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Accounting conservatism and firm value in Egypt: the mediating role of tax avoidance

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Abstract

Purpose This paper examines the mediating effect of the firm's tax-avoidance strategies on the relationship between a firm's conservative practices and its firm value.

Design/methodology/approach This study employs the Difference Generalized Method of Moments (GMM) to address endogeneity issues when testing empirical models. C-Score measures accounting conservatism, while cash effective tax rate (Cash-ETR) assesses tax avoidance practices. Additionally, Tobin's Q (TQ), return on equity (ROE), and return on assets (ROA) serve as proxies for the firm's value. To strengthen the results of the three mediating GMM regression models, alternative deferred tax and current effective tax rate measures are utilized for tax avoidance. The study sample comprises 64 non-financial firms listed on the Egyptian Stock Exchange (EGX 100) from 2014 to 2023.

Findings The results show a positive direct effect of conservative firm practices on the firm value, partially mediated by the indirect effect of tax avoidance techniques.

Research limitations/implications Policymakers should strengthen the enforcement of International Financial Reporting Standards to reduce earnings manipulation while allowing lawful taxation without imposing excessive burdens on businesses, thus decreasing their tendency toward tax evasion.

Originality/value This study is the first to explore empirically the mediating function of tax avoidance practices in the association between conditional accounting conservatism (proxied by C-Score) and firm value (proxied by TQ, ROA, ROE). Further, this study distinctly enhances knowledge by providing new insights to managers and policymakers into the interplay between conservative accounting practices and tax avoidance strategies within the tax regulations in the Egyptian context.

Keywords Tax avoidance, Conditional conservatism, Firm value, Generalized method of moments (GMM), EGX 100

JEL Classification H26, L25, M41, C1

Introduction

Accounting conservatism is a fundamental financial reporting principle that shapes the reported information to stakeholders [67]. Over the past two decades, comprehensive studies have demonstrated the crucial role of conservatism in financial reporting across various capital markets [6–8, 10, 34, 80]. Conservatism urges a risk-averse and prudent viewpoint by endorsing a delay of revenue and asset recognition while accelerating the recognition of expenses and liabilities [63]. This systematic strategy enhances transparency by fostering a more thorough assessment of released financial information, thereby alleviating issues of information asymmetry between managers and shareholders [72]. Thus, conservatism bolsters investor confidence and enhances firms'

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attractiveness in the stock market by enabling the early recognition of potential losses.

Taxation is a crucial fiscal policy mechanism for managing a country's economy. While tax avoidance is technically acceptable, it involves intentionally structuring financial transactions and reporting procedures to minimize tax obligations while remaining within legal boundaries [60]. Although tax avoidance is legally acceptable, it remains a highly debated issue as governments frequently view it as corrupting tax policy's fundamental principles and purpose,consequently, it operates within a complex legal and ethical gray area, requiring companies to balance cash enhancement with potential reputational and regulatory risks. Without this alignment, companies may use accounting practices that inflate book income for financial reporting while lowering taxable income to minimize tax liabilities [26]. High-profile cases like those of Starbucks, Amazon, and Google, which have been criticized for paying minimal UK corporate taxes despite substantial revenues, sparked public concern over aggressive tax strategies and highlighted the fine line between legal tax planning and perceived avoidance. These instances generated extensive debate in the community, emphasizing concerns regarding the ethical and legal limits of corporate tax avoidance.

Tax avoidance is essential for mediating accounting conservatism with firm value. Accounting conservatism often encourages companies to adopt tax-saving strategies that reduce profit volatility, increase financial flexibility, and enhance performance. By lowering tax obligations, corporations uncover resources that can be reinvested in growth opportunities or distributed to shareholders, fostering long-term value creation. The impact of tax avoidance relies on the perceptions of investors and the government. While effective tax strategies can boost firm value, overly aggressive tax tactics may result in reputational damage or regulatory scrutiny, undermining potential benefits. Therefore, tax avoidance is a double-edged sword that reinforces the relationship between accounting conservatism and firm value when applied appropriately, yet introduces significant risks if mishandled. Thus, this study aims to answer the question: Does tax avoidance mediate the association between accounting conservatism and Egyptian firm value?

This study contributes to the accounting literature by addressing this gap in several ways. *First*, it employs a single approach that thoroughly analyzes how accounting conservatism affects firm value in Egypt, as conclusions from country studies [54, 68] cannot be generalized. *Second*, this complements the few studies that have examined the relationship between accounting conservatism and firm value in the Egyptian context. To the best of the researchers' knowledge, the only studies investigating the influence of accounting conservatism on Egyptian firm performance are Gazia and Mahmoud [29] and El-Habashy [25]. However, Gazia and Mahmoud [29] measured firm value using the market-to-book ratio, an indirect measure that can be influenced by various market factors (like investor sentiment, market bubbles) rather than conservatism.

In contrast, this study adopts the C-Score approach, which measures annual conditional conservatism—a direct and specific measure of accounting conservatism that assesses how timely firms recognize bad news in earnings, reflecting actual conservatism practices rather than broader market effects. Furthermore, the current study differs from El-Habashy's [25] research regarding the timeframe, which focused on the period from 2009 to 2014. In contrast, this study covers the period from 2014 to 2023, encompassing significant economic, regulatory, and financial events such as post-revolution reforms, the 2016 currency devaluation, COVID-19, and corporate governance rules. *Third*, to the best of the researchers' knowledge, this study is the first to examine how tax avoidance mediates the effect of accounting conservatism on firm value. Prior studies have primarily concentrated on tax avoidance and its impact on firm value (e.g., [1, 15, 19, 58]),however, this study is the first to provide empirical analysis demonstrating the mediating effect of tax avoidance on the association between accounting conservatism and firm value. Furthermore, Egypt represents a compelling case study for this mediation analysis, introducing substantial tax reforms, including the Value-Added Tax (VAT) in 2016, adjustments to corporate tax rates, and anti-tax avoidance regulations that have influenced companies' tax strategies and financial reporting practices.

The rest of this study is structured as follows: Section two, "Theory, literature and hypotheses development," covers the literature review and the development of hypotheses, while Section three, "Research methodology," outlines the sample and statistical techniques utilized in this study. In Section four, "Empirical findings and discussion of results," the empirical findings are presented, and the results are discussed. Section five, "Robustness tests," details the robustness tests. Finally, Section six, "Conclusion, limitations, and suggestions for future research," offers the conclusion, practical implications, limitations, and suggestions for future research.

