

## How Audit Quality Affects Tax Avoidance: An Analytical Study in Pakistan

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### Abstract

Substantial tax revenue is the lifeblood of a nation's growth and development, yet this essential resource is often undermined by individuals who choose to sidestep their obligations through various tax avoidance strategies. Despite the necessity of taxes for national progress, the reluctance of some to contribute willingly presents a significant challenge to achieving sustainable economic advancement. This study expects to inform the impact of audit quality and tax avoidance among Pakistani non-financial firms, which is investigated based on agency and signaling theory. The study adds to the current literature by examining how audit quality influences corporate tax avoidance activities. This study utilizes a unique dataset of the top 50 firms, spanning from 2016 to 2022, and uses panel data along with the FE and SGMM estimate technique for accounting for potential endogeneity; the study finds a significant positive link between audit quality and tax avoidance. The data show that higher audit quality is associated with lower tax avoidance, implying that rigorous audits discourage aggressive tax planning and improve financial reporting credibility. This study has important implications for policymakers and corporate governance specialists, highlighting the necessity of emphasizing audit quality to reduce tax avoidance. The study admits limitations, such as its concentration on non-financial enterprises in Pakistan, which may impact the conclusion's broader relevance. Future research should investigate this relationship across industries or geographies and consider other factors influencing tax avoidance, such as corporate governance systems.

**Keywords:** Tax Avoidance, Audit Quality, GMM Estimation, Leverage, Firm Size, ROA.

### Introduction

Tax avoidance has become deeply embedded within the country's economic system, posing significant challenges to fiscal sustainability and governance reforms in developing countries like Pakistan. The tax-to-GDP ratio, a significant indicator of tax system effectiveness, has

been consistently low, averaging around 4.6% between December 2000 and December 2022, significantly lower than the OECD average. Pakistan's tax-to-GDP ratio was 5.6% in 2023, indicating persistent challenges in broadening the tax base and improving compliance despite government efforts. These low ratios reflect a significant gap between potential and actual tax receipts, owing primarily to extensive tax avoidance systems.

The Federal Board of Revenue (FBR) has had major issues in tax collection, with the tax-to-GDP ratio ranging from 8.4% to 9.8% over the last few years. Despite a commendable increase in direct taxes of 43.1% in FY 2023, overall tax collection remains behind objectives due to a restricted tax base, insufficient documentation, and widespread tax avoidance. The FBR collected Rs 7,163.8 billion in FY 2023. However, this was still less than the revised target of Rs 7,200 billion, illustrating the challenges in achieving fiscal sustainability. These statistics highlighted the need for comprehensive tax changes in Pakistan, focusing on increasing enforcement, extending the tax base, and strengthening documentation to combat tax avoidance. Therefore, Pakistan's fiscal stability is at risk, as tax dodging undermines revenue generation and economic growth. The existing research sheds light on the literature on major corporations such as Facebook and Starbucks (Davis et al., 2016). Notable financial scandals like Enron and Tyco (Wilson, 2009) emphasize the importance of tax avoidance in the corporate environment of developed countries.

Additionally, taxes are the critical source of state revenue, which supports education, government assistance, infrastructure, and economic growth while enhancing stability and security. These funds are essential for regional development, fostering a sense of security within communities, financing public goods, and paying off national debt. Additionally, taxes and spending capacity are essential in redistributing income from those with greater economic capacity to those with lower financial abilities (Gaaya et al., 2017; Soomro et al., 2020). Tax expenses are operational costs, and tax planning reduces firm profits; hence, tax planning is an appealing strategy for increasing reported profits (Lee & Kao, 2018). Management engages in tax planning because taxes are a large cost component, and the firm does not directly benefit from the taxes paid. A typical reason is that management has an incentive to occupy in tax planning to reduce tax expenses, thereby enhancing firm value (Rezaei & Ghanaeenejad, 2014). Furthermore, tax planning can be motivated by management's desire to maximize their remuneration and bonuses (Armstrong et al., 2015). Tax planning, which is frequently associated with tax avoidance, is typically examined through the lens of agency theory (Gaaya et al., 2017).

