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Corporate Social Responsibility Expenditure and Tax Avoidance: The Moderating Role of Audit Quality

Ayu Eka Refaliana[1], *Dian* Anita Nuswantara[2]

[1]Accounting Study Program, Faculty of Economics and Business, Universitas Negeri Surabaya, Surabaya, Indonesia
[2]Accounting Study Program, Faculty of Economics and Business, Universitas Negeri Surabaya, Surabaya, Indonesia

Abstract. This study examines whether corporate social responsibility (CSR) expenditure is associated with tax avoidance and whether audit quality conditions that association. The sample covers 41 Basic Materials and Consumer Non-Cyclicals firms listed on the Indonesia Stock Exchange in 2023–2025 (123 firm-years; 110 after studentized-residual screening). We estimate a pooled regression with firm-clustered standard errors. Tax avoidance (TA) is proxied by the cash effective tax rate (CETR), logit-transformed for estimation, so higher TA values indicate less avoidance; CSR expenditure is CSR spending scaled by operating expenses; audit quality is proxied by the natural logarithm of audit fees. At the average audit fee, CSR expenditure is positively associated with TA ($\beta = 3.171$; $p = 0.018$), that is, with less tax avoidance. Audit fees have no direct association ($\beta = 0.067$; $p = 0.470$), yet the CSR × audit fee interaction is positive and significant ($\beta = 7.428$; $p = 0.008$), which gives audit quality the profile of a pure moderator: the point estimate of the CSR–TA association is negative at low audit fees and positive at high audit fees. The CSR association is sensitive to the choice of standard errors ($p = 0.068$ with conventional errors), whereas the interaction is not. Leverage is positively associated with TA, while firm size is not. Because audit fees also reflect client size and complexity, and because the results rest on the exclusion of 13 high-residual observations, the findings are conditional statistical associations and do not reveal managerial motives.

Keywords: Audit quality; CSR expenditure; CETR; Leverage; Tax avoidance

[1]Corresponding author: ayu.23450@mhs.unesa.ac.id

1. Introduction

Taxes are the main financing source of national development in Indonesia. Data from Statistics Indonesia (BPS) show that the share of tax revenue in total state revenue rose from 76.96 percent in 2021 to 83.31 percent in 2025. While the government seeks to maximise collection, firms treat taxes as a transfer that reduces wealth and look for ways to lower them [1]. A 2026 bribery case, in which nickel miner PT Wanatiara Persada allegedly paid tax officials to reduce its tax assessment [2], shows that this pressure is real, although bribery is illegal evasion and differs from the legal tax avoidance studied here.

CSR sits at an unusual intersection with taxation. CSR is mandatory for certain firms under Article 74 of Law No. 40 of 2007 [1], and Government Regulation No. 93 of 2010 allows specific social contributions to be deducted, up to 5 percent of the previous year's net fiscal income [3]. Two readings of the CSR–tax link therefore compete. In the strategic reading, managers use CSR spending as a tax shield or a reputational cover for tax minimisation [3, 4]. In the ethical reading, socially responsible firms are less tax aggressive because avoidance contradicts their social commitments [5]. Theory alone does not settle which reading dominates.

Agency theory suggests that the answer depends on monitoring. External auditors can limit managerial discretion over how CSR and tax decisions are reported [6, 7]. Audit fees are a common, though imperfect, proxy for audit effort [8]. Prior studies mostly rely on CSR disclosure indices, which leaves the tax consequences of actual CSR cash outflows under-examined, and evidence on how audit quality conditions this link in emerging markets is scarce.

This study therefore asks (i) whether CSR expenditure is associated with tax avoidance and (ii) whether audit quality moderates that association among Basic Materials and Consumer Non-Cyclicals firms listed in Indonesia in 2023–2025. We contribute by using actual CSR spending scaled by operating expenses, by treating the type of moderator explicitly rather than assuming it, and by reporting the handling of a bounded tax-rate outcome and of influential observations transparently.

