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The relationship between CSR and earnings management in Lithuanian listed companies

Związek między CSR a zarządzaniem zyskami w spółkach notowanych na Litwie

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Abstract

Purpose: This study identifies the relationship between corporate social responsibility (CSR) and Earnings Management (EM) in listed Lithuanian companies.
Methodology/approach: Theoretically, it has been argued that companies with strong sustainability commitment are less likely to manage profits, as earnings management is perceived as an irresponsible act that is not in line with ethical principles.
Findings: The study found a statistically significant positive relationship between the variables (CSR and EM, CSR and REM), which is not in line with previous empirical studies. This research contributes to the existing body of literature by providing empirical evidence from a relatively under-researched context.
Research implications/implications: Understanding the relationship between CSR and EM offers valuable insights for various stakeholders, helping to inform policy and decision-making processes related to CSR and financial reporting transparency, particularly in the context of small and transitioning economies.
Originality/value: This study provides new evidence of the positive relationship between CSR and EM in the rapidly growing economy of the Central and Eastern Europe region. The results indicate that CSR disclosures should be interpreted with caution by shareholders, investors, and the public.
Keywords: corporate social responsibility (CSR), earnings management (EM), accrual-based earnings management, real activity manipulation, relationship.

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Streszczenie

Cel: Artykuł identyfikuje związek między społeczną odpowiedzialnością biznesu (CSR) a zarządzaniem zyskami (EM) w spółkach notowanych na giełdzie na Litwie.
Metodyka/podejście badawcze: W teorii, argumentuje się, że przedsiębiorstwa silnie zaangażowane w zrównoważony rozwój rzadziej manipulują zyskami, ponieważ zarządzanie zyskami jest postrzegane jako działanie nieodpowiedzialne i niezgodne z zasadami etyki.
Wyniki: Badanie wykazało statystycznie istotny, pozytywny związek między zmiennymi (CSR i EM, CSR i REM), co nie jest zgodne z wcześniejszymi badaniami empirycznymi. Niniejsze badanie wnosi wkład do istniejącej literatury, dostarczając dowodów empirycznych z relatywnie słabo zbadanej perspektywy.
Ograniczenia/implikacje badawcze: Zrozumienie relacji między CSR a EM dostarcza cennych informacji dla różnych interesariuszy, wspierając procesy polityczne i decyzyjne związane z CSR oraz przejrzystością sprawozdawczości finansowej, szczególnie w kontekście małych i transformujących się gospodarek.
Oryginalność/wartość: Badanie dostarcza nowych dowodów na pozytywny związek między CSR a EM w szybko rozwijającej się gospodarce regionu Europy Środkowo-Wschodniej. Wyniki wskazują, że ujawnienia CSR powinny być interpretowane ostrożnie przez akcjonariuszy, inwestorów i opinię publiczną.

Słowa kluczowe: społeczna odpowiedzialność biznesu (CSR), zarządzanie zyskami (EM), memoriałowe zarządzanie zyskami, manipulacja rzeczywistą działalnością, związek.

Introduction

Recently, there has been growing concern about sustainability in the world, including profit-seeking companies. As a result, stakeholders increasingly expect transparency across all areas of corporate activity – not solely to evaluate financial outcomes, but also to gauge the organisation's commitment to social responsibility. In this context, corporate social responsibility (CSR) is understood as a company's obligation to contribute positively to society beyond mere financial success. It includes supporting charities, reducing environmental impact, and treating employees and suppliers fairly. Profit remains the primary indicator for assessing a company's performance and is of interest to various stakeholders, including investors, government, creditors, and employees (Almahrog et al., 2015). Profitability is a crucial indicator of a company's ability to generate revenue and create value for shareholders. Consequently, earnings level adjustments represent one of the most prevalent practices of accounting manipulation.

Conversely, earnings management (EM) refers to the strategic alteration of financial reports to enhance a company's perceived financial health. According to Chih et al. (2008), Kim et al. (2012), and Choi et al. (2013), firms genuinely engaged in CSR are generally less inclined to adopt such practices, as EM is often viewed as ethically questionable and incompatible with CSR values. These companies are expected to uphold stakeholder trust by ensuring transparency and reliability in their financial disclosures.