Furthermore, tax avoidance refers to the legal practice of minimizing taxes by exploiting loopholes or ambiguities in the tax code. While these strategies adhere to the regulations of the law, they frequently include aggressive interpretations that push the ethical bounds of tax compliance. Tax avoidance may involve using offshore accounts or complicated financial structures that lower tax liabilities without adding real economic value. Despite being legal, such techniques are frequently criticized for exploiting grey situations. However, it is critical to distinguish between tax avoidance and planning, as both firms and individuals have the legal right to lower their tax liabilities through lawful deductions, credits, and other tax planning strategies. According to this perspective, tax avoidance is potentially illegal (Lee et al., 2015; Rezaei & Ghanaeenejad, 2014), and aggressive tax planning should be discouraged.

Crossing legal boundaries can result in penalties, harm the firm's reputation, and ultimately threaten long-term firm sustainability. Agency theory suggests that tax planning requires management's judgment and estimation, involving complexities and discretion. The discretion may drive management to engage in tax planning that only benefits themselves, such as increased compensation, typically at the expense of shareholders (Dakhli, 2022).

Recent research builds upon the work of Gaaya et al. (2017), which studied the influence of family ownership on tax avoidance between 2008 and 2013, moderated by audit quality using 55 Tunisian Stock Exchange companies. Furthermore, this research has focused on tax avoidance, highlighting its impact on corporate financial strategy and the broader consequences for corporate sustainability (Alkurdi & Mardini, 2020; Kovermann & Velte, 2019; Zolotoy et al., 2021). Tax avoidance, defined as actions that reduce a firm's tax obligations relative to its pre-tax accounting income Christensen et al. (2015), is frequently viewed as a legal and strategic effort by businesses to reduce operational costs and maximize available cash flow for shareholders (Suranta et al., 2020). Management is encouraged to engage in tax planning to raise the firm value and increase their pay and bonuses (Armstrong et al., 2015; Rezaei & Ghanaeenejad, 2014). However, active tax planning, sometimes known as tax avoidance, presents ethical problems and significant legal consequences, particularly when it exploits flaws in tax rules (Gaaya et al., 2017; Lee et al., 2015). While legally acceptable, such actions, if excessively aggressive, might result in penalties and damage the firm's reputation, endangering long-term business viability.

Auditors' role in society is to assure shareholders that corporate reports and financial statements accurately reflect a firm's performance. Over the past two to three decades, the issue of audit quality has become a focal point for researchers as they seek to understand the issues that influence the integrity and reliability of audits (Malik et al., 2017). The significance of this topic has been further heightened by recent financial crises and corporate scandals, which have exposed vulnerabilities in financial reporting and auditing practices. It is widely acknowledged that an auditor's performance can be compromised by several issues that negatively impact the quality of the audit (Masood & Afzal, 2016). However, a noticeable trend in recent years has been the significant increase in auditors' quality, particularly in Big Four firms. This surge in remuneration has sparked debate among researchers, with some studies suggesting that higher quality correlates with improved audit. In contrast, others argue that excessive payments could impair auditor independence, reducing quality.

Despite the global interest in this topic, Pakistan has been relatively overlooked in audit quality research. To date, less significant studies have addressed quality audits in Pakistan, leaving a gap in the literature this research aims to fill. Understanding audit quality in Pakistan's unique regulatory and economic environment is critical, especially as the country seeks to enhance governance and financial transparency. Therefore, this study aims to investigate and empirically examine the impact of audit quality on tax avoidance inside Pakistani firms. The remainder of the study is structured as follows: it reviews the relevant literature and develops the hypotheses; next, it outlines the methodology used to test the hypotheses; then, it presents the results of the econometric models; and finally, it finishes with the study's key findings.

**Literature Review**

This study investigates the relationship between audit quality and tax avoidance practices. The current research literature on tax avoidance emphasizes two different theories: agency and Signaling theory. Besides, these theories are the dominant idea in the current literature on tax avoidance.

Agency theory is fundamental for understanding corporate governance, particularly the relationship between owners and managers. Within the particular concept, owners or principals delegate the responsibility of monitoring firm operations to agents (Jensen & Meckling, 2019). However, this relationship can lead to conflicts of interest, information asymmetry, and inefficiencies. One manifestation of this conflict is tax avoidance, where management is motivated to maximize profits for stakeholders and may engage in practices that reduce tax burdens. Engaging in activities such as altering financial statements goes against the fundamental principles of effective corporate governance, emphasizing the importance of transparency and accountability in financial reporting. Agency theory explains how a conflict of interest in audit quality and tax avoidance may lead to practices that undermine good governance.

