



The effect of joint audit on accounting conservatism

Empirical evidence from Egypt

by

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Abstract:

This study investigates the impact of joint audits on accounting conservatism among non-financial firms listed on the Egyptian Stock Exchange. Using balanced panel data from 93 companies over the 2015–2021 period (651 firm-year observations), the research applies the Khan and Watts (2009) model to measure conservatism. Employing dynamic panel data and fixed effects models, the study finds no statistically or practically significant effect of joint audits on firms' accounting conservatism, even after adjusting for dynamic biases. This outcome supports the hypothesis that joint audits, as currently implemented in Egypt, lack the regulatory strength and auditor coordination necessary to influence conservative financial reporting.

The findings suggest that joint audits are largely formalistic, with limited integration between auditors and insufficient regulatory oversight, thereby failing to shape firms' accounting policies meaningfully. In contrast, prior-period conservatism shows a strong, positive influence on current conservatism levels, indicating that conservative reporting is a persistent behavior. This continuity may stem from managerial preferences, internal accounting culture, or established control systems aimed at ensuring financial reliability and minimizing earnings volatility.

Cohen's effect size analysis further confirms the lack of practical impact from joint audits, prompting a call for deeper research into the institutional and regulatory barriers that hinder their effectiveness. Future studies should explore auditor relationships, coordination mechanisms, corporate governance, and regulatory frameworks to better understand how joint audits might be restructured to enhance accounting conservatism.

Keywords: joint audit, accounting conservatism.

1. Introduction

The audit aims to give confidence in the financial reports to the users of the financial statements. The audit derives its importance from its primary goal, which is improving the quality and content of information for decision-making purposes (Brown et al.2021). This is done through the auditor reviewing the financial statements, and therefore the reviewed information is used in making decisions as accurate and not misleading information (Van, 2023).

Despite this, there are many challenges facing the quality of the audit and the integrity and independence of the external auditor (Gaddis, 2018) which results in many crises and damage to the stakeholders of the company, so they won't trust in the financial statements (Marnet, 2022).

This resulted in an increase in professional and academic demands for applying control and activating the role of governance mechanisms to ensure the restoration of confidence and balance in the quality of published financial reports by improving the quality of the audit process (Jasim, 2022).

The increase in economic collapses and bankruptcies of major companies in a number of East Asian countries and American companies negatively affected the confidence of traders in the money market (Chen, 2021) as well as the stakeholders' loss of confidence in the statements provided by auditing institutions, especially after the scandal of (Arthur Anderson) To review its role in publishing misleading financial reports that contain professional violations (Van, 2023).

Accordingly, many questions were raised about the usefulness of external auditing and the extent of its impact on the integrity and reliability

of financial reports and the importance of relying on conservative accounting policies in preparing financial reports (Appelbaum et al. 2018).

where accounting conservatism is considered one of the basic principles on which accounting theory is based under the name of caution, which has a fundamental impact on the measurement and accounting disclosure functions to ensure appropriate dealing with all risks and uncertainties associated with the company's practice of economic activity, and this was reflected in the increase in accounting studies, especially in light of the increasing demand of stakeholders to follow more conservative accounting policies (Zadeh et al. 2022).

Accounting conservatism is one of the most important accounting methods that occupies a significant place in the process of preparing financial statements because of its significant impact on determining business results and the financial position of companies (Anagnostopoulou et al. 2021) as well as its clear impact on improving the value of cash retained and fortification one of the practices of the controlling shareholders and limiting the deterioration of the cash value when the company suffers from agency problems during the crisis period (Glover, 2022).

To strengthen confidence and credibility in the financial statements and in the external audit report, some professional bodies have taken some preventive measures to prevent the recurrence of the crisis by issuing some legislation to control and monitor the performance of auditors (Balios et al. 2020) such as imposing greater oversight and activating corporate governance mechanisms, improving audit quality, applying the auditor's

industrial specialization, using the audit method Joint, peer review, strengthening the independence of auditor's (Chintapalli and Pun , 2022).

The European Committee has proposed many procedures and mechanisms to restore confidence in the published financial statements and in the independence of the external auditor. The most important of these procedures and mechanisms are audit committees, the joint audit approach, rotating the external auditor, placing restrictions on services other than auditing provided by the auditor (Martinus et al. 2022).

The European Commission proposed mandatory joint auditing as one solution to give confidence in the auditor's report and support the oversight of auditing firms in the European Union (Zhou, 2022). The responses of the professional bodies towards this proposal varied, as some responses indicated a concern related to the increase in the cost of the audit and the occurrence of conflicts between the auditors participating in the audit or the occurrence of the phenomenon of market concentration (Reid et al. 2019).