A substantial body of empirical research has identified a negative correlation between EM and CSR, suggesting that firms with a strong commitment to CSR are less likely to engage in EM (Gonçalves et al., 2021; Ehsan et al., 2021; Martinez-Martinez et al., 2021; Chen, Hung, 2021; Kumala, Siregar, 2021; Nguyen, 2022; Gaio et al., 2022; Dimitropoulos, 2022; Chouaibi, Zouari, 2022; Ningsih et al., 2023; Gerged et al., 2023). These studies generally conclude that CSR-oriented companies are more likely to uphold ethical standards and transparent financial reporting practices, thereby reducing the likelihood of EM.

However, a smaller subset of research has reported a positive relationship between CSR and EM, suggesting that some companies may strategically employ CSR initiatives to mask opportunistic managerial behaviour (Gargouri et al., 2010; Muttakin et al., 2015; Habbash, Haddad, 2020; Bose, Yu, 2023; Rahman, Zheng, 2023). This suggests that companies that engage in EM may use CSR activities to conceal opportunistic managerial behaviour. The majority of the previous research on the CSR and EM relationship was performed in the United States, developed Western European countries, and emerging capital markets.

In Lithuania, many researchers have analysed the level of CSR in companies. For example, Bachtijeva's (2023) dissertation research identified a negative relationship between EM and CSR (i.e., CSR reduces the application of real EM) based on 290 observations between 2017 and 2021. However, her sample included relatively small, non-public companies divided into socially responsible and non-responsible groups. Therefore, the purpose of this study is to fill a gap in the literature by examining the relationship between CSR and EM in listed Lithuanian companies, using panel regression with fixed effects and correlation analysis. By focusing on a small, transitioning economy, the study contributes not only geographically, but also methodologically – using both accrual-based and real earnings management indicators. The study applies panel regression with fixed effects alongside correlation analysis to provide novel evidence from a small, transitioning economy.

This paper is structured into several key sections. Section 1 provides a literature review, detailing the conceptual definitions and theoretical foundations of the CSR–EM relationship, as well as a synthesis of relevant empirical studies, including meta-analyses and literature reviews. It also presents the hypothesis formulated for this research. Section 2 discusses the methodology. It outlines the variables under investigation, details the selected measures for CSR and EM, and describes the data collection process, sample characteristics, data sources, and the analytical methods employed. Section 3 presents the results, which include empirical findings supported by tables and statistical outputs, followed by interpretation and analysis. The paper ends with a discussion and conclusions. It analyses the results, compares them with the previous literature, presents implications for stakeholders, and summarises key findings. It also notes the limitations of the paper and presents suggestions for future research.

1. Literature review

1.1. An overview of CSR and EM relationship

Since 2014, the relationship between CSR and EM has emerged as a niche, but growing field of study (Kumar et al., 2023). This relationship reflects the ongoing tension between fulfilling stakeholder expectations and pursuing profit maximisation. Several theoretical frameworks help explain why EM occurs. First, Agency Theory suggests that discrepancies in goals between shareholders (principals) and managers (agents) may prompt the latter to alter financial reports for personal benefit, such as performance-related compensation or job retention (Jensen, Meckling, 1976). Second, Positive Accounting Theory posits that earnings manipulation is often motivated by the desire to comply with contractual obligations or influence stock performance, thereby minimising regulatory scrutiny or to manipulate share prices (Watts, Zimmerman, 1986). Third, Stakeholder Theory emphasises that managers may adjust earnings to satisfy competing pressures from various groups, including investors, employees, and regulators. Therefore, EM practices are shaped by a multifaceted set of incentives and institutional dynamics.

CSR functions as a communication tool through which firms convey their broader commitments and responsibilities to various stakeholders. Shleifer (2004) and Jo, Kim (2007, p. 564) indicate that firms with more extensive social performance disclosures tend to exhibit lower levels of earnings management. This is likely due to the enhanced transparency such disclosures provide, which narrows the information gap between corporate managers and investors, thereby improving stakeholders' ability to identify manipulative financial reporting practices.