Signal theory was first introduced by Spence (1973), and after that, signaling theory suggests a strategy for firms to convey significant information to participants of financial statements. According to this theory, management communicates signals through disclosures that align with shareholders' interests. The firm's annual report is essential to external parties, particularly investors. These reports include financial statements and non-financial information, providing insights into the firm performance. By providing financial data, firms provide an optimistic signal to shareholders, allowing them to analyze the firm's current status and make educated future decisions. Signaling theory supports understanding how transparent and accurate financial reporting influences stakeholder perceptions and decision-making in the context of audit quality and tax avoidance (Spence, 1973).

Tax avoidance refers to strategies that lower a firm's tax liabilities by exploiting loopholes in tax laws and regulations. Tax avoidance involves minimizing explicit taxes through numerous transactions that affect the firm's tax liabilities (Hanlon & Heitzman, 2010). This study can lead to firms paying lower taxes, increasing their reported profits. This practice is frequently motivated by firms aim to increase profits to benefit shareholders. The pursuit of higher profit statistics through tax avoidance shows the conflict between maximizing shareholder wealth and adhering to the intended spirit of tax regulations.

Audit quality has been a widely debated topic in accounting and finance literature, especially since Arthur Andersen's role in the 2001 Enron scandal highlighted concern about the Big 4 accounting firms' monitoring efficiency (Crockett & Ali, 2015; Hakim & Omri, 2010; Shahzad et al., 2019). Despite its relevance, the economic impact of audit quality has received little attention, indicating the need for future research (Francis, 2011). Previous research indicates that higher audit quality is connected with stronger analyst forecast accuracy (Wu & Wilson, 2016), lower capital costs (Ghoul et al., 2016), and lower stock price crash risk (Robin & Zhang, 2015).

DeAngelo's Audit Quality Theory defines audit quality as the possibility that an auditor will find and disclose any violations or inaccuracies in a client's financial statements during an audit. As a result, research frequently measures audit quality using the auditor's capability and independence, typically reflected in the auditing firm's size and reputation, such as whether it is a member of the Big Four. Transparency, a fundamental component of corporate governance, is essential in auditing. A high-quality audit is defined by the auditor's capacity to conduct the audit in compliance with the Professional Standards of Public Accountants, guaranteeing that the client's financial reporting is accurate and reliable. The ultimate purpose of audit quality is to improve the credibility of financial reports by providing users with reliable information using the auditor's independent and transparent approach.

## **Hypotheses Development**

### *Audit Quality and Tax Avoidance*

Audit quality is a vital monitoring mechanism within any firm, providing control over operations and ensuring compliance. Furthermore, audit quality is crucial to guaranteeing the transparency and trustworthiness of financial reports. Firms audited by Big Four accounting firms had lower levels of fraud than those audited by non-Big Four firms (Hidayati & Fidiana, 2017). Previous research, such as that conducted by Gaaya et al. (2017), has emphasized the relevance of audit quality, particularly in minimizing tax avoidance techniques. High-quality auditors are less likely to engage in or ignore corporate tax avoidance activities because they are well aware of the serious penalties that could result if such acts are discovered by tax authorities. Tax avoidance not only harms the auditor's reputation, but it also erodes public trust, which is critical to their continued credibility and effectiveness.

Research conducted by Dewi and Yasa (2020), and Setyawan et al (2019), indicates that audit quality negatively affects tax avoidance, which contrasts the findings of Librania et al (2021), which found no significant effect between audit quality and tax avoidance. Furthermore, Salehi et al (2020), discovered a positive association between external audits and effective tax rates, implying that enterprises paying higher audits benefit from improved audit quality, which minimizes tax avoidance. Hanlon et al (2012), discovered that greater audits could lead to more tax avoidance, which is corroborated by Donohoe and Knechel (2014), who showed a substantial positive association between audit fees and tax avoidance activities. Although these studies emphasize the importance of audit quality in corporate tax avoidance, the results are not fully uniform. Based on existing empirical literature, this study uses corporate characteristics such as size, liquidity, leverage, sales growth, asset growth, and turnover as control variables to explore the influence of audit quality on tax avoidance. Based on these findings, the study assumes a positive relationship between audit quality and tax avoidance.

H<sub>1</sub>: Audit quality is positively associated with tax avoidance.

