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Tax-Induced Earnings Management in an Emerging Market: The Moderating Role of Leverage and Corporate Governance

Gestión de Beneficios Inducida por Impuestos en un Mercado Emergente: El Papel Moderador del Apalancamiento y la Gobernanza Corporativa

I. INTRODUCTION

The corporate tax rates (CTRs) play a vital role in formulating economic strategies and financing government expenditures (Goncharov & Zimmermann, 2006). The 21st century has witnessed substantial changes in CTRs worldwide. Presently, the average corporate tax rate in G7 and OECD countries is approximately 27%. Over the last decade, the average CTR in developed economies, such as the USA, the UK, and Germany, has shown a stable trend. However, in recent years, the average corporate tax rates in the emerging economies have shown a steady decline (Pipatnarapong, 2025). Following the trend, Thailand is proposing a minimum global corporate tax rate (CTR) of 15% by 2030 to boost foreign investment and industrialization. Similarly, India announced drastic cuts in CTRs in the 2019 tax regime to accelerate domestic production and investment through the 'Make in India' initiative. In India, the receipts from corporate tax alone constitute nearly one-fourth of the total government revenue.

As far as the corporate tax remittance, insiders of the entity manage their earnings before interest and tax (EBIT) to reduce their tax



EXECUTIVE SUMMARY

The present study analyses the moderating role of leverage and corporate governance (CG) towards earnings management (EM) practices in response to corporate tax rate (CTR) changes in India. We used a panel of 972 firm-year observations covering 81 non-financial companies listed in NSE from FY 2013-14 to FY 2024-25. The study reveals that firms with leverage and effective CG compliance are relatively conservative in managing their earnings during tax rate changes. Whereas, following the tax cuts in the new tax regime, firms use income-increasing accounting accruals to inflate their earnings. However, even during the tax cuts, firms with better CG mechanisms exhibit lower levels of managerial discretion using accounting accruals. As far as the moderating role of leverage is concerned, levered firms tend to manage their earnings using accruals as well as cash transactions to report higher income and thereby avoid the violation of debt contracts to secure more investments during the new tax regime. Study further reveals that, compared to low CG firms, high CG firms are relatively more conservative in managing their accruals and cash transactions. During the pandemic, managerial discretion using real transactions has reduced due to the shrinkage of business operations, and managers employed current accruals to signal their performance.

RESUMEN DEL ARTÍCULO

El presente estudio analiza el papel moderador del apalancamiento y el gobierno corporativo (GC) en las prácticas de gestión de ganancias (GE) en respuesta a los cambios en la tasa impositiva corporativa (CTR) en India. Utilizamos un panel de 972 observaciones anuales de empresas que abarcan 81 compañías no financieras que cotizan en la NSE desde el año fiscal 2013-14 hasta el año fiscal 2024-25. El estudio revela que las empresas con apalancamiento y un cumplimiento efectivo del GC son relativamente conservadoras en la gestión de sus ganancias durante los cambios en la tasa impositiva. Mientras que, tras los recortes de impuestos en el nuevo régimen fiscal, las empresas utilizan devengos contables que aumentan los ingresos para inflar sus ganancias. Sin embargo, incluso durante los recortes de impuestos, las empresas con mejores mecanismos de GC exhiben menores niveles de discreción gerencial al utilizar devengos contables. En lo que respecta al papel moderador del apalancamiento, las empresas apalancadas tienden a gestionar sus ganancias utilizando devengos, así como transacciones en efectivo para reportar mayores ingresos y, por lo tanto, evitar el incumplimiento de los contratos de deuda para asegurar más inversiones durante el nuevo régimen fiscal. El estudio revela además que, en comparación con las empresas con bajo GC, las empresas con alto GC son relativamente más conservadoras en la gestión de sus devengos y transacciones en efectivo. Durante la pandemia, la discreción gerencial, al utilizar transacciones reales, se redujo debido a la contracción de las operaciones comerciales, y los gerentes emplearon los devengos actuales para evaluar su desempeño.

liability to a minimum using a strategy called tax-induced Earnings Management (EM) (Niggemann, 2024). It is evident from the empirical studies that the tax-induced EM is a major challenge in ensuring the book-tax conformity, as it is a trade-off between accounting and taxable income. So, a higher book-tax conformity can be ensured only if there is a harmonized reporting system for accounting and taxation. Because tax-induced EM enables the managers to report both the 'book profit' (inflated profit figure to the stakeholders) and 'tax profit' (restrained profit to the government) (Watts, 1986). Thus, maintaining a separate system for both accounting and taxation will result in lower book-tax conformity (Goncharov & Werner, 2009). Regarding an emerging market like India, companies report their financial income under the Companies Act of 2013 in accordance with Ind AS standards. However, the taxable income in India is ascertained under the Income Tax Act 1961. So, the discrepancies in reporting accounting income and taxable income affect the book-tax conformity, create information asymmetry, lead to insider interventions, and ultimately affect the interest of potential investors.

Presently, the average corporate tax rate in G7 and OECD countries is approximately 27%.