Research suggests that firms demonstrating a stronger dedication to CSR initiatives are less inclined to engage in accrual-based earnings manipulation (Almahrog et al., 2018). Since earnings management is often viewed as being inconsistent with ethical and transparent business practices, firms engaged in CSR are more inclined to uphold integrity and accuracy in their financial reporting practices (Choi et al., 2013).

With rising expectations for corporate accountability and transparency, companies are increasingly challenged to align their short-term financial objectives with long-term sustainability goals. There is a growing debate in academic and professional fields regarding whether firms committed to CSR and sustainable practices can justify engaging in EM, and if doing so undermines their ethical standing.

1.2. Empirical studies on the CSR and EM relationship

A wide range of empirical research has explored how CSR is linked to EM in different industries and geographic regions. Numerous studies have established a relationship between CSR and EM across diverse contexts, including individual countries such as the U.S., UK, Spain, France, Bangladesh, South Korea, Indonesia, China, and Taiwan, as well as in cross-national or international settings.

A significant amount of research has found a negative association, suggesting that firms with a stronger commitment to CSR are generally less inclined to engage in EM. This inverse relationship has been consistently observed in empirical studies conducted across various national contexts, including the U.S., UK, Spain, France, Pakistan, Indonesia, Taiwan, China, Korea, and other East and Southeast Asian countries (Kim et al., 2012; Scholtens, Kang, 2013; Bozzolan et al., 2015; Sial et al., 2019; Gras-Gil et al., 2016; Cho, Chun, 2016; Gao, Zhang, 2015; Ben Amar, Chakroun, 2018; Martinez-Martinez et al., 2021; Chen, Hung, 2021; Kumala, Siregar, 2021; Ehsan et al., 2021; Nguyen, 2022), as well as in the EU (Hummel, Ising, 2015; Gonçalves et al., 2021; Gaio et al., 2022; Dimitropoulos, 2022). This negative correlation is often attributed to the ethical standards promoted by CSR practices, which emphasise transparency, accountability, and discourage manipulative financial behaviour.

While the majority of studies support a negative relationship between CSR and EM, a smaller subset of research has reported a positive association (Muttakin et al., 2015; Habbash, Haddad, 2020; Ningsih et al., 2023; Bose, Yu, 2023; Rahman, Zheng, 2023). These findings suggest that, in some cases, firms may strategically employ CSR initiatives to obscure opportunistic managerial behaviour and create a facade of ethical conduct. Consequently, although much of the empirical literature points to a tendency for CSR-oriented companies to exhibit greater financial transparency, these contrasting results highlight that CSR can also be misused as a tool for impression management under certain circumstances.

The methodologies employed across these studies vary in terms of sample size (from the biggest, with over 120,000 observations across 24 EU countries, to the smallest, with 139 companies), geographical focus, and the metrics used to measure CSR and EM. Furthermore, some studies use accrual-based EM (AEM), while others focus on real EM (REM). The choice of EM measure is critical, as AEM is often considered less transparent and more prone to manipulation than REM.

Cultural and institutional contexts across countries may significantly influence the relationship between CSR and EM. While research conducted in the U.S. and EU generally reports a negative association, findings from emerging economies – such as Bangladesh (Muttakin et al., 2015) and Saudi Arabia (Habbash, Haddad, 2020) – occasionally reveal a contrasting pattern. These disparities suggest that institutional characteristics, including the strength of regulatory frameworks and the maturity of CSR practices, may play a moderating role. Moreover, firms in smaller nations, particularly in Central and Eastern Europe (CEE), remain underrepresented in the literature, whereas companies from larger EU member states have been the primary focus of existing studies (Hummel, Ising, 2015; Gonçalves et al., 2021; Gaio et al., 2022; Dimitropoulos, 2022).

1.3. Meta-analyses and literature reviews on the CSR and EM relationship

Velte (2020) reviewed 33 studies from 2003 to 2017 and found that most indicated a negative relationship, while Parvin et al. (2020), Ehsan et al. (2020), and Deng et al. (2024) showed mixed evidence, with about half of the studies reviewed finding a negative relationship and the rest reporting either positive or mixed results. Similarly, Shi et al. (2022), Sofian et al. (2022), and Deng et al. (2024) analysed 51, 152, and 75 articles, respectively, also emphasising the predominance of a negative CSR-EM link. In total, 465 empirical studies were reviewed in these studies, and the majority of the results indicate a negative CSR and EM relationship.