Theory, literature and hypotheses development

This section synthesizes relevant theoretical perspectives, including agency, political cost, and stakeholder theories, to develop a cohesive theoretical framework. It critically reviews the existing literature and formulates research hypotheses, establishing a foundation for analyzing the

impact of accounting conservatism on firm value through the mediating effect of tax avoidance.

Accounting conservatism and firm value

Agency theory, initially developed by Jensen and Meckling [33], highlights the conflict of interest that arises between shareholders (principals) and corporate management (agents) due to the separation of ownership and control. Managers, as decision-makers, may prioritize their self-interest over maximizing shareholder value. Accounting conservatism effectively reduces agency conflicts by limiting managerial opportunism and enhancing the credibility of financial reporting [21, 31, 49, 51]. From the agency perspective, conservatism decreases the likelihood of managers exaggerating financial performance by requiring stricter verification of profits while promptly disclosing losses. This practice minimizes excessive optimism in financial statements and reduces the risk of earnings manipulation [37, 38]. This enhanced credibility through conservative reporting can strengthen investor trust, thereby contributing to long-term firm value [74].

Building upon the agency theory rationale, empirical evidence further confirms the role of accounting conservatism in enhancing firm value. For instance, LaFond and Watts [44] utilized a sample of 1,070 U.S. industrial corporations from 1983 to 2001 to empirically examine the relationship between information asymmetry and accounting conservatism. Their findings, derived from a two-stage least squares regression to address endogeneity, reveal that firms with higher information asymmetry demonstrate heightened conservatism in financial reporting. The restriction on managerial authority regarding financial disclosure enhances investor trust, mitigates agency conflicts, and boosts firm value. Evidence from crisis contexts further supports this empirical link between conservative reporting and improved investor perception. Balakrishnan et al. [4] examined the influence of conservatism during the 2007–2008 global financial crisis. A difference-in-differences analysis of a dataset of 2,983 non-financial U.S. companies found that firms using conservative reporting practices experienced fewer negative abnormal returns, enhanced borrowing capacity, and continued investments during the crisis. This indicates that conservative reporting can help buffer against external shocks, strengthening firm resilience.

Extending this argument beyond crisis-specific settings, Li [46] utilized cross-sectional regression analysis to investigate the effect of conservative financial reporting requirements on the cost of financing. The study indicated that firms implementing rigorous conservative accounting procedures experience lower debt and equity financing costs, which enhances investor and creditor confidence. This finding supports the notion that conservatism can reduce capital costs by reinforcing stakeholder trust.

Despite extensive support, the literature presents a nuanced debate. Proponents and opponents of conservatism offer diverging arguments grounded in empirical findings. Proponents contend that conservatism enhances market efficiency by discouraging opportunistic reporting and aligning managerial and shareholder interests [5]. However, not all findings are uniformly positive. Some shareholders do not perceive accounting conservatism as a beneficial strategy for enhancing firm value. Other research indicates that while accounting conservatism influences financial reporting procedures, its direct effect on firm value remains inconclusive [53, 56, 64]. Conversely, opponents argue that excessive conservatism may bias financial reporting by consistently undervaluing assets and earnings, leading to inefficient investment decisions [32, 42, 52]. Furthermore, an overreliance on conservative accounting practices may increase information asymmetries, as differing abilities among stakeholders to acquire and process financial information create gaps in understanding. These gaps can potentially reduce market efficiency and heighten the likelihood of decision-making errors [82].

However, emerging markets may show varying results due to differences in institutions and regulations. Egypt is particularly relevant for investigation in this context, given its concentrated ownership patterns, where families or government entities often hold significant shares. Such concentration can lead to potential conflicts of interest and challenges in protecting minority shareholders, thus amplifying agency problems [57]. Furthermore, Egypt's evolving regulatory framework and initiatives to enhance corporate transparency create a dynamic environment to assess the role of accounting conservatism in financial reporting [24]. Despite these unique characteristics, there is a noticeable gap in empirical studies examining the direct relationship between accounting conservatism and firm value in Egypt. While some research has explored governance-related influences on conservatism [3], the broader valuation implications remain underexplored, highlighting the importance and relevance of this study.

Drawing on agency theory and empirical evidence, particularly the role of conservatism in reducing agency conflicts and enhancing investor confidence, this study anticipates a positive association between the firm's conservative practices and its market value. The context also informs this expectation regarding emerging markets like Egypt, where conservatism may serve as a valuable governance tool. Accordingly, the hypothesis is as follows:

H1

A positive nexus exists between accounting conservatism and firm value for firms listed on the Egyptian Exchange (EGX).

Accounting conservatism, tax avoidance, and firm value

Watts and Zimmerman [76] argued that managers of publicly traded corporations intentionally minimize reported earnings to reduce political costs, as governments often rely on accounting information for regulatory and tax purposes. Belkaoui and Karpik [11] asserted that firm size frequently serves as a proxy for political costs, with larger firms, especially publicly traded ones, facing increased regulatory oversight, tax obligations, and societal pressure. Consequently, some publicly traded corporations utilize accounting conservatism techniques to lower reported earnings, thereby mitigating the risk of potential wealth transfers or heightened taxation from the government [75], Frank et al., 2004). This early literature establishes the foundational role of accounting conservatism as a defensive reporting tool under political scrutiny.

The strategic application of accounting conservatism, particularly conditional conservatism, allows corporations to report losses more quickly than gains, resulting in lower taxable revenue and a reduced effective tax rate [2, 81]. Recent research supports the political cost theory, suggesting that firms with higher political sensitivity and regulatory exposure are likelier to adopt conditional conservatism to decrease taxable income [16]. This theory is further strengthened by Nurcholis et al. [59], who analyzed 340 non-financial firms registered in the Jakarta Stock Industrial Classification (JASICA) from 2015 to 2019. Their research found that financial distress and accounting conservatism significantly and positively affect tax avoidance, with leverage as a moderating variable in this relationship. This indicates that accounting conservatism may function as a tax shield and a buffer during financial strain.

This evidence is corroborated by Dewi and Andriyani [20], who expanded on this relationship by examining 12 firms in the food and beverage sector listed on the Indonesian Stock Exchange (IDX) from 2019 to 2021. Their findings indicated that accounting conservatism, capital intensity, and leverage significantly increase tax avoidance.

Building on this theoretical perspective and adding a governance dimension to this dynamic, Lismiyati and Herliansyah [50] examined the relationship between accounting conservatism, capital intensity, and tax avoidance, focusing on the moderating role of independent commissioners. Their study analyzed data from 30 banking companies listed on the Indonesian Stock Exchange from 2014 to 2017. The results revealed a positive relationship between accounting conservatism and tax avoidance. Including governance variables suggests that oversight mechanisms can influence how conservatism translates into tax behavior. This supports the argument that accounting conservatism, particularly in its conditional form, facilitates the strategic deferral of taxable income and aligns with tax minimization objectives.