The corporate governance (CG) code under the Companies Act 2013 was intended to ensure investor protection through transparency in financial reporting (Abraham & Kumar, 2025). Provisions of independence of auditors, separation of the CEO from chairing the board, independent directors on the board, and so on (Subramanyam, 2013). However, managers also employ some provisions in corporate governance mechanisms, especially spending on CSR (Corporate Social Responsibility) activities as a tool to manage their earnings and reduce their taxable income (Saliyu et.al, 2013; Parejo, 2023). Thus, CSR spending beyond a particular level has become controversial as it is used tool to mitigate tax remittance (Rashid et.al, 2024; Davis et.al, 2016). Empirical evidence also portrays that apart from overspending on CSR engagements, firms also use their debt financing (leverage) strategy beyond the desired level as a shield to reduce the taxable income (Alfandia, 2024 Gil, 2023). So, the magnitude of leverage (LEV) and the level of CSR spending play a vital role in regulating EM practices, especially during the corporate tax rate changes (Kacem & Omri, 2022).

As far as financial leverage is concerned, Indian firms are highly leveraged compared to those in other BRICS countries, especially in the infrastructure and energy sectors (Makololo & Seetharam,

2020). In EM literature, leverage acts as a double-edged sword in such a manner that it reduces the managerial discretionary practices (Abraham & Kumar, 2023; Zamri et.al, 2013) and at the same time, it also tends to manage the earnings to avoid debt covenant violations (Franz et.al, 2014). Likely, empirical evidence also reveals that some provisions in corporate governance, such as independence of the board and audit committee mitigate EM practices (Habib et.al, 2022; Alruwaili, 2024), while the provisions in CSR spending and countries with weak CG mechanisms are tend to manage their earnings, especially during the changes in economic reforms such as changes in tax rates (Subramaniam, 2013). Due to the efficacy of the Securities and Exchange Board of India (SEBI), among the emerging economies, India is considered to be a country having one of the strongest CG mechanisms (Thapar & Sharma, 2017). Also, in the Asia-Pacific region, India is holding the second position in terms of the magnitude of debt financing (leverage) strategies (Sharma, 2018). Most of the studies linking EM and tax regimes are mainly dominating in the developed markets (Guenther, 1994; Zeng, 2014). To the best of our knowledge, this is the first study in an emerging market that analyzes the moderating role of the CG (Corporate Governance) mechanism and LEV (Leverage) in regulating EM behaviour in response to CTR changes. Also, the studies linking CG, LEV and EM are mainly addressing the accrual EM strategies (Wali, 2021); while, the present study incorporates both accrual and real EM strategies employed by the Indian companies during the CTR changes and especially during the new tax regime in 2019-20 FY that witnessed significant reduction in corporate tax rates to boost domestic production and investment. Using a panel of 891 firm-years over the period FY 2013-14 to FY 2024-25, we found that firms with leverage and effective CG compliance are relatively conservative in managing their earnings during tax rate changes. Whereas, following the tax cuts in the new tax regime, firms use income-increasing accounting accruals to inflate their earnings. However, even during the tax cuts, firms with better CG mechanisms exhibit lower levels of managerial discretion using accounting accruals. As far as the moderating role of leverage is concerned, levered firms tend to manage their earnings using accruals as well as cash transactions to report higher income and thereby avoid the violation of debt contracts to secure more investments during the new tax regime. We contribute to the existing literature by highlighting the moderating role of leverage and the CG

KEYWORDS

Earnings Management, Corporate tax, Corporate Governance Code, Leverage, Emerging Market.

PALABRAS CLAVE

Gestión de resultados, Impuestos de sociedades, Código de Gobierno Corporativo, Apalancamiento, Mercados emergentes.

mechanism in mitigating managerial discretionary practices using accounting accruals and cash transactions during CTR changes in an emerging economy like India, where debt financing (leverage) plays a vital role in financing decisions and corporate governance code (CGC) in investor protection.

2. LITERATURE REVIEW

The research on tax-induced EM has pioneered in the USA following opportunistic behaviour of the managers in response to corporate alternative minimum tax (Boynton et.al, 1992). Empirical evidence documents that tax-induced EM is more visible during upsurges and drops in CTRs (Krzeczewska & Coelho, 2022), changes in tax reforms (Sundvik, 2017), and so on. Under tax-induced EM, managers try to manage their tax liability to a minimum using current accruals and real transactions based on the relative costs of these strategies (Abraham & Kumar, 2025). One of the significant criteria for choosing the appropriate strategy for managing their earnings depends on the burden of corporate tax remittance (Andries et.al, 2017). Empirical evidence also reveals that tax-induced EM is higher among tax-aggressive firms and tends to reduce their income using the provisions in current accruals (Lopez et al., 1998). However, minimizing the tax liability using the current accruals may reverse in the succeeding period and will attract legal complications and a higher tax burden in the upcoming quarters (Höglund & Sundvik, 2016). Thus, as the detection of REM is relatively difficult, firms tend to employ EM strategies by utilizing real transactions, which involve delaying inflows and accelerating outflows through tax-deductible expenses, such as advertising, R&D expenditure, depreciation on tangible assets, and so on (Kluzek, 2024). So, it is evident from the literature that during the aggressive taxation periods, firms are more active in shifting their income to SG&A (selling, general, and administrative) expenses to minimize their tax remittance (Chung et.al., 2021). Literature also posits that larger firms have more negative current accrual shifts than smaller firms before the cuts in CTRs (Guenther, 1994). Studies also reveal that firms with more financial requirements tend to manage their earnings before interest and tax (EBIT) upwards to avoid debt covenants by convincing the creditors, whereas firms with fewer financial requirements tend to reduce their EBIT to mitigate corporate tax expenses (Goncharov & Zimmermann, 2006).