On the other hand, some professional organizations were keen to support the joint audit to increase the quality of the professional performance of the auditor (Okereke, 2022). Among the forms of support is the issuance by the International Federation of Auditors of International Auditing Standard No. (600) regarding the use of an external auditor. The standard provides guidance to auditors when applying joint auditing (Kajola et al. 2022).

Due to the interest of investors and researcher with the joint audit and accounting conservatism such practices lead to improving the company's economic performance (Mnif and Salman, 2022). Therefore, the researcher studies the relationship between joint audit and accounting conservatism.

Accordingly, in order to contribute to existing literature, this study is trying to shed light on the joint audit and accounting conservatism by understanding the effect of joint audit on accounting conservatism. The research has many effects on stakeholders and practitioners.

As such, the relationship between joint audit and accounting conservatism remains a fertile ground for further empirical investigation.

In light of this, the researcher studies the effect of joint audit on accounting conservatism and the main dimensions of audit quality in order to fill the research gap of previous studies and thus the problem of the research can be formulated in the following main question:

“What is the effect of joint audit on accounting conservatism?”

2. Research purpose

The general objective of this research is to determine the effect of joint audit on accounting conservatism.

3. Research importance

The research derives its importance from the point of view of its handling of the issue of the effect of joint audit on accounting conservatism, which needs more depth and research. **The scientific importance** of the research can be clarified through the following points:

1. This research represents an extension of previous studies, and the research contributes to exposure to a new field of research that needs more addition, especially in Arabic studies.
2. The importance of the research lies in the relative scarcity of research and studies that linked the joint audit on accounting conservatism.

3. The research also derives its importance from its research of one of the most controversial topics of accounting thought in relation to joint audit.

The research also derives its **practical importance** through the following points:

1. The research sheds light on the importance of using joint audit in accounting conservatism.
2. Concentrate in the importance of accounting conservatism as one of the requirements of the Egyptian business environment.

4.Literature review and hypothesis development

Ghali (2018) main objective was to measure the impact of the joint audit approach on the relationship between the level of accounting conservatism and the value of the firm listed in the Egyptian index (EGX 100). published for a sample of companies included in the (EGX 100) index, consisting of (42) companies belonging to different sectors, which includes actual data for a cross section over a time series (time series) extending to eight years during the period (2010-2017) with a total of (336) views, to test (3) research assignments that reflect the interactive impact of the joint review approach on the level of accounting conservatism and the value of the company.

By building (3) models, the first to measure the impact of the joint review approach on the level of accounting conservatism, The second is to measure the effect of the level of accounting conservatism on the value of the company, and the third is to measure the impact of the joint audit approach on the model of the relationship between the level of accounting conservatism and the value of the company.

The results of the applied study indicated that there is a positive and significant correlation between the joint audit approach and the level of accounting conservatism on the MTB scale, which indicates that an increase in the level of accounting conservatism is associated with activating the joint audit approach. The study also concluded that there is a positive and significant correlation between the level of accounting conservatism and the value of the company according to Tobin's Q scale. The study also found a positive and significant effect of the joint review approach on the model of the relationship between the level of accounting conservatism and the value of the company. Based on the previous results.

Lobo (2018) used a sample of firms from France, where the law requires use of two auditors, and examine the effect of auditor pair composition on overall measures of unconditional and conditional accounting conservatism, as well as on a specific measure of conditional accounting conservatism, i.e., impairment loss. Lobo used game theory to demonstrate that pairs of Big 4 auditors facing similar incentives are likely to have lower auditor independence, leading to lower accounting conservatism. Conversely, pairs of a Big 4 and a small auditor increase Big 4 auditors' incentives to be conservative.

Lobo document that Big 4–Small auditor pairs are more unconditionally and conditionally conservative using market-to-book ratio and Basu's (1997) measure of accounting conservatism, are more likely to book impairments when operating performance is low and make more transparent impairment-related disclosures. The study results inform regulators who are considering requiring joint audit to improve audit quality.

Hafiz (2020) study uses Data of 50 companies listed on the Egypt Stock Exchange for the period from 2013-2018. The study has tested the impact of auditing quality characteristics (company size, audit firm size, the specialty in client's industry -audit committee – leverage) on the choosing of the accounting conservatism practices. It has also tested the impact of these characteristics on applying joint audit in the chosen companies, finally it has tested the impact of joint audit on accounting conservatism. Using stepwise regression to test the first and second hypothesis, and the simple linear regression to test the third hypothesis. The study found the significant impact of some auditing quality characteristics as (audit size, company size and the specialty in client's industry) on the choosing accounting conservatism practices. It found the significant impact of some auditing quality characteristics such as (audit committee, company size and audit firm size) on applying joint audit. Finally, it found the significant impact of Joint audit on choosing accounting conservatism.