## **Methodology**

### *Population and Sampling Procedure*

The information on the variables used in this study was extracted using a secondary data collection method. The panel data for the analysis was obtained from the firm's annual reports and DataStream, which is listed on the Thomas Reuters Eikon database. Globally, the Thomas Reuters Eikon database is extensively used in the financial markets and is a leading

financial data provider. Besides, we use a balanced panel dataset with an annual data frequency from Pakistan (Shah et al., 2021).

This study selected a research sample of 50 non-financial firms that spanned seven years from 2016 to 2022. Thus, to choose our sample, it would be possible to collect the availability of the data over this study period, and if an observation meets one of the following criteria, it is eliminated, such as financial sector and missing or incomplete data. In addition, financial firms are omitted from the research sample due to remarkable differences in their accounting system, disclosure requirements, and regulations when compared to the rest of the economy (Elzahar et al., 2015). More intriguingly, data from financial firms may be suspected of being outlier values in any empirical study that examined sectors with variances in capitalization and other characteristics of firms (Cooper et al., 2003).

This study explores the relationship between effective audit quality and tax policy in firms with different levels of tax avoidance and the decision-making processes that may explain cash policy in the firm.

### **Definitions of Variables**

#### *Dependent Variable*

The current study's dependent variable is tax avoidance (TAV). In this context, several alternative definitions of tax avoidance have been used in prior literature. Henceforth, to precisely measure the dependent variable tax avoidance, this study employs the most widely used proxy in computing tax avoidance (Gaaya et al., 2017). Tax avoidance measures use an effective tax rate (ETR) value. The low ETR value reflects growing tax avoidance practices and vice versa. The measuring of tax avoidance practice in this study is based on the research (Hanlon & Heitzman, 2010). The Current ETR measurement seeks to determine the amount of tax charges currently charged or during the current year, as shown in the firm's income statement. The Current ETR value is calculated as Current Income Tax Expense divided by Pre-Tax Income.

#### *Independent Variable*

The audit quality (AQ) is measured by using a dummy variable: If the firms audited by the Big 4 (Ernst & Young, Price Water House Cooper, Deloitte, and KPMG), audit quality equals 1; otherwise, it equals 0. (Lestari & Nedy, 2019).

#### *Control Variables*

This study employed three firm-specific parameters as control variables in our empirical models to increase the accuracy and reliability of the analysis's inference.

**Firm Size (Size):** Prior research suggested that firm size influences tax avoidance. Irianto et al. (2017) contended that the size of firms has a positive effect on tax avoidance. Firms of greater sizes would be more aggressive in their tax policies than small firms. However, Kalbuana et al. (2020) and Prabowo (2020) demonstrated that the size of a firm has no impact on tax avoidance. As a result, this study included firm size (SIZE) as a control variable in these analyses. The natural log of total assets is one of the most frequently utilized measures to calculate firm size (Jarboui et al., 2020; Mouakhar et al., 2020; Riguen et al., 2021).

Firm leverage is calculated as total debt divided by total assets. It contended that firms with debts would be more aggressive in gaining an opportunity to request tax reductions as a result of interest payments (Dharma & Ardiana, 2016). However, Kalbuana et al. (2020) and Singly and Sukharta (2015) determined that leverage has a negative and no significant impact on the avoidance of taxes.

Return on Assets (ROA) is an indicator that measures the firm's financial performance. A firm's performance improves as its ratio value increases. ROA is related to a firm's net profit and the taxes it must pay. It is calculated as pre-tax income divided by total assets (Mafrolla & D'amico, 2016; Rahman & Leqi, 2021; Salhi et al., 2020). Prior studies concluded that profitable firms have greater incentives to engage in corporate tax avoidance to reduce their tax obligations (Lanis and Richardson, 2012; Kurniasih and Sari, 2013). Another study indicated that ROA negatively affects firm tax avoidance (Prakosa, 2014).