Whereas, high-leveraged firms use debt costs as a shield to manage their earnings and thereby minimize the tax expenditure during the period (Mahmood et.al, 2023). However, high-leveraged entities are exposed to external scrutiny and oversight monitoring from creditors and financiers, which reduces the scope for managerial discretionary practices (Goncharov & Werner, 2009). Yet, empirical evidence also suggests that tax-induced EM becomes irrelevant for firms suffering from financial distress and losses (Reschiwati & Hasudungan, 2020). Whereas, literature also documents that incentives for tax-induced EM are higher among the private entities even though they are free from capital market pressure in reporting higher operating income to boost the confidence of their financing community (Bonacchi et.al, 2018). Whereas, the scope for tax-induced EM is constrained among public firms due to their governance mechanisms that enhance the quality of financial information (Kosi & Valentincic, 2013).

The quality of reported figures is a barometer in analysing the degree of book-tax conformity (difference between the accounting income and taxable income) that determines the magnitude of tax-induced earnings management (Hanlon & Shevlin, 2005). Such discrepancies in book income and taxable income create asymmetry of information among the regulators as well as the investors. Empirical evidence suggests that firms with high book-tax conformity mitigate asymmetry of information among the insiders and stakeholders (Tang, 2015). However, empirical evidence also argues that firms with a continuous book-tax conformity (BTC) track record can reduce external scrutiny that creates the scope for managerial discretionary practices (Watrin et.al, 2014). Literature posits that firms in countries with strong corporate governance mechanisms have a higher level of book-tax conformity (Hanlon et.al. 2008). Likely, Atwood, Drake & Myers (2010) suggest that the independence of audit committees also reduces book-tax disparities. Similarly, Cazier et al. (2015) report that firms with strong CG mechanisms are less prone to tax-induced EM practices. However, Zakzouk et.al, (2021) reveal that book-tax divergence is higher among countries with poor governance measures. Likely, Desai (2005) also argues that book-tax conformity is lower in a weaker institutional environment that facilitates the scope for multiple reporting strategies. Presence of such weaker CG mechanisms is quite visible in emerging economies where lower BTC is adversely affected by aggressive EM practices Mohammed et.al., (2025). It is also evident from the literature that during an upsurge in

CTRs, even the firms in countries with weaker corporate governance mechanisms use CSR expenditure as a tool to minimize their tax liability (Huseynov & Klamm, 2012).

Apart from the provisions in CSR expenditure, the level of leverage also plays a vital role in managing the earnings during CTR changes. The first evidence was demonstrated by Guenther (1994), who showed that firms shifted their income from a high-tax period to a low-tax period around the Tax Reform Act (TRA) in the USA. Likely, Dhaliwal et.al. (2004) found that highly levered firms with stringent debt covenants are more prone to EM practices to maintain their access to financing. Similarly, Blouin et.al (2010) also revealed the evidence for accelerated income recognition in the anticipation of tax reliefs on repatriated earnings in the USA. Whereas to avail the benefits of tax shields, firms with higher leverage shift their income to earlier periods (Gupta et.al, 2022). So, there is empirical evidence where the highly levered firms structure their debt to manage their earning during tax rate changes (Graham et.al, 2014). Contradictorily, there is numerous evidence that reveals a negative association between the leverage and earnings management due to the increased oversight and external scrutiny from the creditors (Anagnostopoulou & Tsekrekos, 2017; Singh & Chauhan, 2024; Habib et.al, 2013).The previous studies linking EM, CTR, CG, and Leverage give contradictory results (Baatwah et.al, 2025; Delgado et.al, 2023; Shakatreh et.al, 2022; Watson, 2015; Jenkins & Newell, 2013; Choi et.al, 2018; Kim & Im, 2017) and it demands further investigation to analyse the moderating role of leverage and corporate governance in mitigate managerial discretionary practices during the periods of corporate tax rate changes, especially in an India which is considered to be one of the pioneer in implementing CG framework in emerging markets, where debt financing plays a vital role in investment decisions and corporate tax revenue contributes nearly one fourth of the total revenue to the government (Chakrabarti & Megginson, 2009). Thus, the study contributes to the literature in two ways: firstly, by analysing the moderating role of CG and leverage towards managerial discretionary practices during the periods of corporate tax rate changes, and secondly by depicting the accrual and real EM strategies during the tax regime changes.

3. METHODOLOGY

3.1. Data and Sample

We analyse the moderating role of CG and leverage towards managerial discretionary practices during the periods of corporate tax rate changes in India during the last decade. The revision of the Companies Act in 2013 incorporated the Corporate Governance Code to secure the interests of potential investors. As per the SEBI DRG study, on average, an Indian company manages its earnings around 2.9% of its total assets as compared USA and other developed countries (one to five percent) (Ajit et.al, 2013). Indian companies in construction, mining, and manufacturing sectors are relatively more aggressive in managing their earnings (Mishra & Malhotra, 2016). During the last decade, the Indian economy has witnessed drastic changes in the CTR regime to boost domestic production and investment as part of the Make in India initiative. So, the present study analyzes the moderating role of CG mechanisms and leverage in addressing managerial discretionary practices during the periods corporate tax rate changes an emerging market like India. After eliminating companies in the financial sector and companies with missing data, the final sample of the study consists of 81 non-financial companies in the Nifty 100 index, representing 71% of the total market capitalization from FY 2013-14 to FY 2024-25. The study also incorporates the role of the new tax regime in FY 2019-20 that minimizes the CTR to boost domestic production and investment. financial data of the sample firms were extracted from the CMIE (Centre for Monitoring Indian Economy) Prowess IQ database, Refinitiv ikon, annual reports, and the NSE (National Stock Exchange) website.