2. Literature review and hypothesis development

2.1 Agency theory and legitimacy theory

Agency theory describes the contract between principals and managers, and information asymmetry gives managers room to act opportunistically [6]. In this setting, managers decide both the size of CSR spending and the intensity of tax planning. Legitimacy theory, in turn, holds that firms seek to operate within the norms of society [9]. It predicts that visible social spending should be accompanied by tax compliance, since a gap between social image and tax behaviour threatens legitimacy. These perspectives are complementary: legitimacy motives can push firms toward tax compliance, while agency problems can turn CSR into a cover for avoidance when monitoring is weak.

2.2 CSR expenditure and tax avoidance

CSR expenditure is the financial resource a firm commits to social and environmental programmes. Because only some contributions are deductible [3], CSR may influence taxable income, yet its overall association with tax outcomes can run in either direction. Evidence from matched US firms indicates that higher CSR performance is associated with

a lower likelihood of tax avoidance [5], whereas other work emphasises the strategic use of CSR [4]. Given these opposing predictions, the first hypothesis is non-directional.

H1: CSR expenditure is associated with tax avoidance.

2.4 Audit quality as a moderating variable

Audit quality is commonly defined as the assurance that financial reporting is of high quality [10]. Researchers use many proxies, none of them dominant [10]. We use audit fees, an input-based proxy for the effort an auditor spends on a client [8]. The proxy has a recognised weakness: fees reflect both demand and supply factors, including client size, complexity and risk, so a high fee may signal effort or compensation for risk, and its interpretation can be ambiguous [8]. We therefore read audit fees as monitoring intensity and not as a pure measure of quality, and we control for firm size to reduce the overlap.

Conceptually, auditors are expected to work through managerial discretion. Where CSR spending is discretionary, stronger audit effort should make it harder to use that spending to disguise tax minimisation [7, 11]. This is a conditioning role. It does not require audit effort to shift tax outcomes by itself, which is the profile of a pure moderator [12]. We return to this point in Section 4.4.2.

H2: Audit quality moderates the association between CSR expenditure and tax avoidance.

3. Research methods

3.1 Data and sample

This quantitative study uses secondary panel data from annual reports, sustainability reports and financial statements. The population is all firms in the Basic Materials and Consumer Non-Cyclicals sectors listed on the Indonesia Stock Exchange in 2023–2025. Purposive sampling started from 246 listed firms and removed firms that were delisted, lacked consecutive annual or sustainability reports, had no CSR expenditure data, reported negative pre-tax income in any year, had a CETR above one, reported in a currency other than rupiah, or had incomplete data. This left 41 firms and 123 firm-years. The criteria also guarantee that CETR lies strictly between zero and one, which the logit transformation requires.

3.2 Variable measurement

Table 1. Variable Measurement

Variable	Proxy	Measurement
Tax avoidance (TA)	Cash effective tax rate (CETR)	CETR = cash taxes paid / pre-tax income (lower CETR = more avoidance)
CSR expenditure (CSR)	CSR expenditure ratio	Total CSR expenditure / total operating expenses
Audit quality (KA)	Audit fee	Natural logarithm of audit fees
Firm size (SIZE)	Company size	Natural logarithm of total assets
Leverage (LEV)	Debt ratio	Total liabilities / total assets

For estimation, CETR is transformed as ln[CETR/(1 – CETR)], and the transformed values are denoted TA in the regressions, so higher TA values indicate less tax avoidance. A lower CETR means that less cash tax is paid relative to pre-tax income and therefore indicates more tax avoidance. Because CETR is a fraction, ordinary least squares on its raw value can produce fitted values outside the unit interval and skewed, heteroscedastic residuals [13]. The fractional-response literature offers estimators that model the conditional mean directly [13, 14]. We instead apply the logit transformation and estimate by OLS, which places the outcome on the real line and is simple to interpret in sign and significance. This choice has a cost: the model describes the log-odds of CETR and not CETR itself, so coefficients are read by sign and significance and not as percentage points, and the transformation does not guarantee normal residuals (Section 4.2).