### *Model Specifications*

This study used DataStream over a span of seven years to conduct a comprehensive quantitative analysis of the impact of audit quality on tax avoidance. Three static panel data techniques were used to obtain the results: ordinary least squares (OLS), random effects, and fixed effects. Furthermore, the study used one-step and two-step system generalized method of moments (GMM) estimators to handle heterogeneity, endogeneity, and reverse causality. The research regression equation can be stated numerically as follows:

#### *Direct Relationship for Static*

$$tav_{it} = \beta_0 + \beta_1 tav_{it} + \beta_2 aq_{it} + \beta_3 fsize_{it} + \beta_4 lev_{it} + \beta_5 roa_{it} + \lambda_{it} + \eta_t + \varepsilon_{it} \dots \dots (1)$$

#### *Direct Relationship for Dynamic*

$$tav_{it} = \alpha_0 + \beta_1 tav_{it-1} + \beta_2 aq_{it} + \beta_3 fsize_{it} + \beta_4 lev_{it} + \beta_5 roa_{it} + \lambda_{it} + \eta_t + \varepsilon_{it} \dots \dots (2)$$

The model analyzes tax avoidance (TAV) for firm  $i$  at time  $t$ , using audit quality (AQ) as an independent variable. The research also takes into account control variables such as firm size (FSIZE), leverage (LEV), and return on assets (ROA). The terms  $\lambda_{it}$  indicate country-specific effects,  $\eta_t$  captures time effects, and  $\varepsilon$  represents the stochastic error term.

### **Variable Explanation**

Where:

TAV	=	Tax avoidance
AQ	=	Audit quality
FSIZE	=	firm size
LEV	=	leverage
ROA	=	Return on Assets

Table 1

*Measurement of Variables*

Variable	Acronym	Definitions	Authors
Tax Avoidance	ETR	ETR is total tax expense divided by pre-tax income. $ETR = \frac{\text{Tax expenses}}{\text{Pre Tax income}}$	Salhi et al., (2019); Alkurdi and Mardini, (2020); Abdelfattah and Aboud, (2020); Mouakhar et al. (2020)
Audit Quality	AQ	1 if the firm has a Big 4 auditor and 0 otherwise	Lestari and Nedy (2019); Abid et al. (2018)
Firm Size	SIZE	Natural Logarithm of total assets	Jarboui et al. (2020); Mouakhar et al. (2020); Riguen et al. (2021)
Firm Leverage	LEV	Total debt divided by total assets	Mouakhar et al. (2020); Riguen et al. (2021)
Return on Assets	ROA	$ROE = \frac{\text{Pretax income}}{\text{Total assets}}$	Mafrolla and D'amico (2016); Salhi et al. (2020); Rahman and Leqi (2021)

**Data Analysis**

This study used a panel data technique to account for the cross-sectional time-series nature of the data. Panel data is a more appropriate technique than pooled ordinary least squares (OLS), which ignores panel structure by interpreting observations as serially uncorrelated for a specific firm and assuming homoscedastic errors across firms and periods. On the other hand, panel data allows for more reliable analysis because it considers these influences. Balsari et al (2010), proposed using a fixed effects panel data model to compensate for omitted factors that change among businesses but remain constant over time. Lestari and Nedy (2019), argue that when evaluating the association between audit quality and tax avoidance, fixed effects inside estimators should be included to overcome potential econometric difficulties such as unobserved heterogeneity. This approach assures that the research accurately reflects the influence of audit quality on tax avoidance while also accounting for time-invariant corporate characteristics that could otherwise bias the results.

Nevertheless, Lestari and Nedy (2019) notice a constraint: fixed effects estimators might exhibit bias when analyzing the influence of tax avoidance on present audit quality, as they fail to adequately encompass the potential reverse causality in this association. The study conducted by Arellano and Bond (1991), used the system-generalized method of moments (SGMM) two-step estimator to test the hypotheses. This method effectively dealt with concerns related to autocorrelation, heterogeneity, heteroskedasticity, and endogeneity in the predicted independent variables. The SGMM approach is best suited for research with a short sample period and a large number of cross-sections. This technique involves a system with two sets of equations, using instrumental variables to eliminate the relationship between residual values and predictor factors, resulting in more robust and reliable outcomes. In this study, audit quality was treated as endogenously linked to tax avoidance and thus was instrumented. To address this, the lagged value was selected as an instrument. Additionally, two diagnostic tests were conducted: the Sargan test of over-identifying restrictions and the



AR (2) test. The Sargan test evaluates the validity of the instruments by assessing the moment conditions used in the estimation technique. If these conditions are applied, the instruments are valid. The AR (2) test also checks for the absence of serial correlation in the error terms. It is worth noting that the results from the SGMM two-step estimators are consistent with those from the fixed-effects models, as illustrated in Table 4.