A substantial portion of existing research on the CSR–EM relationship concentrates on the U.S. capital market and predominantly utilises CSR performance indicators as the primary evaluative measures (Velte, 2020). Santos-Jaén et al. (2021) review of 329 papers across more than 50 countries highlights the global interest in the CSR–EM nexus; their findings reveal notable geographical dispersion, with the highest contributions originating from China (19.75%), the U.S. (17.62%), the UK (12.46%), Spain (10.03%), Australia (9.72%), South Korea (7.2%), Italy (6.38%), and Taiwan (6.38%).

In a separate analysis of 152 Scopus-indexed articles, Sofian, Mohd-Sabrun, and Muhamad (2022) identified the top 10 countries that contribute to CSR–EM research, with the highest outputs coming from China (27), South Korea (24), Indonesia (19), the United Kingdom (15), the United States (14), Spain (12), Taiwan (12), Australia (9), Malaysia (8), and Tunisia (7). Therefore, the non-Western researchers dominate the CSR–EM relationship field (Kumar et al., 2023).

Velte (2020) analysed 33 studies and concluded that research on the EM–CSR relationship has low validity so far due to the limited number of studies. A meta-analysis by Shi et al. (2022) reveals a negative association between CSR and EM, moderated by cultural differences, CSR measurement, and sample selection. Other research suggests the relationship can be positive, negative, mixed, or non-existent, influenced by micro and macro factors (Deng et al., 2024). Therefore, to the best of our knowledge, small CEE countries have been less empirically studied regarding this relationship in high-quality scientific journals. Based on this analysis, the following hypothesis is proposed:

H1: Ceteris paribus, the relationship between CSR and EM of Lithuanian listed companies is negative.

2. Research methodology

2.1. Measure of CSR

There are several methods of assessing the disclosure of information in CSR reports. One way of assessing the quality of CSR reports is through ESG ratings. These scores are usually awarded by third-party organisations, such as sustainability rating agencies, and are based on a range of factors, including the company's environmental impact, labour relations, and community involvement. Several organisations provide CSR report ratings, each with its own methodology and criteria. Unfortunately, only a few companies in Lithuania have a sustainability rating that reflects their CSR performance; therefore, we cannot use the ESG score as a CSR measure for our research.

The assessment of disclosure and quality of CSR information remains a highly contested issue (Ismail et al., 2021). According to Ismail et al. (2021), there is no universal set of principles against which to assess the quality of social disclosure, and the practice of assessing the quality of information disclosure varies widely, with previous studies using different approaches to assess the quality of CSR disclosures. Several methodologies are available for assessing the quality of CSR and are described in empirical studies. According to Beretta, Bozzolan (2008), previous studies on the quality of CSR disclosures can be divided into two main groups: by scope, i.e., content analysis (thematic content analysis, clarity analysis, and linguistic analysis), and by quality, i.e., calculating a disclosure index (often presented as an assessment of disclosure quality).

According to Ismail et al. (2021), the Global Reporting Initiative (GRI) is recognised as a leader in the international standardisation of non-financial reporting, focusing specifically on CSR reporting quality. Gray et al. (1995), Hackston and Milne (1996), and Branco and Rodrigues (2008) developed 19 items of a voluntary disclosure checklist related to four dimensions:

1. Environmental information, which includes three items: water discharge, environmental policies, and pollution control.
2. Social information, which includes eight items: education facilities, health and safety arrangements, pensions, training of employees through in-house programs, establishing the training centres, discussion on the staff accommodation, policy of the remuneration package, and the number of employees.
3. Community, which includes six items: donations, relationships with the local population, social welfare, seminars and conferences, and the establishment of educational institutions and medical institutions.
4. Products/services, which includes two items: information on the safety of the product and on the quality of the product.

Following Ismail et al. (2023), each CSR item was scored using a binary approach (1 = disclosed, 0 = not disclosed), and for comparability, scores were normalised by dividing by the maximum possible per dimension. No quality weighting was applied. The report score was calculated using the following formula:

$$\text{CSR index} = \sum_{0}^{4} x_i$$

where *CSR index* is the report score; n is the maximum score for the report, i.e., 4; *i* is the sum index; x_i = 1 if the item is included in the report, 0 if it is not.