Later, Wilcocks [78] examined the relationship between accounting conservatism and tax avoidance among publicly listed corporate taxpayers, specifically determining whether this relationship differs for conditional and unconditional accounting conservatism. To explore this relationship, multivariate regression analyses were conducted using data from publicly listed U.S. firms over 26 years. Tax avoidance was measured using cash-flow and non-cash flow effective tax rate metrics. Accounting conservatism was assessed using the accrual-based method for unconditional conservatism and the C-score (earnings/stock relation) for conditional conservatism. The findings revealed a negative relationship between unconditional conservatism and tax avoidance, while a positive relationship was identified between conditional conservatism and tax avoidance. This differentiation is critical for understanding the mechanisms through which conservatism influences tax behavior and firm value. Consequently, in publicly traded corporations, accounting conservatism acts as a buffer against regulatory oversight and as a strategic tool for tax management. This highlights its dual role as both a compliance and optimization mechanism. This interplay emphasizes the instrumental role of accounting conservatism in facilitating tax avoidance, a key factor in firm value optimization.

Having clarified the connection between conservatism and tax avoidance, assessing how such tax strategies impact firm value through a stakeholder-oriented lens is imperative. Stakeholder theory, initially articulated by Freeman [28] and subsequently expanded by Freeman and Phillips [27], posits that a firm's success is inherently linked to its ability to manage relationships with a diverse array of stakeholders, including shareholders, creditors, customers, suppliers, governments, and communities. This theory transitions from a shareholder-centric paradigm to a comprehensive stakeholder-oriented perspective, prioritizing ethical accountability and value creation for all interested stakeholders [71]. Consequently, firms are viewed not merely as economic entities but also as socially responsible organizations that must reconcile the interests of various groups to achieve sustainable growth and societal legitimacy. Therefore, corporate governance

processes should ensure not only legal compliance but also foster respect for tax regulations and enhance tax transparency, thereby protecting the long-term interests of all stakeholders [45]. This implies that, even if strategic, responsible tax behavior can align with stakeholder expectations when embedded within governance frameworks.

Based on this theoretical framework, stakeholder theory supports a positive relationship between tax avoidance and firm value. When tax techniques are applied ethically and legally, they can be viewed as a managerial strategy to optimize cost efficiency, enhance after-tax cash flows, and increase distributable wealth for shareholders and other stakeholders. Therefore, when backed by conservative accounting practices, tax avoidance should be regarded not as opportunistic behavior but as a deliberate decision aligned with stakeholder interests, particularly when it boosts firm value through efficient resource allocation.

Many studies support stakeholder theory, indicating that tax avoidance tactics enhance firm value, as shareholders' wealth is maximized by reducing tax payments and increasing after-tax earnings (e.g., [14, 39, 70, 79]). These results uphold the conventional view that lowering tax liabilities enables firms to allocate additional resources toward investments, dividends, or other value-enhancing activities. Chadefeaux and Rossignol [14] argued that tax avoidance can enhance firm value through direct tax savings or by signaling effective management practices to investors. Building on this perspective, Wilson [79] investigates firms in tax-free zones and finds a positive association between tax avoidance and stock market performance, especially for corporations with strong governance.

Extending the analysis to a global scale, Tang [70] examines the relationship between tax avoidance and firm value in a cross-country context, utilizing a sample of 42,107 firm-year observations from 46 countries spanning from 2001 to 2010. The results indicate that firms engaged in tax avoidance experience increased firm value. Further evidence from the European context is provided by Khaoula and Moez [39], who analyzed 105 firms from 2005 to 2012 and found a positive association between tax avoidance and firm value, moderated by board effectiveness. Similarly, Drake et al. [22] analyze U.S. corporations and conclude that investors perceive tax avoidance positively, resulting in higher market valuations for these firms. Furthermore, Soemarsono et al. [66] investigate the impact of tax avoidance tactics on a sample of Indonesian enterprises from 2015 to 2022. The results demonstrate that the firm's tax avoidance tactics enhance its performance. These findings emphasize that tax avoidance, facilitated by accounting conservatism, improves firm valuation by strengthening after-tax earnings and signaling financial prudence.

The tactical use of accounting conservatism enables firms to align their financial reporting with tax planning objectives, thereby enhancing their ability to defer tax obligations and effectively manage taxable income. This strategic alignment not only supports tax efficiency but also contributes to enhancing firm value. This relationship is particularly pertinent to firms listed on the EGX. Egypt's high tax burden and the necessity for companies to optimize their financial performance make tax avoidance a crucial strategic consideration. Understanding the mediating effect of tax avoidance on the association between accounting conservatism and firm value is vital in this context. Egypt has the highest tax burden in the MENA region, prompting firms to adopt tax planning strategies, including tax avoidance, to protect their financial performance and firm value.

Considering this theoretical and empirical synthesis, the following hypotheses are presented to examine the mediating mechanism of tax avoidance among Egyptian firms:

H2

Tax avoidance mediates the relationship between accounting conservatism and the value of Egyptian firms.

H2a

A positive nexus exists between accounting conservatism and tax avoidance for firms listed on the Egyptian Exchange (EGX).

H2b

A positive nexus exists between tax avoidance and firm value for firms listed on the Egyptian Exchange (EGX).

According to the abovementioned discussion, this study proposes a conceptual model that captures the relationships among accounting conservatism, tax avoidance, and firm value. Specifically, it is hypothesized that accounting conservatism has a direct positive effect on firm value and indirectly through the mediating role of tax avoidance. This framework integrates agency, political cost, and stakeholder theories to explain how conservative financial reporting influences firm valuation, particularly in emerging markets like Egypt. Figure 1 below visually represents this conceptual model, illustrating the hypothesized direct and indirect pathways.

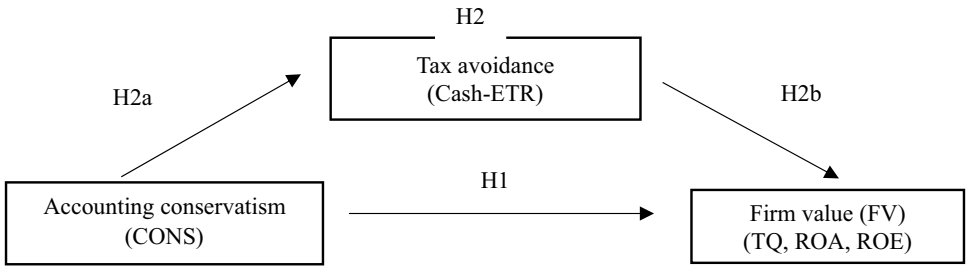

Fig. 1 Theoretical framework

Research methodology

This study examines the mediating impact of firm tax avoidance practices on the relationship between conditional conservatism and firm value. The study used a generalized method of moments (GMM) in the empirical models' analysis to avoid endogeneity issues. All data were statistically analyzed using EViews 12 software.