Estimation of Earnings Management Proxies

Accrual earnings management (AEM)

Detection of managerial discretionary practices using accounting accruals is comparatively easier as they are accounting adjustments that will reverse in the subsequent accounting periods (Chen, 2010). We apply the modified Kasznik model (Kasznik, 1999), which gives the best approximation in the estimation of Discretionary Accruals (DA), AEM proxy in emerging markets (Indriani & Pujiono, 2021).

Total accruals of an entity during the period ($TA_{i,t}$) are estimated using the following equations;

$$TA_{i,t} = (\Delta CA_{i,t} - \Delta Cash_{i,t}) - (\Delta CL_{i,t} - \Delta STD_{i,t}) - Dep_{i,t} \quad (1)$$

The variation in current assets and short-term liabilities of entity i during the year t is denoted as $\Delta CA_{i,t}$, and $\Delta CL_{i,t}$, respectively. The variation in cash, differences in short-term debt, and the depreciation of entity i during the year t are denoted as $\Delta Cash_{i,t}$, $\Delta STD_{i,t}$, and $Dep_{i,t}$, respectively.

The value of NDA (Non-discretionary accruals) is estimated using **Equation 2**

$$NDA = \alpha_0 + \frac{\alpha_{1it}}{Assets_{it-1}} + \alpha_1 \frac{\Delta REV - \Delta REC_{it}}{Assets_{it-1}} + \alpha_2 \frac{PPE_{it}}{Assets_{t-1}} + \frac{\Delta CFO_{it}}{Assets_{t-1}} + \varepsilon_{it} \quad (2)$$

$$DA = TA - NDA \quad (3)$$

α_0 , α_1 , and α_2 indicate the firm-specific parameters. ΔREV and ΔREC_{it} indicate the changes in revenue and receivables of entity i during the period t , respectively. PPE_{it} and $Assets_{t-1}$ indicate the PPE (Property, Plant, and Equipment) and Total assets of entity i during the period t .

Real earnings management (REM)

REM cannot be assessed directly from the financial statements due to its complexity, as it appears to be the actual transactions during the period. So, REM is calculated using the RoyChowdhury (2006) Model which is considered to be an effective model that give maximum approximation of REM proxies in emerging markets (Das et.al, 2018). REM is estimated as the aggregate value of 3 proxies: Abnormal Production cost (Abn_PC), Abnormal Cash Flow from operations (Abn_CO), and Abnormal discretionary expenses (Abn_DE).

So, REM is valued as the sum of the residuals from **Equation (4)**, **(5)**, and **(6)**.

$$\frac{PC_{it}}{A_{it-1}} = \beta_1 \left[\frac{1}{A_{it-1}} \right] + \beta_2 \left[\frac{Sales_{it}}{A_{it-1}} \right] + \beta_3 \left[\frac{\Delta Sales_{it}}{A_{it-1}} \right] + \beta_4 \left[\frac{\Delta Sales_{it-1}}{A_{it-1}} \right] + \varepsilon_{it} \quad (4)$$

PC (production cost) is calculated as the difference in the total cost of goods sold and the variation in the value of stock. The total assets of entity i during the period $t-1$ are represented as A_{it-1} . $Sales$ and $\Delta Sales$ indicate the revenue and change in revenue from operations of entity i during periods t and $t-1$, respectively. The residual from **Equation (5)** indicates Abnormal Production cost (Abn_PC).

$$\frac{CO_{it}}{A_{it-1}} = \beta_1 \left[\frac{1}{A_{it-1}} \right] + \beta_2 \left[\frac{\Delta Sales_{it}}{A_{it-1}} \right] + \beta_3 \left[\frac{\Delta Sales_{it}}{A_{it-1}} \right] + \varepsilon_{it} \quad (5)$$

CO indicates the cash flow from operations of entity i during the period t . The residual from **Equation (5)** indicates the value of Abnormal CO (Abn_CO).

$$\frac{DE_{it}}{A_{it-1}} = \beta_1 \left[\frac{1}{A_{it-1}} \right] + \beta_2 \left[\frac{Sales}{A_{it-1}} \right] + \varepsilon_{it} \quad (6)$$

DE is the sum of discretionary expenses such as R&D (Research and Development), Advertising expenses, and SG&A (Selling, general and administrative) expenses. The residual from **Equation (6)** indicates the Abnormal discretionary expenses (Abn_DE).