2.2. Measure of EM

EM can be measured in the following ways: accrual-based EM (AEM) and real activity EM (REM). Accruals represent the difference between a company's net income and cash flows and are decomposed into non-discretionary and discretionary components. Non-discretionary accruals reflect economic variations related to the company's operations, while discretionary accruals result from the manager's judgement (Dechow et al., 2010). AEM strategies rely on discretionary accruals by modifying estimates, assumptions, and accounting methods based on managerial decisions (Dechow, Skinner, 2000).

There are several methods and formulas to determine AEM, depending on the specific research question and the data available: the Healy (1985) model, the Jones (1991) model, the modified Jones model (Dechow et al., 1995), and the discrete accruals measurement model (Kothari et al., 2005). According to Dechow et al. (1995), the most accurate discrete accumulation models are the Jones (1991) and modified Jones (Dechow et al., 1995) models, with the main difference being the adjustment for changes in receivables. These models incorporate return on assets (ROA) to account for company performance, which influences the valuation of discretionary accruals. Kothari et al. (2005) argue that ROA provides a better-defined and more robust test.

Due to its robustness and recognition in prior empirical studies, the Kothari et al. (2005) method is used in this paper to estimate discrete accruals. In particular, total accruals for each company are computed using the following formula:

$$Accruals_{i,t} = \Delta CA_{i,t} - \Delta CL_{i,t} - \Delta CCE_{i,t} - \Delta CD_{i,t} - DA_{i,t}$$

where:
$Accruals_{i,t}$ – total accruals for period t for company i;
$\Delta CA_{i,t}$ – the change in current assets between period t−1 and t for company i;
$\Delta CL_{i,t}$ – the change in current liabilities between period t−1 and t for company i;
$\Delta CCE_{i,t}$ – the change in cash and cash equivalents between period t−1 and t for company i;
$\Delta CD_{i,t}$ – the change in current debt included in current liabilities between period t−1 and t for company i;
$DA_{i,t}$ – depreciation and amortisation for period t for company i.

The estimation of discretionary accruals for each company and year uses the following formula:

$$\frac{Accruals_{i,t}}{TA_{i,t-1}} = \beta_0 + \beta_1\left(\frac{1}{TA_{i,t-1}}\right) + \beta_2\left(\frac{\Delta Rev_{i,t} - \Delta Rec_{i,t}}{TA_{i,t-1}}\right) + \beta_3\left(\frac{PPE_{i,t}}{TA_{i,t-1}}\right) + \beta_4\left(ROA_{i,t-1}\right) + \varepsilon_{i,t}$$

where:
$TA_{i,t-1}$ – total assets in period t−1 for company i;
$\Delta Rev_{i,t}$ – the change in sales between period t−1 and t for company i;

$\Delta Rec_{i,t}$ – the change in accounts receivable between period t–1 and t for company i;
$PPE_{i,t}$ – property, plant, and equipment in period t for company i;
$ROA_{i,t-1}$ – the return on assets in period t–1 for company i;
$\varepsilon_{i,t}$ – the residuals obtained between the value estimated by the model and the actual value in period t for company i.

Another method of EM is the manipulation of the company's real activities. According to Roychowdhury (2006), the proposed method of measuring REM is one of the two methods still used in research today. One proposed method is not widely used by researchers due to its complexity of application. Therefore, this study uses Roychowdhury's method of assessing the REM. He suggests that EM related to real activities may be identified by examining deviations in cash flows from operating activities, irregularities in cost of goods sold, and unusual levels of discretionary expenditures:

$$\frac{CFO_t}{A_{t-1}} = \alpha_0 + \alpha_1\left(\frac{1}{A_{t-1}}\right) + \beta_1\left(\frac{S_t}{A_{t-1}}\right) + \beta_2\left(\frac{\Delta S_t}{A_{t-1}}\right) + \varepsilon_t$$