## Results and Discussions

### *Descriptive Statistics*

Descriptive statistics were performed for dependent, independent, and control variables to show the overall picture of the data set used for the current study. The number of observations, mean, standard deviation, maximum and minimum values are shown in Table 2. The number of observations, mean, standard deviation, maximum and minimum values are shown in Table 2. TAV had a mean of 0.2846, a standard deviation of 0.1816, and ranged from 0.094 to 0.7056 for the minimum and maximum values. With a mean of 43.42 and a standard deviation of 49.63, audit quality (AQ) ranged from 0 to 1. About the control variables, firm size has a mean of 25.47%, leverage has a mean of 1.33%, indicating that firms in the sample rely more on debt financing, and profitability is symbolized by return on assets with the maximum value of 0.1272, a minimum value of 0.06.

Table 2

### *Descriptive Statistics*

Variable	Observations	Mean	Std. Dev.	Min	Max
TAV	350	0.2846461	0.186115	0.0943857	0.70569
AQ	350	0.4342857	0.4963724	0	1
FSIZE	350	25.47711	0.202502	25.11852	25.7369
LEV	350	1.330823	0.7865282	0	2.477853
ROA	350	0.0949664	0.0201959	0.065071	0.1272738

### **Correlation Analysis**

Table 3 shows the Pearson correlation matrix, including each explanatory variable's correlation coefficients. This study is critical for determining the extent of multicollinearity among the explanatory variables. The strongest association was found between TAV and LEV, with a coefficient of 23.56%, which was statistically significant at the 1% level. In contrast, the lowest correlation was found between FSIZE and ROA, with a correlation coefficient of -9.59%, which was not statistically significant. All correlation coefficients are less than 0.90, indicating that there are no significant multicollinearity issues among the explanatory factors.

Table 3

### *Correlation Analysis*

Variable	TAV	AQ	FSIZE	LEV	ROA
TAV	1.0000				
AQ	0.0606	1.0000			
FSIZE	-0.0649	0.0480	1.0000		
LEV	0.2356	-0.1006	-0.0933	1.0000	
ROA	0.0724	-0.0626	-0.0959	0.0047	1.0000

**Note(S):** correlation statistically significant at the 0.1 \*, 0.05\*\* and 0.01\*\*\* levels, respectively

### **Regression Analysis**

Table 4 shows the findings for the fixed effects and System GMM (SGMM) models. Initially, the study contained 350 observations. However, during the model estimate process, Cook's distance test for outliers Cook (1977) found and deleted a set of outliers using the cut-off = 1 command. Consequently, the fixed effects model was estimated with 308 observations. The SGMM model, which accounts for the lagged dependent variable and further eliminates outliers, was estimated using 225 observations. Given that SGMM is more robust than fixed effects models in dealing with problems such as autocorrelation, heterogeneity, heteroskedasticity, and including endogenous and preset explanatory factors, this study will primarily focus on the SGMM results for further discussion.

The diagnostic testing for model M2, as shown in column 2, yielded a mean-variance inflation factor (VIF) of 1.02, suggesting no multicollinearity between the independent variables. Cook's distance test was used again to identify and remove outliers, yielding 225 observations for the SGMM calculation. The SGMM model findings showed that the first-order autocorrelation test (AR1) had a significant p-value of 0.041; however, the second-order autocorrelation test (AR2) had an insignificant p-value of 0.362, indicating that there was no second-order serial correlation. The Sargan test yielded a p-value of 0.347, verifying the accuracy of the model's sensors. Furthermore, the lagged dependent variable was determined to be significant at the 1% level, with a positive coefficient of 0.00917, supporting SGMM as the preferable model estimator in this investigation.

Table 4

*Analysis of Panel Regression*

Fixed Effect(M1)		SGMM(M2)	
<b>constant</b>	-9.194*** (0.000)	<b>constant</b>	-8.126*** (0.000)
<b>AQ</b>	0.0332 (0.697)	<b>L.TAV</b>	0.00917*** (0.000)
<b>FSIZE</b>	0.377*** (0.000)	<b>AQ</b>	0.2087*** (0.000)
<b>LEV</b>	0.000995 (0.875)	<b>FSIZE</b>	0.351*** (0.000)
<b>ROA</b>	0.000439*** (0.000)	<b>LEV</b>	0.0224* (0.067)
		<b>ROA</b>	0.000194*** (0.000)
<b>No. of observations</b>	308	<b>No. of observations</b>	225
<b>R-sq</b>	0.3043	<b>Instruments</b>	25
<b>Vif(mean)</b>	1.02	<b>1.02</b>	
<b>Wooldridge test</b>	Prob > F = 0.2621	<b>WaldChi2</b>	2033.41***
<b>Modified Wald test</b>	Prob > X2 = 0.0000	<b>AR (1) test</b>	0.041
<b>Breusch &amp; Pagan</b>	Prob > chibar2 = 0.3293	<b>AR (2) test</b>	0.362
<b>Hausman fixed</b>	Prob>X2= 0.0001	<b>Sargan test</b>	0.347