Thus, TEM (total earnings management) of entity i during the period t is the aggregate of accrual and real-based EM (Cohen et.al, 2008).

$$\text{i.e., TEM}_{it} = \text{AEM}_{it} + \text{REM}_{it} \quad (7)$$

We apply the following regression models to analyze earnings management in response to CTR changes and new tax regime by incorporating the moderating role of leverage (LEV) and (CG) mechanisms.

$$\begin{aligned} \text{AEM} = & \beta_0 + \beta_1 CTR_{i,t} + \beta_2 CG_{i,t} + \beta_3 LEV_{i,t} + \beta_4 CTR * CG_{i,t} + \beta_5 CTR * LEV_{i,t} + \beta_6 TaxReg_{i,t} + \beta_7 TaxReg * CG_{i,t} + \beta_8 TaxReg * LEV_{i,t} + \\ & \beta_9 GROWTH_{i,t} + \beta_{10} AGE_{i,t} + \beta_{11} SIZE_{i,t} + \beta_{12} CFO_{i,t} + \beta_{13} ROA_{i,t} + \beta_{14} COVID^* + \varepsilon_{i,t} \end{aligned} \quad (8)$$

$$\begin{aligned} \text{REM} = & \beta_0 + \beta_1 CTR_{i,t} + \beta_2 CG_{i,t} + \beta_3 LEV_{i,t} + \beta_4 CTR * CG_{i,t} + \beta_5 CTR * LEV_{i,t} + \beta_6 TaxReg_{i,t} + \beta_7 TaxReg * CG_{i,t} + \beta_8 TaxReg * LEV_{i,t} + \\ & \beta_9 GROWTH_{i,t} + \beta_{10} AGE_{i,t} + \beta_{11} SIZE_{i,t} + \beta_{12} CFO_{i,t} + \beta_{13} ROA_{i,t} + \beta_{14} COVID^* + \varepsilon_{i,t} \end{aligned} \quad (9)$$

TEM =
$$\beta_0 + \beta_1 CTR_{i,t} + \beta_2 CG_{i,t} + \beta_3 LEV_{i,t} + \beta_4 CTR * CG_{i,t} + \beta_5 CTR * LEV_{i,t} + \beta_6 TaxReg_{i,t} + \beta_7 TaxReg * CG_{i,t} + \beta_8 TaxReg * LEV_{i,t} + \beta_9 GROWTH_{i,t} + \beta_{10} AGE_{i,t} + \beta_{11} SIZE_{i,t} + \beta_{12} CFO_{i,t} + \beta_{13} ROA_{i,t} + \beta_{14} COVID^* + \varepsilon_{i,t}$$

(10)

Based on previous literature, CTR (corporate tax rate) is proxied by ETR (effective tax rate) calculated as tax expenditure during the period divided by taxable income (Zeng, 2014). Also, we have incorporated *GROWTH* (difference in sales revenue concerning sales in the previous year), *AGE* (years since incorporation), *SIZE* (natural logarithm value of total assets), *CFO* (cash flow during the year), *ROA* (ratio of net income to total assets), and *COVID* (dummy variable represents pandemic period, assigns value *one* during 2020-21 and *zero* otherwise) as control variable to address the structural break during the period; that identified through Chow test (Bernerth & Aguinis, 2016; Abraham, 2024; Buertey et al., 2020). *TaxReg* is the dummy variable that represents the new tax regime, assigns a value *one* from FY 2019-20 to 2023-24 and *zero* otherwise, as the new regime of tax reduction was introduced in India since 2019-20 to boost domestic production and investment. *CG* represents the corporate governance score and *LEV* indicates the leverage ratio of the entity *i* during the period *t*.

Assumptions of multiple regression, such as linearity, homoscedasticity of residuals, and multicollinearity, were tested to ensure the efficacy of our empirical models (Skiera et.al, 2021). Values of Variance Inflation Factor (VIF) and D-W (Durbin Watson) test (1.956) suggest that the empirical models are not affected by multicollinearity and autocorrelation, respectively. The Chow test was used to analyze the structural break during the pandemic period (2020-21). Values of Augmented Dickey Fuller (ADF) and Levin, Lin & Chu test statistics (LLC) are less than 0.05, and this suggests that values of the variables in the study are stationary. Also, to ascertain the appropriate regression methodology, the Hausman test was applied, and the test statistics suggest applying the Fixed Effects (FE) model.

4. ANALYSIS AND INTERPRETATION

Table 1 illustrates the summary of all the variables used in the regression from FY 2013-24 to 2024-25. Descriptive statistics indicate the mean CTR value in India is more than 26.22%, which is comparatively higher than in other emerging economies, and these

values are comparable with (Desai & Dharmapala, 2009). Also, the sample firms in the study consist of top-capitalized non-financial companies with a mean CG score of 70.09 and a highest value of 88 and which is in line with (Chatterjee & Rakshit, 2023).

Table 1. **Descriptive Analysis (Full Sample)**

VARIABLES	MEAN	SD	MIN	MAX
CTR	26.22	0.203	22.00	30.00
CG	70.09	0.172	57.000	88.000
LEV	0.785	0.315	0.376	1.018
GROW	0.168	0.106	0.017	0.314
AGE	52.942	5.192	10.000	117.00
SIZE	10.953	0.078	9.462	16.937
CFO	0.729	0.192	-0.193	2.042
ROA	0.072	0.021	0.057	12.301
COVID	0.200	0.400	0.000	1.000
AEM	0.0193	0.313	-0.319	1.015
REM	0.0254	0.224	-0.507	1.102
TEM	0.0296	0.181	-0.301	1.201

Regarding the different values of earnings management, the average value of *REM* is slightly higher than that of *AEM*, suggesting that the magnitude of EM using real transactions is relatively higher. The mean value of *TEM* indicates that the sample firms in the study manage their earnings by nearly 3% (2.96%) of their total assets, and these values are comparable with (Goel, 2012).

Pair-wise, Karl Pearson's correlation coefficients are illustrated in **Table 2**, along with the respective values of VIF (Variance Inflation Factor). The highest value (-.319) of the correlation coefficient exists between *LEV* and *CTR*, which is within the expected level of 0.8, as suggested by (Pulli & Jain, 2015).