$$\frac{DISEXP_t}{A_{t-1}} = \alpha_0 + \alpha_1\left(\frac{1}{A_{t-1}}\right) + \beta\left(\frac{S_t}{A_{t-1}}\right) + \varepsilon_t$$

$$\frac{PROD_t}{A_{t-1}} = \alpha_0 + \alpha_1\left(\frac{1}{A_{t-1}}\right) + \beta_1\left(\frac{S_t}{A_{t-1}}\right) + \beta_2\left(\frac{\Delta S_t}{A_{t-1}}\right) + \beta_3\left(\frac{\Delta S_{t-1}}{A_{t-1}}\right) + \varepsilon_t$$

$$\frac{Accruals_t}{A_{t-1}} = \alpha_0 + \alpha_1\left(\frac{1}{A_{t-1}}\right) + \beta_1\left(\frac{\Delta S_t}{A_{t-1}}\right) + \beta_2\left(\frac{PPE_{t-1}}{A_{t-1}}\right) + \varepsilon_t$$

where:
CFO_t – the company's cash flows in period t;
A_{t-1} – company's total assets in period t–1;
S_t – sales in period t;
ΔS_t – the change in sales in period t;
ΔS_{t-1} – the change in sales in period t–1;
$DISEXP_t$ – discretionary expenses (R&D, advertising, and other administrative expenses) in period t;
$PROD_t$ – costs of sold production in period t;
PPE_{t-1} – property, plant, and equipment in period t–1.

When calculating the REM of abnormal cash flows from ordinary activities, abnormal cost of sales, and abnormal discrete costs, the total REM value is assessed using the following formula:

$$REM_{i,t} = -REM_{CFO\ i,t} + REM_{PROD\ i,t} - REM_{DISX\ i,t}$$

where:
$REM_{i,t}$ – real earnings management of company i in period t;

$REM_{CFO\ i,t}$ – real earnings management through abnormal cash flows from operating activities for company *i* in period *t*;
$REM_{PROD\ i,t}$ – real earnings management through abnormal production costs (cost of goods sold) for company *i* in period *t*;
$REM_{DISX\ i,t}$ – real earnings management through abnormal discretionary expenses for company *i* in period *t*.

A positive result indicates that the company is managing its REM.

2.3. Data sources and sample

As the CSR and EM relationship has not been explored in the CEE market, this analysis focuses on listed companies in one of the Baltic states, Lithuania. A total of 28 Lithuanian companies are listed on the stock exchange. Six companies from the financial services sector were excluded from the study due to their specific business activities. Three other companies were also excluded due to the lack of financial statement information or insufficient data. Thus, 19 Lithuanian companies were analysed with a total of 95 observations. The study period covers the five-year period between 2017 and 2021. The data needed to calculate the EM indicators were obtained from the main financial statements: balance sheets, profit (loss) and comprehensive income statements, and cash flow statements. Listed companies are required to present their accounting figures under International Financial Reporting Standards (IFRS).
According to the Lithuanian Law on Corporate Reporting (2001), in force at the time of the research, large public interest companies with over 500 employees are required to report on CSR or otherwise disclose non-financial information (environmental, social, and employee-related issues, respect for human rights, anti-corruption, and anti-bribery issues). Therefore, to determine the CSR index, the content analysis of individual CSR reports or the annual report was used. Financial and non-financial statements are publicly available on the NASDAQ Vilnius Stock Exchange website.

2.4. Empirical models

The core stages of the research are as follows:
1) Data collection: The CSR index and EM values were calculated from company financial statements.
2) Preliminary analysis: Descriptive statistics and correlation analyses were performed to understand the relationships between variables and check for multicollinearity.
3) Panel regression model: A double fixed-effects model was created, using CSR as the independent variable and EM as the dependent variable.
4) Interpretation of results: The strength and direction of the CSR and EM relationship was interpreted.

The panel regression model includes fixed effects for both the individual companies and time to control for unobserved heterogeneity, ensuring that time-invariant characteristics of each firm do not bias results. To test the proposed hypothesis, Pearson's correlation coefficients and regression analyses were conducted using SPSS software.

3. Results and discussion

3.1. Descriptive statistics

The studied companies are distributed across seven sectors. The majority operate in daily consumer goods (5), discretionary goods (5), and industrial products (4). The telecommunications, basic materials, and energy sectors each have only one company represented. The results of the CSR index vary widely (Table 1).