Sample and data collection

Our initial sample consisted of the top 100 Egyptian firms ranked by activity and liquidity index EGX 100 (August 2024) over 10 years, from 2014 to 2023. We selected this 10-year window because the Egyptian Accounting Standards (EAS) have increasingly aligned with International Financial Reporting Standards (IFRS) over the past decade; thus, financial data from 2014 onwards is more comparable and reliable, reducing the risk associated with a small sample size. All data was collected from the DataStream database. A company must meet the following criteria to be included in our final sample:

(i) Contains financial data for calculating firm value, conservatism, and proxies for tax avoidance.
(ii) Includes financial data from 2014 to 2023.
(iii) Not classified as a financial firm or bank due to their constraints and unique characteristics.

Our initial sample (EGX100) includes eight banks, 18 financial firms, and 10 non-financial firms for which data are unavailable in the DataStream database. After excluding these firms, our final sample consists of 64 firms with 640 years of observations, representing 64% of the initial sample, as shown in Table 1.

Table 1 The study sample

Description	No. of firms
Initial sample	100
Excluded (financial firms)	(26)
Firms with missing data	(10)
Final sample	64

Variable identification and measurements

To achieve this objective, four categories of variables are utilized to explore the mediating effect of firm tax avoidance practices on the relationship between conditional conservatism (CONS) and firm value (FV). The first category includes dependent variables, specifically Tobin's Q (TQ), return on equity (ROE), and return on assets (ROA). The second category comprises the independent variable, conditional conservatism (CONS). The third category represents the mediator variable, tax avoidance, indicated by the cash effective tax rate (Cash-ETR). The fourth category encompasses control variables, including firm size (Size), leverage (Lev), market-to-book ratio (MTB), and capital intensity (CINT). Table 2 displays the variables, and their corresponding measurements used in the study.

Measurement of dependent variable (firm value): We adopted Tobin's Q to assess the market value of Egyptian firms, and to strengthen our model, we incorporated firm return on equity (ROE) and return on assets (ROA) [15, 40, 55].

Measurement of the independent variable (conservatism): We followed Bornemann [12] and employed [37, 38] C-Score, a firm-year conditional conservatism proxy, to estimate conditional conservatism in Egyptian firms. The C-Score provides timing and cross-sectional variation in a firm's conditional conservatism [37, 38]. assert that a firm's degree of conditional conservatism is influenced by its market-to-book ratio, size, and leverage, contributing to the cross-sectional variation among firms. The asymmetric timeliness measure proposed by Basu [10] serves as a starting point and is represented by the following regression model.

$$X_i = \beta_0 + \beta_1 D_i + \beta_2 R_i + \beta_3 D_i * R_i + \varepsilon_i \quad (1)$$

where X is net income before extraordinary items, R represents returns, D is a dummy variable equal to 1 when

Table 2 Variable definitions and measurements

Variable	Labels	Measure
Dependent variables		
Tobin's Q ratio	TQ	Calculated as the number of shares outstanding multiplied by market price per share plus total debts divided by total book value of assets [69]
Return on equity	ROE	Calculated as earnings before extraordinary items divided by total equity
Return on assets	ROA	Calculated as earnings before extraordinary items divided by total assets
Independent variable		
Conservatism	CONS	(C-Score) annual conditional conservatism for each firm [37, 38, 41, 65]. See Eqs. 1,2, and 3
Mediator variable		
Cash effective tax rate	Cash-ETR	Calculated as cash tax paid divided by pre-tax income [18, 62]
Control variables		
Size	Size	Logarithm of firm market capitalization
Leverage	Lev	Calculated as long-term debt divided by the common equity market value at the year's end
Market-to-Book Ratio	MTB	Calculated as the market value of equity divided by the book value of equity
Capital intensity	CINT	Calculated as property, plant, and equipment divided by total assets

All data was extracted from the DataStream database

R is negative and zero otherwise, and εi denotes a random error term. Coefficient β2 indicates the timeliness of good earnings news, while coefficient β3 reflects the incremental effect of bad news relative to good news disclosed (conservatism level). By adding the two coefficients (β2 + β3), the timeliness of total bad news disclosed is assessed. The firm-year level of good news confirmation and accounting conservatism can be stated as follows [12].

$$G\_Score = \beta_2 = \mu_1 + \mu_2 Size_i + \mu_3 MTB_i + \mu_4 Lev_i \quad (2)$$

$$C\_Score = \beta_3 = \omega_1 + \omega_2 Size_i + \omega_3 MTB_i + \omega_4 Lev_i \quad (3)$$

Size represents the natural logarithm of the market value of equity, MTB indicates the firm's market-to-book ratio, and Lev signifies total debt divided by the market value of equity. Next, substitute Eqs. (2) and (3) into Eq. (1).

Measurement of the mediator variable (tax avoidance) Prior accounting literature employs various measures to proxy firm tax avoidance practices, including the GAAP effective tax rate, cash effective tax rates (Cash-ETR), temporary book-tax differences (BTDs), and unrecognized tax benefits (UTB) [18, 23, 48]. This research employs Cash-ETR as a proxy for the tax avoidance methods of Egyptian firms since it is the most prevalent proxy utilized in previous studies. Cash-ETR represents the ratio of cash tax paid to pre-tax income [18, 23, 35].

Measurement of control variables Following prior studies, this research utilizes the following control variables: firm size, leverage, as delineated by Elamer et al. [23], market-to-book ratio, as described by Bougacha and Mouna [13], and capital intensity, as stated by Tang [70], Khuong et al. [40], and Delgado et al. [18]. Firm size ($Size_{it}$) is calculated as the natural logarithm of the firm's market value of equity to account for the effect of size [12, 30]. Leverage (Lev_{it}) is calculated as long-term debt divided by the standard equity market value at year-end to assess firms' debt payment ability [19]. The market-to-book ratio (MTB_{it}) is calculated as the market value of equity divided by the book value of equity to evaluate firms' growth opportunities [12, 13]. Capital intensity ($CINT_{it}$) is defined as the ratio of a firm's fixed assets to its total assets [18, 40, 70] to assess the firm's surplus funds for acquiring fixed assets and generating advantages in the form of depreciation expenses, which may be utilized as tax deductions.