Table 2. Correlation matrix with Variance Inflation Factor

VARIABLE	CTR	CG	LEV	GROW	AGE	SIZE	CFO	ROA	COVID	AEM	REM	TEM	VIF
CTR	1												1.26
CG	.285	1											1.11
LEV	-.319	.173	1										1.17
GROW	.261	.192	.262	1									1.07
AGE	.317	.221	.143	.157	1								1.04
SIZE	.270	.176	.092	.039	.233	1							1.14
CFO	.192	-.187	.066	.187	.042	.172	1						1.09
ROA	.120	.121	-.245	.174	.034	.136	.192	1					1.35
COVID	.193	-.132	.212	.262	.184	.301	.090	.097	1				1.33
AEM	.056	.276	.134	.205	.073	.287	-.149	.258	.049	1			1.25
REM	.185	.097	.104	.059	.287	.297	.201	-.293	.081	.188	1		1.29
TEM	.077	-.081	.283	.286	-.154	.095	.109	.075	.191	.304	.289	1	1.22

Regarding the VIF values, ROA has the highest (1.35), whereas AGE reports the lowest (1.04). This indicates that all the variables' VIF values are within the recommended level (O'Brien, 2007). So, no multicollinearity issues were found among the variables in the study. The average values of both accrual and real-based EM were compared using a two-sample t test (with an assumption of equal variance) to analyze whether there is any difference in EM strategies during the CTR changes. In FY 2019-20 onwards India announced a significant reduction in corporate tax rates in the new regime to boost domestic production and investment. So, we divide the entire study period into the *Low CTR period* (2019-20 to 2024-25) and the *High CTR period* (2013-14 to 2018-19)

Table 3. Mean differences of AEM and REM during Low and High CTR periods

	LOW CTR PERIOD (OLD TAX REGIME)	HIGH CTR PERIOD (NEW TAX REGIME)	DIFFERENCE IN MEAN	P-VALUE
Mean AEM	0.014	-0.59	-0.073	0.003*
Mean REM	0.017	0.064	-0.047	0.025**

*, **, and *** indicate type 1 error at 1%, 5% and 10% respectively

Regarding the mean value of AEM, there is a significant difference in EM strategies using accruals during CTR changes, where the companies employ income-decreasing accruals during higher

CTR periods to reduce their tax liability. Likely, there is a significant difference in managing earnings using cash transactions, as the magnitude of REM is higher during the higher CTR periods.

Table 4 illustrates the two-sample t-test results to analyze whether there is any significant difference between the firms with higher and lower CG scores in managing their earnings using accruals and real transactions. Firms with CG scores above 70 are categorized as High CG firms, and firms with CG scores below 70 as Low CG firms. So, our sample firms in the study consist of 35 low CG firms and 46 high CG firms.

Table 4. Mean differences of AEM and REM between high CG and low CG firms

	HIGH CG	LOW CG	DIFFERENCE IN MEAN	P-VALUE
Mean AEM	-0.049	-0.142	-0.092	0.603
Mean REM	0.079	0.153	-0.074	0.000***

*, **, and *** indicate type 1 error at 1%, 5% and 10% respectively

The two-sample t-test reveals that high-CG and low-CG firms are conservative in managing their earnings using income-decreasing accruals. It is evident from Table 4 that there is no significant difference between the high-CG and low-CG firms in managing their earnings using accruals. Likely, while analysing the mean value of REM, there is no significant difference in EM using real transactions, whereas EM using real transactions is more common among low-CG firms than high-CG firms.

Table 5 illustrates the results of multivariate fixed-effect regression analysis on various earnings management indicators, such as accrual, real, and total EM. The coefficients of CTR are negatively associated with all three EM indicators, implying that in response to CTR increase, firms will manage earnings to reduce their tax liability. Meanwhile, the negative coefficients of CG scores towards EM indicators infer that CG mechanisms effectively mitigate managerial opportunism. As far as the moderating role of CG on CTR is concerned, the implementation of CG mechanisms has reduced managerial discretionary practices using accruals, thereby reducing the total EM even during changes in CTR. However, the insignificant coefficient of CTR*CG implies that even the moderating effect of CG is not effective in regulating EM using real transactions during the periods of CTR changes.

Table 5. Results of multiple regression analysis

	AEM		REM		TEM	
	COEFF	T-STAT	COEFF	T-STAT	COEFF	T-STAT
CTR	-0.041***	(-2.39)	-0.031	(-1.27)	-0.011	(-1.33)
CG	-0.089*	(-1.55)	-0.104	(-0.73)	-0.031*	(-1.29)
LEV	0.025*	(1.64)	0.025	(1.18)	0.012**	(1.85)
CTR*CG	-0.092***	(-2.42)	-0.061	(-1.12)	-0.086*	(-1.50)
CTR*LEV	-0.048*	(-1.57)	-0.051	(-0.97)	-0.072**	(-1.75)
TAXREG	0.147***	(2.64)	0.0081	(1.08)	0.017	(1.21)
TAXREG * CG	0.0028**	(2.32)	0.021	(1.52)	-0.212	(-1.37)
TAXREG * LEV	0.022*	(1.35)	0.1843***	(2.43)	0.034	(0.46)
GROW	0.008	(0.12)	0.048	(0.84)	0.027	(0.75)
AGE	0.114***	(2.67)	0.075	(1.00)	0.023	(0.69)
SIZE	-0.019	(-0.63)	0.064	(0.59)	0.062	(0.81)
CFO	0.082	(0.74)	0.168***	(1.74)	0.015	(1.06)
ROA	0.071	(0.51)	0.027	(1.19)	0.023	(0.42)
COVID	0.067**	(2.30)	-0.024*	(-1.48)	-0.021*	(-1.27)
Intercept	-0.198***	(-6.93)	-0.159***	(-5.34)	-0.147***	(-4.87)
Year Fixed-effects	(Yes)		(Yes)		(Yes)	
Firm Fixed-effects	(Yes)		(Yes)		(Yes)	
F Statistics	4.31 (p-value 0.000)		3.02 (p-value 0.001)		3.78 (p-value 0.000)	
Observations	891		891		891	
R ²	0.201		0.165		0.197	