Table 1. Descriptive statistics of variables

Variable	Mean	Median	Standard deviation	Min	Max
CSR index	1.91	1.83	0.89	0	3.67
Environmental information	0.69	0.67	0.26	0	1.0
Community development	0.30	0.33	0.23	0	0.67
Social information	0.49	0.50	0.21	0	1.0
Products/services	0.43	0.50	0.38	0	1.0
AEM	–0.04	–0.02	0.13	–0.59	0.28
REM	–1.21	–1.18	0.33	–1.96	0.04

Source: authors' own elaboration.

During the research period, the average CSR index was 1.91, with values ranging from 0 to 3.67. The standard deviation of 0.89 indicates variability among companies. One company did not provide a CSR report or disclose the criteria. No single company achieved the maximum value of the index. The distribution of results by dimension shows that each dimension has values from 0 to 1 (except for community development, which has a maximum value of 0.67). Companies disclose the most information related to the environment and the least regarding the community.

Descriptive statistics on EM methods indicate average trends in AEM and REM during the research period. The average AEM was higher, indicating that more attention was paid to REM results. AEM fluctuated less from the average than REM. Among observations, 34% showed evidence of REM, while AEM alone was not used in practice. The majority (65%) of companies used both AEM and REM, and only 1% of observations did not use EM in any way.

3.2. Correlation analysis

The Pearson's correlation coefficient of 0.22 indicates a weak positive relationship between CSR and REM (Table 2), while a similar Pearson's coefficient of 0.21 is observed between CSR and EM. These findings suggest that, within the research sample, higher levels of CSR do not necessarily correspond with lower levels of REM or EM.

Table 2. Pearson correlation between EM and CSR

Item		CSR	AEM	REM	EM
CSR	Pearson Correlation	1	0.004	**0.216***	**0.210***
	Sig. (2-tailed)		0.970	0.037	0.042
	n	94	94	94	94
AEM	Pearson Correlation	0.004	1	0.309**	0.528**
	Sig. (2-tailed)	0.970		0.002	0.000
	n	94	94	94	94
REM	Pearson Correlation	**0.216***	0.309**	1	0.963**
	Sig. (2-tailed)	0.037	0.002		0.000
	n	94	94	94	94
EM	Pearson Correlation	**0.210***	0.528**	0.963**	1
	Sig. (2-tailed)	0.042	0.000	0.000	
	n	94	94	94	94

*p-values < 0.05; **p-values < 0.01.

Source: authors' own elaboration.

The analysis did not reveal an association between socially responsible Lithuanian listed companies and their engagement in EM. On the contrary, the findings reveal a positive relationship between CSR and EM – particularly REM – indicating that higher CSR levels may coincide with increased EM within the sample.

3.3. Regression analysis

The regression analysis of the data (Table 3) shows a statistically significant positive relationship between CSR and EM, indicating that firms with higher CSR scores tend to be associated with higher levels of EM, all else being equal.

Table 3. Regression results of EM and CSR

Variable	Coefficient	Standard deviation	t value	P-value	R^2
EM when CSR 0	–1.4503	0.0885	–16.3852	0.0000	0.054
CSR	0.0965	0.0421	2.2948	0.0240	

Source: authors' own elaboration.

The standard errors for the coefficients of the EM and CSR index indicate that the coefficient estimates are reliable. Specifically, the statistically significant positive coefficient of the CSR index ($t = 2.29$, $p = 0.024$) indicates a meaningful positive association between CSR and EM. The model explains only a small part of the variance ($R^2 = 0.054$, Adjusted $R^2 = 0.043$), holding all other variables constant. Regression diagnostics indicated no multicollinearity or heteroskedasticity, and the Durbin–Watson statistic ($DW = 2.05$) confirmed no autocorrelation in the residuals. This suggests that firms with higher CSR scores tend to engage in more EM; however, the relationship is modest and should be interpreted as correlational, not causal. Therefore, the hypothesis **H1** should be rejected, based on the regression results.