Empirical models

This study follows Baron and Kenny's [9] approach (stepwise regressions) in building mediation models according to the theories and hypotheses explained earlier. Baron and Kenny's [9] technique includes the following stages: the first step examines the relationship between the independent variable and the mediator variable,the second step assesses the impact of the mediator variable on the dependent variable; the third step evaluates the influence of the independent variable on the dependent variable; and the fourth step investigates the mediation effect, which depends on three criteria: first, the independent variable influences the mediating variable; second, the mediating variable impacts the dependent variable; and third, the independent variable does not exert an effect on the dependent variable. The study develops three estimation models to validate its hypotheses, utilizing

one-step difference GMM to avoid the common heteroskedasticity and autocorrelation problems found in panel data. Each model has two equations: Eq. 4 estimates the association between the independent variable (CONS) and mediator variable (Cash-ETR), while Eq. 5 estimates the relationship between the independent variable (CONS), mediator (Cash-ETR), and dependent variable (TQ, ROE, ROA).

Model (1)

$$Cash-ETR_{it} = \alpha + \beta_1 CONS_{it} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 MTB_{it} + \beta_5 CINT_{it} + \varepsilon_{it} \quad (4)$$

$$TQ_{it} = \alpha + \beta_1 CONS_{it} + \beta_2 Cash-ETR_{it} + \beta_3 Size_{it} + \beta_4 Lev_{it} + \beta_5 MTB_{it} + \beta_6 CINT_{it} + \varepsilon_{it} \quad (5)$$

Model (2)

$$Cash-ETR_{it} = \alpha + \beta_1 CONS_{it} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 MTB_{it} + \beta_5 CINT_{it} + \varepsilon_{it} \quad (6)$$

$$ROE_{it} = \alpha + \beta_1 CONS_{it} + \beta_2 Cash-ETR_{it} + \beta_3 Size_{it} + \beta_4 Lev_{it} + \beta_5 MTB_{it} + \beta_6 CINT_{it} + \varepsilon_{it} \quad (7)$$

Model (3)

$$Cash-ETRit = \alpha + \beta 1\, CONSit + \beta 2\, Sizeit + \beta 3\, Levit + \beta 4\, MTBit + \beta 5\, CINTit + \varepsilon_{it} \quad (8)$$

$$ROA_{it} = \alpha + \beta_1 CONS_{it} + \beta_2 Cash-ETR_{it} + \beta_3 Size_{it} + \beta_4 Lev_{it} + \beta_5 MTB_{it} + \beta_6 CINT_{it} + \varepsilon_{it} \quad (9)$$

where:

TQ_{it} is the firm's (i) market value in the year (t),

ROE_{it} is the firm's (i) return on equity in the year (t),

ROA is the firm's (i) financial book value in the year (t),

$CONS_{it}$ is the firm's (i) conditional conservatism in the year (t),

$Cash\text{-}ETR_{it}$ is the firm's (i) tax avoidance in the year (t),

Size is the firm's (i) size in the year (t),

Lev_{it} is the firm's (i) leverage in the year (t)

MTB_{it} is the firm's (i) growth opportunity in the year (t)

$CINT_{it}$ is the firm's (i) capital intensity in the year (t)

$\mathcal{E}_{it}$ is a random error.

Results

Descriptive statistics and correlation analysis

Table 3 illustrates the descriptive statistics and presents the study variables' means, maximum and minimum values, and standard deviations. In Panel A, TQ's overall average is 83.5% (Std. = 5.756), ranging from 0.003 to 144.547. This indicates significant dispersion in the market values of Egyptian firms relative to their assets from 2014 to 2023. The mean of ROE is 110.8%, signifying that, on average, firms yield a return of 110.8% on their equity. The standard deviation of ROE shows moderate dispersion (0.539) between the maximum and minimum values (2.608 and -1.522, respectively). The ROA statistics reveal a standard deviation of 0.49, reflecting a 49% variation in profitability across firms during the study period. ROA has a mean of 0.830, ranging from -1.522 to 1.891. The negative minimum value suggests that some firms experienced significant losses.

In Panel B, the results reveal moderate variations in firms' CONS (Std. = 0.626), ranging between -0.4511 and 2.378. However, there is substantial variation in Cash-ETR (Std. = 1.319) ranging between -0.870 and 6.441. This indicates significant variation in tax payments among firms, potentially influenced by tax avoidance strategies and firm-specific policies.

Table 4 presents the results of the Pearson correlation analysis related to the examined variables. The

Table 3 Descriptive Statistics

Variables	Mean	Min	Max	Std
Panel A: dependent variable				
TQ	0.840	0.003	144.547	5.756
ROE	1.108	−1.522	2.608	0.539
ROA	0.830	−1.522	1.891	0.490
Panel B: independent & mediator variables				
CONS	−0.016	−4.511	2.398	0.626
Cash-ETR	2.117	−0.870	6.441	1.319
Panel C: control variables				
Size	6.275	4.491	8.126	0.682
LEV	0.108	−0.106	8.488	0.412
MTB	0.178	−0.958	2.711	0.459
CINT	0.389	0.001	42.341	1.705

Table 4 Correlation analysis

Variables	TQ	ROE	ROA	CONS	Cash-ETR	Size	LEV	MTB	CINT
TQ	1								
ROE	0.001	1							
ROA	−0.036	−0.031	1						
CONS	0.033	−0.017	0.054	1					
Cash-ETR	0.001	−0.002	−0.023	−0.039	1				
Size	−0.035	0.009	0.296*	−0.015	−0.102*	1			
LEV	−0.008	0.018	−0.09*	0.057	0.007	−0.019	1		
MTB	−0.000	−0.007	0.060	−0.116*	−0.002	0.042	−0.049	1	
CINT	0.098*	0.000	−0.057	−0.064	0.010	−0.020	0.057	−0.005	1
Multicollinearity diagnostics (VIF)	–	–	–	1.03	1.01	1.12	1.01	1.02	1.02
No. of Obs	640								

*Significant at level 10%, **Significant at level 5%, ***Significant at level 1%

Table 5 GMM regression analysis of CONS and Cash-ETR

Variables	Coef	t-Statistic	Prob
Dependent variable			
Cash-ETR	0.284***	8.310	0.000
Independent variable			
CONS	− 0.049**	− 1.999	0.049
Control variables			
Size	− 0.206**	− 2.134	0.037
LEV	0.121	1.511	0.136
MTB	− 0.009	− 0.753	0.454
CINT	− 0.003	− 0.313	0.755
J-statistic	37.762		
Prob(J-statistic)	0.344		
No. of obs	640		
AR (2)	0.162		

*Significant at level 10%, **Significant at level 5%, ***Significant at level 1%

Prob. columns indicate *p*-value

findings indicate that the firm value proxies TQ, ROE, and ROA are not correlated with conditional conservatism (CONS) or tax avoidance practices (Cash-ETR). Furthermore, the Variance Inflation Factor (VIF) analysis for all independent variables shows values below 3, indicating the absence of multicollinearity in our empirical models.