*, **, and *** indicate type 1 error at 1%, 5% and 10% respectively

The positive association of LEV with AEM and TEM suggests that firms tend to manage their accruals but not real transactions to avoid debt covenant violations. But the moderating role of LEV on CTR reveals that companies employ LEV as a tool to manage their earnings using accounting accruals to reduce their tax liability in response to an increase in CTR level.

The new tax regime (2019-20 onwards) is represented as *TAXREG*, which reveals that the tax levied on corporates has substantially reduced, which induced them to employ income-increasing accruals during the period to signal their performance. Surprisingly, as far as the moderating role of CG on *TAXREG* is concerned, even though firms use income-increasing accruals during the new tax regime, the lower coefficient of *TAXREG* * CG implies that the CG has mitigated the aggressive use of income-increasing accruals. Whereas, the positive association of AEM and REM towards the moderating role of

leverage on the new tax regime ($LEV * TAXREG$) suggests that firms use both accounting accruals and cash-based EM strategies to avoid debt covenants.

The positive coefficient of AGE with accruals indicates that more extended relations with creditors facilitate managing their earnings using accruals. Likely, the positive association of CFO with REM proposes that firms with more operating cash flow are likely to manage their earnings using real transactions. The dummy variable *COVID* was introduced to control the pandemic effect and reveals that managerial discretion using real transactions has reduced during COVID-19 due to the shrinkage of business operations. Meanwhile, firms managed their earnings using accruals to signal their performance during the pandemic period.

Robustness test

We employed GMM (Generalised Method of Moments) to address the possibility of endogeneity issues (Ullah et.al, 2018) and the results are illustrated in **Table 6**.

Table 6. Results of GMM analysis

	AEM		REM		TEM	
	COEFF	T-STAT	COEFF	T-STAT	COEFF	T-STAT
CTR	0.121***	(3.39)	0.078***	(3.11)	0.271*	(1.98)
CG	-0.114**	(-2.37)	-0.234	(-1.54)	-0.023*	(-1.92)
LEV	0.991*	(1.68)	0.0013	(0.43)	0.033**	(2.47)
CTR*CG	-0.061***	(-2.62)	-0.131	(-0.38)	-0.062**	(-2.12)
CTR*LEV	-0.086*	(-1.88)	-0.0018	(-0.09)	-0.084**	(-1.97)
TAXREG	0.0144*	(1.83)	0.039	(0.67)	0.0048**	(2.01)
TAXREG * CG	0.0051**	(2.09)	0.103	(1.08)	0.0044	(0.82)
TAXREG* LEV	0.0272**	(2.84)	0.0108*	(1.88)	0.0256	(0.53)
GROW	0.122	(0.19)	0.018	(1.04)	0.047	(0.71)
AGE	0.157	(0.69)	0.044	(0.91)	0.178	(0.32)
SIZE	0.089	(0.52)	0.025	(0.55)	0.243	(0.48)
CFO	0.829	(0.18)	0.266***	(3.71)	0.267	(1.69)
ROA	0.367	(0.79)	0.0241	(0.49)	0.829	(0.17)
COVID	0.118**	(2.52)	-0.020**	(-2.39)	-0.308**	(2.27)
Intercept	-0.174***	(-5.01)	-0.128***	(-4.31)	-0.134***	(-3.81)
J- Statistics	1.901	(0.67)	1.438	(0.61)	1.634	(0.78)
Wald	87.61***		69.32***		72.07***	

*, **, and *** indicate type 1 error at 1%, 5% and 10% respectively
Source: Authors' calculation

In contrast to the primary regression models, the control variable AGE has become insignificant and the coefficient of the variable SIZE has become positive, although insignificant. All the remaining independent as well as the control variable remains the same as similar to the initial regression models. The validity of the instruments ascertained using the value of J- Statistics (Sargan test) and it suggests that the results of GMM models are align with those of the initial regression models applied in the study.

The results of the Ramsey test statistics are illustrated in **Table 7** to check whether there are any threat endogeneity issues in the regression models due to omitted variables bias.

Table 7. **Ramsey test for endogeneity**

REGRESSION MODELS	F-STATISTICS	PROB.(F-STATISTICS)
AEM	1.08	0.31
REM	0.97	0.57
TEM	0.89	0.46

p-values of our regression models are > 0.05, and we fail to reject the H0, which suggests that the empirical models in the study are specified correctly. It implies that the models are free from the potential threats of omitted variable bias and misspecification.