3.3 Estimation strategy

The model is estimated in Stata 17. CSR and KA are mean-centred at their full-sample means before the interaction term is formed, so the coefficient on each variable is its effect at the average level of the other. The model is

$$TA_{it} = \alpha + \beta_1 CSR_{it} + \beta_2 KA_{it} + \beta_3 (CSR_{it} \times KA_{it}) + \beta_4 SIZE_{it} + \beta_5 LEV_{it} + \varepsilon_{it} \quad (1)$$

so that the association of CSR with TA at a given audit-fee level is

$$\partial TA / \partial CSR = \beta_1 + \beta_3 KA \quad (2)$$

Model selection. The common-effect model (CEM) is compared with the fixed-effect (FEM) and random-effect (REM) models using the Chow and Lagrange Multiplier tests. *Heteroscedasticity and within-firm dependence.* Heteroscedasticity is assessed with the Breusch–Pagan test and first-order serial correlation with the Wooldridge test. Whatever these tests show, inference uses Huber–White standard errors clustered by firm (41 clusters), which allow arbitrary heteroscedasticity and arbitrary dependence among the observations of one firm. *Influential observations.* Studentized residuals (rstudent) are computed from the full-sample model, and observations with |rstudent| > 2 are excluded. Diptyana [15] applies the same diagnostic with a cut-off of 3; our cut-off is stricter and removes 13 of 123 observations (10.6 percent), leaving 110. Because deleting data conditional on model residuals can affect inference, this step is treated as a limitation in Section 5.

4. Results and discussion

4.1 Descriptive statistics

Table 2 summarises the 123 firm-years before residual screening. Mean CETR is 27.35 percent, above the 22 percent statutory corporate rate, but its dispersion (SD = 0.174; range 0.007–0.869) shows that firms differ widely in cash tax behaviour. CSR expenditure averages only 1.37 percent of operating expenses; its standard deviation (0.044) is more than three times its mean and its maximum (0.389) is about 28 times the mean. CSR spending is therefore concentrated in a few firms, which makes any regression sensitive to a handful of observations. Leverage reaches 2.64, meaning that some firm-years report liabilities above total assets.

Table 2. Descriptive statistics (N = 123, before screening)

Variable	Mean	Std. dev.	Min	Max
CETR	0.2735	0.1742	0.0066	0.8685

CSR	0.0137	0.0441	0.0001	0.3887
KA (ln audit fee)	20.6783	1.3935	18.1975	23.8249
SIZE (ln total assets)	29.2265	1.4395	26.2252	32.1577
LEV	0.4116	0.3716	0.0395	2.6417

4.2 Model selection and diagnostic tests

Table 3 reports the model-selection tests on the full sample of 123 observations and the diagnostic tests on the 110-observation model. The Chow test ($F(40, 78) = 1.38$; $p = 0.1123$) and the Lagrange Multiplier test ($\bar{\chi}^2(01) = 1.46$; $p = 0.1137$) both fail to reject the null of no firm-specific effects, so the CEM is retained. Each firm is observed only three times, and with so few periods per firm both tests have limited power; this is a further reason to rely on firm-clustered standard errors.

Table 3. Model selection and diagnostic tests (N = 110)

Test	Statistic	p-value	Implication
Chow (CEM vs FEM)	$F(40, 64) = 1.38$	0.1123	CEM
LM Breusch–Pagan (CEM vs REM)	$\bar{\chi}^2(01) = 0.46$	0.1137	CEM
Breusch–Pagan heteroscedasticity	$\chi^2(1) = 14.74$	0.0001	Present; robust SE
Wooldridge autocorrelation	$F(1, 30) = 0.463$	0.5015	No AR(1)
VIF (maximum / mean)	4.26 / 2.69	–	Below 10
Kolmogorov–Smirnov (residuals)	D = 0.0934	0.293	Normal
Skewness–kurtosis (residuals)	$\chi^2(2) = 9.42$	0.0090	Not normal

4.3 Regression results

Table 4. Regression results (dependent variable: logit-transformed CETR; N = 110; 41 clusters)

Variable	Coefficient	Robust SE	t	p-value
CSR (mean-centred)	3.1712	1.2898	2.46	0.018
KA (mean-centred)	0.0670	0.0919	0.73	0.470
CSR × KA	7.4279	2.6790	2.77	0.008
SIZE	−0.0623	0.0799	−0.78	0.440
LEV	0.3946	0.1048	3.77	0.001
Constant	0.5588	2.3485	0.24	0.813

$R^2 = 0.1095$; $F(5, 40) = 3.87$; Prob > F = 0.0060; root MSE = 0.5918. Higher values of the dependent variable indicate less tax avoidance.