Multivariate analysis

This section explores the results of three GMM regression models constructed to assess the mediating effect of Egyptian firms' tax avoidance strategies on the relationship between conservative accounting procedures and firm value. Table 5 presents the results of regressing tax avoidance on accounting conservatism. The findings reveal a significant negative association between firm CONS and Cash-ETR at the 5% level (*Coef.* = − 0.049, *p-value* = 0.049). This result indicates that firms employing more conservative accounting methods in their financial reporting generally incur lower cash tax than their pre-tax income, coinciding with more engagement in tax avoidance. Thus, this result supports accepting *H2a*, that there is a positive nexus between accounting conservatism and tax avoidance for firms listed on the Egyptian Exchange (EGX).

Table 6 presents the results of three mediating regression models examining the impact of Cash-ETR on the relationship between CONS and FV, as indicated by TQ in Model 1, ROE in Model 2, and ROA in Model 3. The results show that in Model 1, firm conservative policies have a significant positive effect on firm value (TQ) (*Coef.* = *0.455, p-value* = 0.003). This indicates that conditional conservatism increases firm value by enhancing stakeholders' credibility in the firm's financial reporting and reducing the information asymmetry gap. This finding aligns with agency theory, which suggests that firms adopt conservative practices to maintain firm credibility and minimize the information gap between insiders and outsiders [4, 44, 46]. This outcome supports the acceptance of *H1*, demonstrating a positive association between accounting conservatism and the value of Egyptian firms.

Furthermore, our results show that tax avoidance (Cash-ETR) practices are positively associated with the firm's FV (*Coef.* = 0.399, *p-value* = 0.007). This result aligns with stakeholder theory, which posits that firms employ tax strategies to legitimize their accountability and increase wealth distribution for investors and other stakeholders [71]. Accordingly, *H2b* is accepted; a positive nexus exists between tax avoidance and firm value for firms listed on the Egyptian Exchange

Table 6 Mediation effect of Cash-ETR on the CONS and FV relationship

	Model 1 (TQ)			Model 2 (ROE)			Model 3 (ROA)		
Variables	Coef	t-Stat	Prob	Coef	t-Stat	Prob	Coef	t-Stat	Prob
Dependent variables									
Lag TQ	0.21***	2.452	0.017	–	–	–	–	–	–
Lag ROE				0.192***	10.477	0.000			
Lag ROA	–	–	–	–	–	–	0.329***	10.139	0.000
Independent variables									
CONS	0.455***	2.998	0.003	2.573***	2.624	0.010	0.069***	4.255	0.000
Cash-ETR	0.399***	2.746	0.007	11.42***	5.399	0.000	0.119***	4.192	0.000
Control variables									
Size	4.482***	6.202	0.000	36.12***	5.414	0.000	0.519***	8.672	0.000
LEV	1.987***	3.452	0.001	12.83*	1.840	0.070	−0.126***	−2.534	0.013
MTB	−1.35***	−3.069	0.003	−0.983	−0.163	0.871	−0.470***	−9.564	0.000
CINT	−0.026	−0.525	0.600	1.237***	5.096	0.000	0.013***	5.177	0.000
J-statistic	42.661	29.449	38.849						
Prob(J-statistic)	0.174	0.733	0.300						
No. of obs	640	640	640						
AR (2)	0.256	0.372	0.946						

*Significant at level 10%, **Significant at level 5%, ***Significant at level 1%

Prob. columns indicate *p*-value

(EGX). Additionally, the negative relationship between C-Score and Cash-ETR in Table 5, along with the positive relationship between CONS and Cash-ETR on FV in Table 6, leads to a positive indirect effect of C-Score on TQ through the partial mediation effect of Cash-ETR (CONS → Cash-ETR → TQ), supporting the acceptance of *H2*, which states that tax avoidance mediates the nexus between accounting conservatism and the value of Egyptian firms.

Regarding the association between control variables and FV, the results reveal a positive and significant relationship between firm size and TQ (*Coef.* = 4.482, *p-value* = 0.000). This suggests that larger firms likely benefit from economies of scale and better resource accessibility, leading to higher market valuations than smaller firms. The firm's LEV is positively associated with its TQ (*Coef.* = 1.987, *p-value* = 0.001), indicating that firms with higher LEV demonstrate more growth and expansion opportunities, enhancing their market value and benefiting from a tax shield. Unexpectedly, our results reveal a negative association between a firm's MTB and its TQ (*Coef.* = − 1.35, *p-value* = 0.003), suggesting that overvaluation of a firm's equity market value relative to its equity book value may negatively impact its overall market value. No association was found between a firm's tangibility and market value (TQ).

In Models 2 and 3, the results confirmed acceptance of *H1*, revealing a positive association between firm CONS and firm value proxied by ROE and ROA (*Coef.* = 2.573, *p-value* = 0.010 *and Coef.* = 0.069, *p-value* = 0.000, *respectively*). Additionally, the estimation results confirm the positive association between CONS and FV (proxied by ROE and ROA) and indicate that tax avoidance practices (Cash-ETR) partially mediate the relationship between firm CONS policies and profitability, proxied by ROE in Model 2 (*Coef.* = *11.42, p-value* = 0.000) and ROA in Model 3 (*Coef.* = 0.119, *p-value* = 0.000), respectively. This result indicates that firms with higher Cash-ETR may prioritize operational efficiency and profitability over minimizing tax payments through aggressive tax avoidance practices. These results confirm the results of Model 1 and support *H2b*, which suggests a positive nexus between tax avoidance and firm value for firms listed on the Egyptian Exchange (EGX). Consequently, these findings also confirm Model 1 results and accept *H2*, which posits that tax avoidance mediates the relationship between accounting conservatism and the firm value in the Egyptian context.