5. DISCUSSIONS

The present study examined the moderating role of corporate governance and leverage on managerial discretion in response to corporate tax rate changes in India during the last decade. The study reveals significant evidence for EM practices during the periods of CTR changes. It confirms the findings of Desai & Dharmapala (2009) & Reschiwati & Hasudungan (2020), who found that managers manipulate their earnings using accruals and cash transactions during CTR hikes to minimize their tax liability. The study also affirms that even during the CTR changes, firms with effective CG mechanisms are conservative in managing their earnings, especially using accounting accruals (Gaio et.al, 2022; Prior et. al,2008; Cho & Chun, 2016). The positive association between LEV and AEM and TEM reaffirms that firms use their discretionary accruals to signal their

performance, thereby avoiding debt covenant violations (Tulcanaza-Prieto et al., 2020). Whereas the negative association between the moderating role of $LEV \times CTR$ implies that the increased oversight and external scrutiny from the creditors can mitigate managerial discretion using accruals, especially during the periods of CTR changes (Hoang & Phung, 2019; Jhunjhunwala & Fatima, 2025). However, following the reduction of corporate tax rates in the new tax regime, firms employed accounting accruals to signal their performance. It aligns with Suwardi et.al., (2024), who found that firms use income increase accruals to report higher income during tax reduction periods to attract more investments. Likewise, $TAXREG \times LEV$ amplifies AEM and REM, which reaffirms that firms use accounting accruals and cash transactions to achieve their earnings targets or to avoid debt covenant violations (Hlel, 2025). Even though the coefficient of $TAXREG \times CG$ is positive (0.0051), it is evident that the presence of a strong CG mechanism exhibits a lower level of EM practices, even during the corporate tax rate cuts and it is in line with the findings of (Krot, 2022). However, our results are contradictory with the findings of (Hoang & Phung, 2019; Chan et.al, 2023) who found that in countries with weaker CG mechanism and leverage is insignificant in regulating managerial discretionary practices. Meanwhile, the positive association between AEM and COVID implies that during the pandemic period, Indian firms managed their accruals to signal their performance. It reaffirms the empirical evidence of substituting AEM with REM during the pandemic to signal their performance. (Xiao & Xi, 2021).

6. CONCLUSION

The study covers 81 non-financial companies (810 firm-year observations) in the Nifty 100 index from FY 2013-14 to FY 2024-25. Our study found that, during the CTR changes, firms employ both accrual and real-based EM practices to manage their tax liability. The study also found that, compared to low CG firms, high CG firms are more conservative in managing their accruals and cash transactions. The study also reveals that firms with leverage and effective CG compliance are relatively conservative in managing their earnings. Whereas, following the tax cuts in the new tax regime, firms use income-increasing accounting accruals. However, even during the tax cuts, firms with better CG mechanisms exhibit lower

levels of managerial discretion using accounting accruals. As far as the moderating role of leverage is concerned, levered firms tend to manage their earnings using accruals as well as cash transactions to signal their performance by reporting higher income and thereby avoiding the violation of debt contracts to secure more investments. During the pandemic, managerial discretion using real transactions has reduced due to the shrinkage of business operations, and managers employed current accruals to signal their performance. The findings can aid policymakers and regulators in India and other emerging economies in framing an alternate reform, like the Sarbanes-Oxley Act in the USA, to address managerial discretion during tax rate changes, especially EM, using real transactions to enhance the book-tax conformity. The outcome of the study is economically significant to the government and potential investors in ensuring tax compliance and curtailing insider interventions during changes in tax regimes. Also, findings of the study provide insights to investors in making investment decisions, especially during the tax rate changes. Future studies can explore the sector-wise tax-induced earnings management in India. Apart from the CG mechanism, future studies can also explore the role of the BRSR (Business Responsibility and Sustainability Reporting) framework in addressing the managerial discretionary practices in emerging markets during CTR changes.

7. IMPLICATIONS FOR EMERGING MARKETS

Empirical evidence shows that there is significant evidence for EM in response to corporate tax rate changes, especially in emerging economies in the Asian region (Zeng, 2014). The development of the OECD and ASEAN corporate governance codes has curtailed the managerial discretion using accounting accruals in the last decade due to the strengthening of board oversight by mandating independent directors and audit committees. As far as the Asian scenario is concerned, 'Value enhancement disclosure' in Japan, 'Value Up initiative' in South Korea, 'Clause 49' in the listing agreement by SEBI in India, and other regional efforts have also contributed to the protection of investors from insider interventions. As far as leverage in Asia is concerned, it is approximately valued at 1.3 to 2.7% compared to 0.5 to 1.1% in developed economies. In the Asian region, Japan has the most comprehensive creditor monitoring, where the banking-dominated system appoints auditors to substitute weaker board

controls. Thus, regulators and authorities in Asian markets should promote lender oversight (e.g., loan covenants that trigger scrutiny of accounting policies) so that high-leverage firms do not resort to aggressive accruals. Conversely, firms with very low leverage should be watched for real EM (e.g., reducing R&D expenditure), as research shows low-debt firms in Asia tend to manage their earnings using real (cash) transactions (Khan et.al, 2024). Additionally, companies that receive tax deferrals or relief must still make timely disclosures of their financial and non-financial performance aspects. For emerging markets in the Asian region that introduced fiscal support, insisting on clear documentation of government grants or tax holidays can mitigate aggressive EM in response to corporate tax regimes that can enhance book-to-tax conformity and investor confidence.

8. DECLARATION OF CONFLICT OF INTEREST

The authors declare no conflict of interest

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