The CSR coefficient is less robust to the choice of standard errors than the interaction, being marginal under conventional standard errors ($p = 0.068$). Thus, we place more weight on the moderation result.

Table 5. Association of CSR with transformed CETR at selected audit-fee levels

Audit fee level (KA)	$\beta_1 + \beta_3 KA$	p-value
Mean − 1 SD (ln fee = 19.28)	−7.18	0.008
Mean (ln fee = 20.68)	3.17	0.018

Mean + 1 SD (ln fee = 22.07)	13.52	0.010

SD = 1,3935 (full sample). The association equals zero at ln(audit fee) = 20.25.

4.4 Discussion

4.4.1 CSR expenditure and tax avoidance

At the average audit fee, CSR expenditure is positively associated with TA (β = 3.171; p = 0.018). Since a higher TA value (higher CETR) means less avoidance, H1 is supported in the sense that an association exists, and at average audit fees it points toward lower tax avoidance. This is consistent with the ethical reading in which more socially responsible firms are less tax aggressive [5] and with the legitimacy argument that visible social spending is accompanied by tax compliance [9]. It does not support the strategic tax-shield reading [3, 4] at the sample mean. For scale, a one-standard-deviation increase in CSR (0.0441) corresponds to a 0.140 higher log-odds of CETR at the average audit fee.

Four cautions apply. First, this is a statistical association: the data contain no information on managerial intentions, so neither the tax-shield motive nor an ethical motive is observed. Second, CSR may proxy for unmeasured firm characteristics such as profitability or public visibility, and profitable firms may both spend more on CSR and pay more cash tax. Third, our CSR measure cannot separate deductible from non-deductible spending, so the deduction channel is not tested directly. Fourth, the association is significant at the 5 percent level only under cluster-robust standard errors (Section 4.3), and it also depends on the audit fee, as shown next.

4.4.2 Classifying of the moderator

The direct association of audit fees with TA is insignificant (β = 0.067; p = 0.470), which raises the question of whether audit quality qualifies as a moderator. Sharma et al. [12] distinguish moderators by whether they interact with the predictor and whether they are also related to the outcome. A quasi moderator does both, whereas a pure moderator interacts with the predictor without a significant direct relation to the outcome. Our results match the pure-moderator profile: the interaction is significant (p = 0.008) and the direct effect is not. The VIF of KA (4.19) is below 10 but reflects its strong correlation with firm size (r = 0.87).

This profile fits the theoretical role set out in Section 2.3. Auditors are expected to constrain how discretionary CSR spending relates to tax outcomes and not to shift CETR on their own, so a null direct effect does not disqualify the variable. Two limits remain. The direct coefficient is measured at average CSR, where little discretionary spending may exist for auditors to scrutinise. And audit fees also capture client size and complexity [8], so the interaction may reflect structural differences between high-fee and low-fee firms and not audit effort alone.

4.4.3 Moderating role of audit quality

The significance of these conditional associations is confirmed by the post-estimation tests in Table 5. At a low audit fee level, the association between CSR expenditure and TA is negative and significant (β = −7.18; p = 0.008), indicating that CSR spending coincides with more tax avoidance when monitoring is weak. Conversely, at a high audit fee level, the

association turns positive and significant (β = 13.52; p = 0.010), demonstrating that stronger auditor oversight shifts the relationship toward less tax avoidance.

4.4.4 Control variables

Leverage is positively associated with TA (β = 0.395; p = 0.001), possibly due to creditor monitoring. Firm size is insignificant (β = –0.062; p = 0.440). Both are retained only to condition the estimates.

5 Conclusion

Using 110 firm-years from 41 Indonesian firms, we find that CSR expenditure is positively associated with TA at the average audit fee. Audit quality behaves as a pure moderator: the CSR–tax link turns negative at low audit fees and positive at high audit fees. Limitations include: (i) audit fees capture client complexity rather than pure effort, (ii) the sample size is small, and (iii) the results are sensitive to the logit transformation and residual screening. Future studies should employ fractional-response estimators and explore alternative audit quality metrics.

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