Discussion and conclusion

The results of the analysis on the relationship between CSR and EM in Lithuanian listed companies are contrary to the results of most other studies. The analysis reveals a weak yet statistically significant **positive** association between CSR and EM, indicating that socially responsible Lithuanian firms are not less likely to engage in earnings management.

This outcome is consistent with prior evidence reported by Muttakin et al. (2015), Habbash, Haddad (2020), Bose, Yu (2023), and Rahman, Zheng (2023). These studies were performed with relatively small samples of companies from mostly emerging economies. However, this contrasts with the more common finding of a negative relationship between CSR and EM, which, consistent with Ehsan et al. (2020), is reported in over 90% of cases in advanced economies. This is typically attributed to their robust legal systems and well-established institutional environments. Similar evidence is reported in Central Europe, where Valaskova, Gajdosikova (2025) found that firms with weak CSR engagement are more prone to earnings manipulation, while those with strong CSR performance show little or no EM.

These finding suggest that, because of the low quality of CSR reports and the limited demand for information on social and environmental activities, CSR and EM practices in Lithuania are still evolving. The observed positive relationship may be partially explained by phenomena such as greenwashing, weak regulatory enforcement, or institutional characteristics specific to small and transitioning economies. In addition, most prior studies used discretionary accruals as a measure of EM, while the present study relies on real activity EM methods. The methodological difference may also influence the results.

This study contributes to both theory and practice by challenging the dominant assumption that CSR reduces EM. As CEE has rapidly developed and joined the group of developed countries, it is significantly less studied and retains unique economic, cultural, and historical features. The additional evidence from Lithuania helps fill the existing knowledge gap in this region and extends the literature on the CSR–EM relationship. Parvin et al. (2020) noted that some studies have found socially responsible firms to be more engaged in EM, arguing that sometimes companies engage in EM to avoid taxes and then increase CSR activities to create a positive image for stakeholders. We concur that the explored companies have a tendency to avoid income tax, which could contribute to the positive CSR–EM relationship.

Some previous studies reported mixed relationships (e.g., no or weak relationships) between CSR and EM. Our research findings are contrary to the most popular results, possibly due to differences in research design, such as the specific measurements of CSR and EM variables, the samples, time periods, and industries used, as well as the distinct social, ethical, and economic features of the countries studied.

According to Gonçalves et al. (2021), additional analysis provides evidence that economic cycles and financial performance play important roles in the CSR–EM relationship. They argue that during periods of crisis or of losses, the relationship is positive, suggesting that under unfavourable economic conditions, management makes opportunistic use of a sustainable company's status to manage earnings. Therefore, to achieve comparable results, research should ideally be conducted under similar conditions. However, we naturally encounter economic cycles and uncertainty, especially in recent years. Unpredictable events, such as the COVID-19 pandemic and political and economic instability, significantly impacted the behaviour of the companies investigated, in both their CSR and EM practices. Therefore, we emphasise that the CSR and EM relationship may be influenced by many conditions, and we need to investigate this relationship in as many contexts as possible.

Understanding the relationship between CSR and EM is valuable for various stakeholders because this information informs decision-making. Corporate managers can use these insights to evaluate their CSR initiatives and EM practices, enabling them to make informed decisions on resource allocation and the implementation of ethical business practices. Investors and shareholders can also use this information to assess the quality of financial reporting and companies' commitment to responsible business practices. Additionally, this information can be useful to regulators and policymakers when designing and implementing more effective rules and policies. Regulators can develop targeted policies that promote responsible business practices while discouraging the manipulation of earnings. This, in turn, promotes financial market stability and sustainable economic development.

Finally, researchers should continue to investigate this relationship to gain a deeper understanding of how CSR affects EM. Future research could:

- Add additional control variables to the regression analysis, for example, firm size, leverage, industry, corporate governance, regulatory environment, firm age, and market competition.
- Examine interaction effects.
- Conduct a more detailed industry-specific or time-series analysis.
- Expand the sample or include data from other countries to provide valuable insights and increase the significance of the findings.

In summary, the study provides evidence that in the Lithuanian market, CSR is positively associated with EM, contrary to the dominant findings in advanced economies, thereby challenging the assumption that CSR necessarily constrains opportunistic financial practices.

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