**Notes:** Analysis is based on a total of 350 observations over seven years. The symbols \*\*\*, \*\*, and \* indicate significant levels of 1%, 5%, and 10%, respectively. AR (1) test checks for the presence of 1st-order residual autocorrelation, AR (2) test detects residual autocorrelation of the second order, and the Sargen test demonstrates that the instrument is valid.

The findings show that audit quality is positively and significantly associated with tax avoidance at the 1% level. This is consistent with the findings of (Gaaya et al., 2017), which demonstrated that audit quality reduces the incentives of family enterprises to engage in aggressive tax positions, highlighting its moderating effect on the association between family ownership and tax avoidance. Essentially, improved audit quality, which is anticipated to improve compliance and transparency, is connected with higher levels of tax avoidance. This shows that firms with higher audit quality are better able to discover and apply legal tax avoidance strategies. High-quality audits help to reduce tax avoidance by leveraging auditors' tax law expertise, assuring compliance, and mitigating legal risks. Auditors also provide strategic advice to firms on how to optimize their operations and transactions in order to reduce tax liability. Enhanced transparency in financial reporting fosters trust with tax authorities, whilst smart tax planning frees up resources for expansion, ultimately increasing shareholder value. High-quality audits contribute to the protection and strengthening of a firm's reputation by ensuring that tax strategies are legal and ethical.

## Conclusion

Tax avoidance is a major concern in the corporate sectors, particularly in Pakistan, where it can lead to heightened financial instability due to increased regulatory scrutiny and reputational harm. This study investigated the connection between audit quality and tax avoidance, using signaling and agency theories as theoretical methods to understand the underlying drivers of tax avoidance.

Preliminary tests were performed using data from the Thomson Reuters database, such as descriptive statistics, correlation matrix, and VIF test, to check for multicollinearity issues before GMM estimation was applied to an observation of 350 Pakistani firms. The study found a significant link between audit quality and tax avoidance. Furthermore, this study contributed to the corpus of knowledge in various ways. In accordance with the Signaling and Agency theories, the study discovered that the quality of audit practices based on Big Four firms improved tax avoidance strategies.

Practically, the findings provide valuable insights for experts aiming to reduce tax avoidance by implementing high audit quality requirements. High-quality audits, particularly those conducted by Big Four firms, are effective tools for preventing aggressive tax avoidance strategies. These audits provide intense oversight and availability of crucial information regarding corporate strategy management, thereby assisting managers in making decisions that prioritize the welfare of stakeholders. As a result, this ultimately leads to the development and implementation of more sustainable and long-lasting plans and regulations, strengthening the importance of high-quality audits in encouraging transparency and accountability in corporate tax practices.

However, this study has some limitations that may influence its findings. Firstly, the analysis only includes non-financial firms in Pakistan that are listed on the Thomson Reuters database, which may not completely represent the larger corporate environment, including those listed on Bloomberg and Compustat, etc. Second, the analysis is limited to the years 2016–2022, restricting the generalizability of the findings to earlier or future periods. Third, the study only considers audit quality as an independent variable, which may not reflect the full spectrum of factors driving tax avoidance. Furthermore, tax avoidance is quantified using the Current Effective Tax Rate (ETR), which may not give a complete picture of tax avoidance techniques. Therefore, it is suggested that future research concentrates on these factors. Future research should examine broadening the sample to include financial firms and extending the study period to provide a more thorough understanding of tax avoidance across time. Additionally, future research could include additional variables, such as corporate governance factors like audit committee independence and audit fee, as well as investigate other potential influences on tax avoidance, such as earnings management and financial distress, to provide a more nuanced analysis of the determinants of tax avoidance. To further strengthen audit quality propensity for implementing sustainable practices to improve tax avoidance, it would be beneficial to look into additional mediating or moderator variables, such as earnings management, managerial role, and financial distress.

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