Regarding the association between control variables and ROE in Model 2, the results reveal a positive and significant relationship between firm size and ROE (*Coef.* = 36.12, *p-value* = 0.000). The firm's LEV is positively associated with its ROE (*Coef.* = 12.83, *p-value* = 0.07), while no association exists between a firm's MTB and its ROE (*Coef.* = − 1.35, *p-value* = 0.871). However, the results demonstrate a positive and significant association between a firm's tangibility CINT and its return on equity (*Coef.* = 1.237,

p-value = 0.000), indicating that firms efficiently investing in property, plant, and equipment are adept at utilizing their fixed assets to generate profits and preserve shareholder capital. In Model 3, the association between control variables and ROA shows a positive and significant correlation between firm size and ROA (*Coef.* = 0.519, *p-value* = 0.000). The results also indicate a significant negative relationship between the firm's LEV and ROA (*Coef.* = − 0.126, *p-value* = 0.01), suggesting that as a firm increasingly relies on debt, its ability to generate profit from total assets tends to decline. Additionally, there is a negative correlation between the firm MTB and ROA (*Coef.* = − 0.470, *p-value* = 0.000), and a positive association between the firm CINT and ROA (*Coef.* = 0.013, *p-value* = *0.000*). Hansen's J-test of over-identification for models (1), (2), and (3) (*p-value* = 0.17, 0.733, and 0.300, *respectively*) indicates that the instruments used in our GMM estimation models are valid, while the AR (2) tests in models (1), (2), and (3) (*p*-value = 0.256, 0.372, and 0.946, respectively) confirm the absence of autocorrelation issues in the residuals.

Table 7 summarizes the study hypotheses and associated theories previously discussed in Sect. "Theory, literature and hypotheses development".

Robustness analysis

To test the validity of our GMM regression models, we followed Tang [70] and re-estimated Models (1), (2), and (3) using different proxies for tax avoidance, namely GAAP effective tax rate (GAAP-ETR) and current effective tax rate (Curr-ETR) that incorporate long-term tax liabilities associated with the current year's income, irrespective of the timing of payment, which is not accounted for by Cash-ETR [73]. We could not utilize book-tax differences (BTD) due to the lack of available data for the Egyptian firms within the DataStream database. GAAP-ETR is calculated as income tax divided by

Table 7 Summary of the study hypotheses and supported theories

Hypothesis	Decision	Supported theories
H1: A positive nexus exists between accounting conservatism and firm value for firms listed on the Egyptian Exchange (EGX)	accepted	Agency
H2: Tax avoidance mediates the relationship between accounting conservatism and the value of Egyptian firms	accepted	Political cost & Stakeholder
H2a: A positive nexus exists between accounting conservatism and tax avoidance for firms listed on the Egyptian Exchange (EGX)	accepted	Political cost
H2b: A positive nexus exists between tax avoidance and firm value for firms listed on the Egyptian Exchange (EGX)	accepted	Stakeholder

Table 8 Mediation effect of GAAP-ETR on the CONS and FV relationship

	Model 1 (TQ)			Model 2 (ROE)			Model 3 (ROA)		
Variables	**Coef**	**t-Stat**	**Prob**	**Coef**	**t-Stat**	**Prob**	**Coef**	**t-Stat**	**Prob**
Dependent variables									
Lag TQ	0.22***	2.69	0.00	–	–	–	–	–	–
Lag ROE	–	–	–	0.24***	6.75	0.00	–	–	–
Lag ROA	–	–	–	–	–	–	0.23***	7.71	0.00
Independent variables									
CONS	0.41***	2.90	0.00	0.02	1.37	0.17	0.09***	7.31	0.00
GAAP-ETR	0.87***	4.17	0.00	0.02	0.47	0.64	0.11***	2.79	0.00
Control variables									
Size	3.66***	9.88	0.00	− 0.23***	− 4.32	0.00	0.41***	6.81	0.00
LEV	2.39***	4.28	0.00	− 0.08**	− 1.98	0.05	− 0.07**	− 1.95	0.05
MTB	− 0.01***	− 2.97	0.00	0.00*	0.41	0.68	− 0.00***	− 5.46	0.00
CINT	0.03	0.49	0.62	0.01	1.29	0.20	0.02***	8.64	0.00
J-statistic	40.155	35.612	34.896						
Prob(J-statistic)	0.252	0.439	0.473						
No. of obs	640	640	640						
AR (2)	0.131	0.99	0.37						

*Significant at level 10%, **Significant at level 5%, ***Significant at level 1%

Prob. columns indicate *p*-value

pre-tax income [23]. The Curr-ETR is calculated as total tax expenses minus deferred tax expenses divided by pre-tax income [40, 70].

The robust checks show that most of our findings remain unchanged, with slight differences in two results. As seen in Table 8, the results show a positive association between the firm's CONS and FV (proxied by TQ and ROA), mediated partially by GAAP-ETR. However, the results reveal no association between CONS and ROE; thus, no mediation effect for GAAP-ETR on the association between CONS and ROE. This result might indicate that conservative practices are not invariably mirrored in taxable income and equity regularly in our sample, as explained in detail in Bornemann's [12] work.

Table 9 shows a positive association between the firm's CONS and FV proxies TQ and ROE, mediated partially by Curr-ETR. However, the results reveal a positive and insignificant mediation effect for Curr-ETR on the association between CONS and ROA.

Discussion

Examining the mediating influence of tax avoidance strategies on the relationship between accounting conservatism (CONS) and firm value (FV) in an emerging capital market like Egypt is intriguing. Previous research has explored the association between a firm's conservative practices and its value; however, the mediating effect of tax avoidance in this relationship has yet to be investigated. Our results reveal a positive direct impact of firm conservatism (C-Score) on firm value, as proxied by Tobin's Q (TQ), return on equity (ROE), and return on assets (ROA), along with a partial indirect mediation effect of tax avoidance practices (Cash-ETR).

In Models 1, 2, and 3, before incorporating tax avoidance as a mediator, our analysis reveals a significant positive association between a firm's conservative policies and its market value and profitability. This finding aligns with agency theory, which asserts that firms employ conservative accounting practices to enhance their market values. Furthermore, our results indicate a negative association between firm CONS and Cash-ETR. This result is consistent with political cost theory, suggesting that conservative firms may employ tax strategies to lower their effective tax rate to reduce political and stakeholder pressures. This finding is consistent with the results of Chi et al. [16] and Sa'ad et al. [62]. However, our results contradict those reported by Bornemann [12], Nurcholis et al. [59], Dewi and Andriyani [20], and Wilcocks [78].

