency			0.601341				

Note: • indicate the presence of causal conditions. ~ indicate the absence or negation of causal conditions. The blank cells indicate “don’t care conditions” (Kraus et al., 2017)

financial indicators as proxies to assess CSR, so the recommendation is that next contributions add more non-financial indicators which also play a significant position in CSR consolidation.

Funding

This research is funded by Vietnam National University Ho Chi Minh City (VNU-HCM) under Grant number C2021-34-04.

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Disclosure statement

No potential conflict of interest was reported by the authors.

Citation information

Cite this article as: Accrual-based, real activities earnings management and corporate social responsibility: A virtuous circle? emerging market evidence, Nguyen Vinh Khuong, Huynh Thi Ngoc Ly & Le Huu Tuan Anh, *Cogent Economics & Finance* (2023), 11: 2209955.

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Appendix A: Variables description

Variable	Description	Source
AEM	$\frac{TAC_{i,t}}{A_{i,t-1}} = \theta_1 \frac{1}{A_{i,t-1}} + \theta_2 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \theta_3 \frac{PPE_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t}$ $\frac{TAC_{i,t}}{A_{i,t-1}} = \theta_1 \frac{1}{A_{i,t-1}} + \theta_2 \frac{\Delta (REV_{i,t} - AR_{i,t})}{A_{i,t-1}} + \theta_3 \frac{PPE_{i,t}}{A_{i,t-1}} + \theta_4 ROA_{i,t} + \varepsilon_{i,t}$	Jones (1991); Kothari et al. (2005)
REM	$\frac{CFO_{i,t}}{A_{i,t-1}} = \theta_1 \frac{1}{A_{i,t-1}} + \theta_2 \frac{REV_{i,t}}{A_{i,t-1}} + \theta_3 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t} (7)$ $\frac{PROD_{i,t}}{A_{i,t-1}} = \theta_1 \frac{1}{A_{i,t-1}} + \theta_2 \frac{REV_{i,t}}{A_{i,t-1}} + \theta_3 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \theta_4 \frac{\Delta REV_{i,t-1}}{A_{i,t-1}} + \varepsilon_{i,t} (8)$ $\frac{DISCEXP_{i,t}}{A_{i,t-1}} = \theta_1 \frac{1}{A_{i,t-1}} + \theta_2 \frac{REV_{i,t-1}}{A_{i,t-1}} + \varepsilon_{i,t}$	Roychowdhury (2006)
CSR1	$\frac{\sum X_{i200} + \sum X_{i300} + \sum X_{i400}}{n_{i200} + n_{i300} + n_{i400}}$	Thuy et al. (2022)
REV_GROW	The ratio of current-year sales to previous-year sales	Ghaleb et al. (2021); Khuong and Anh (2022); Khuong et al. (2022); Rezaee et al. (2020); Shabbir and Wisdom (2020); Thuy et al. (2022)
SIZE	The natural logarithm of the end-of-year book value of total assets	
LEV	Total debt to total assets	
ROA	Return on assets	
AGE	The natural logarithm of the difference between the current and foundation years	