Incorporating tax avoidance techniques as a mediator in the three GMM regression models reveals a positive association between the firm's conservative policies and firm value, enhanced by a partly indirect mediating impact of tax avoidance (Cash-ETR). Our findings align with the results of Balakrishnan et al. [4] and contradict the results provided by Li [46], Lyimo [53], and Shehzad and Ismail [64]. This result is consistent with the

Table 9 Mediation effect of Curr-ETR on the CONS and FV relationship

	Model 1 (TQ)			Model 2 (ROE)			Model 3 (ROA)		
Variables	**Coef**	**t-Stat**	**Prob**	**Coef**	**t-Stat**	**Prob**	**Coef**	**t-Stat**	**Prob**
Dependent variables									
Lag TQ	0.24**	2.42	0.02	–	–	–	–	–	–
Lag ROE	–	–	–	0.25***	90.16	0.00	–	–	–
Lag ROA	–	–	–	–	–	–	0.33***	22.99	0.00
Independent variables									
CONS	0.58***	4.61	0.00	9.75***	8.12	0.00	1.91***	3.94	0.00
Curr-ETR	0.00***	2.40	0.01	0.137***	2.52	0.01	0.00	1.17	0.24
Control variables									
Size	4.06***	8.78	0.00	−73.14***	−24.21	0.00	17.11***	11.17	0.00
LEV	2.21***	3.05	0.00	64.83***	7.09	0.00	0.89	1.18	0.24
MTB	0.00	1.63	0.10	−0.05	−1.29	0.19	−0.04***	−5.20	0.00
CINT	−0.02	−0.85	0.39	0.80	1.18	0.24	−0.29***	−5.48	0.00
J-statistic	37.523	41.231	33.407						
Prob(J-statistic)	0.354	0.217	0.545						
No. of obs	640	640	640						
AR (2)	0.145	0.217	0.309						

*Significant at level 10%, **Significant at level 5%, ***Significant at level 1%

Prob. columns indicate *p*-value

Source by authors

stakeholder theory, suggesting that a firm's conservative policies aligned with appropriate tax strategies will improve firm value, promote transparency, and reduce agency conflicts between insiders and outsiders [5, 17, 61].

Our findings similarly demonstrate a positive association between tax avoidance (Cash-ETR) and firm value, as measured by TQ, ROE, and ROA. This outcome corroborates the findings presented by Chadefeaux and Rossignol [14], Wilson [79], Tang [70], and Drake et al. [22]. However, these findings contradict the conclusions of Chen et al. [15] and Khuong et al. [40], which demonstrate a negative correlation between Cash-ETR and TQ, as well as [43] findings that show a negative association between Cash-ETR and ROA. This result supports stakeholder theory since tax strategies should be executed to legitimize the firm's accountability and increase stakeholder wealth [71].

Conclusion, limitations, and avenues for future research

Tax avoidance is crucial for aligning accounting conservatism practices with a firm's value. Accounting conservatism often compels firms to adopt tax-saving strategies that mitigate earnings volatility, improve financial flexibility, and enhance performance. By reducing tax liabilities, firms reveal resources that can be reinvested in development opportunities or distributed to shareholders, thereby fostering long-term value creation. This study investigates the mediating role of tax avoidance in the relationship between Egyptian firms' conservative policies and their firm value.

This study contributes to existing literature by extending tax research on the association between conservatism and firm value within the Egyptian context. Our findings include both theoretical and practical implications. This study extends existing work on the relationship between conservatism levels and firm value. It provides academic insights into the mediating role of tax avoidance methods among Egyptian firms. Furthermore, our findings indicate that tax avoidance is crucial for explaining the relationship between a firm's conservative policies and firm value in the Egyptian context. Additionally, our results suggest that the partial mediation of tax avoidance (Cash-ETR) indicates that conservatism enables the strategic deferral of taxes, yielding short-term cash flow advantages that may be used opportunistically. This corroborates the political cost, stakeholder, and agency theories, suggesting that firms must weigh the benefits against the risks of regulatory oversight or reputational harm. Consequently, managers should consider that excessive dependence on tax avoidance practices (low Cash-ETR) may incur regulatory sanctions within Egypt's emerging tax framework; thus, aligning conservative practices with adherence to tax legislation would preserve long-term corporate value. Future research can expand these findings by investigating the mediating role of tax avoidance strategies across different regulatory contexts, especially in other emerging markets with varying levels of tax enforcement. Further, future research can explore the interaction between conservatism, alternative tax avoidance strategies (e.g., GAAP-ETR, Cash-ETR, BTD), and non-financial outcomes such as firm reputation or litigation risks, which may enhance knowledge of how agency costs and stakeholder pressure influence the firm's long-term value and its employed tax-avoidance strategies.

In addition, our findings provide important insights for policymakers in Egypt. Our findings indicate a negative association between conservative practices and tax avoidance strategies among Egyptian firms. This suggests that these firms may tend to aggressively evade tax payments, adversely impacting government revenue and the interests of other stakeholders. Consequently, policymakers can enhance transparency and require detailed disclosures of uncertain tax positions by adopting the International Financial Reporting Interpretation Committee (*IFRIC 23, Uncertainty over Income Tax Treatments*), which states that "firms should recognize, measure, and disclose uncertain tax treatments" to increase transparency and comparability in reporting firms' tax positions. Regulators can provide clear guidelines that enhance effective tax collection and reduce unnecessary requirements, thus preserving government revenue and sustainable firm value. Understanding how to assess a firm's conservative practices through tax avoidance strategies could also enhance investors' and stakeholders' long-term investment decisions.

This study has some limitations. First, a limited sample size could lead to caution in interpreting and generalizing our results. Therefore, future research can extend the sample size to include all Egyptian firms listed on the EGX. Second, our model might have endogeneity concerns since we did not validate the GMM model results using an alternative statistical approach. Consequently, future research can implement advanced statistical techniques, such as instrumental variable analysis, to examine the mediating influence of tax avoidance strategies on the relationship between conservative policies and firm value in the non-financial and financial firm sectors. Future research can also investigate the mediating role of tax avoidance practices on the association between CSR disclosure and earnings management practices.

Abbreviations

CINT	Capital intensity
Cash-ETR	Cash effective tax rate
Curr-ETR	Cash current effective tax rate

CONS	Conditional conservatism
EAS	Egyptian Accounting Standards
FV	Firm value
GAAP-ETR	GAAP effective tax rate
GMM	Generalized method of moments
IFRS	International financial reporting standards
IFRIC	International financial reporting interpretation committee
LEV	Leverage
MTBV	Market-to-book ratio
ROA	Return on assets
ROE	Return on equity
TQ	Tobin's Q ratio

Author contributions
AE developed the original draft, helped with the methodology, and reviewed the theoretical and empirical literature. YO collected the data, analyzed the results, and concluded it, as well as edited and reviewed the theoretical and empirical literature. All authors have read and approved the manuscript. Acknowledgment—Not Applicable. Funding—Not Applicable.

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