Khalil (2020) study aimed to identify the application of joint audits to the accounting conservatism as well as the impact of joint audits on the accounting conservatism from the point of view of Jordanian auditors. The study sample consists of 155 observations for many firms listed in the Jordan stock exchange covered in period 2015-2019.

The study focused on investigating the impact of joint audits of the procedures of understanding management and the board of directors, as well as examining the relationship with the relevant parties, the company and financial industry, financial results and operational characteristics to identify the impact of joint audits on accounting conservatism through

these procedures. Results indicate that there is no statistically significant impact of joint audits on accounting conservatism at the level of (5%).

Adewumi (2021) study assessed the practice of joint audits on accounting conservatism quality among firms to determine its effect in ameliorating the problems of firms that have been traced to be created by the quality of accounting conservatism. Secondary data collected from the Annual Reports of 50 listed non-financial firms purposively selected was used for the study. Analysis of the data collected was done using the descriptive method by presenting them on tables and percentages the period covered by this study were from 2008 to 2018, a period of 11 years.

The study concluded that the practice of Joint Audit is alien as 6 out of the 50 firms selected engaged in the services of joint auditors within the period. This means that a joint audit is not practicable within the period reviewed. The researcher recommends several recommendations, the most important of which are: It can provide an additional explanation about the effect of activating the joint auditing approach on conservative accounting practices, and the need to introduce an Egyptian or international standard for joint auditing applications in companies listed on the Egyptian Stock Exchange, given its impact on the level of accounting conservatism and the future value of the company.

The researcher found that studies agreed that joint audit can achieve credibility of financial reporting and increase its quality in two ways. First, joint audit leads to safe rotation by retaining the one who has more knowledge and understanding about the client firm. This safe rotation guarantees more independence and competence. Second, joint audits overcome the economic threat of auditor independence by splitting audit

fees and consulting fees between the two auditors, which means that the two auditors will be stronger in the face of management pressure and will do their best to control management and report their opinions fairly.

Another bulk of literature refuses the idea that joint audit can increase the quality of financial reporting for two main reasons. First, joint audit causes the free-rider problem which occurs when one of the auditors fully depend on the other during the audit activity. Second, competitive environment among auditors may impede the cooperation atmosphere between the joint audit parties which prevents information exchange between them.

In brief, the relationship between joint audit pairs and the financial reporting quality measured by abnormal accruals has become more controversial among academics, whereas some of them conclude that joint audit could increase the financial reporting quality Ali, (2019). But on the other side, some academics suggest that there is no relationship between joint audits and the financial reporting quality Akinkoye (2021) and Khersiat(2020). The controversy among academics about the impact of joint audit on the quality of financial reporting has led to more research in this field.

So, we can conclude the research main hypothesis as follow:

“There is no impact to joint audit on accounting conservatism

5. Research Methodology

5.1 Overview

Research methodology is an important element in any scientific study. It is a combination of basic concepts in a systematic and organized manner to study the solution of a specific problem facing the business or economic environment, which requires solutions (Raza, 2021). To be more specific, Mouton & Marais (1988) argued that "the research methodology, in all its breadth and complexity, includes the different techniques and methods used, the rationale behind the use of such methods, the limitations imposed on the use of each, the role of the chosen techniques and methods in examining hypotheses, and the impact of methodological preference on the type of data analysis and subsequent interpretations of the results".

In the same context, Huang, et al., (2014) believes that research methodology helps answer two important questions related to research, which are: (1) What are the methodologies and methods that will be used in the research? (2) What are the justifications for the methodologies and methods? To this end, this section discusses the main methodological issues in the study, such as research design, study model, the variables, the study population and sample, the data collection methods, and the analytical techniques. It also provides a detailed explanation and justification for the proposed methods for conducting the study, and the selection of specific analytical methods.

5.2 Statistical methods used to test hypotheses

Statistics is the science of collecting, analyzing, presenting and interpreting data, and it has two main branches, descriptive statistics and inferential statistics. Which are equally important. In this section, the

different statistical methods will be discussed to answer the study questions. The statistical methods are as follows:

(1) Descriptive Statistics

Descriptive statistics is the simplest form of statistics and is derived from the basics of mathematics: it is a tool to help researchers organize and summarize the inevitable variation in groups of observations or actual scores (Witte & Witte, 2017), by converting them into a set of simple statistics and graphs that can be read and analyzed, which enables meaningful conclusions to be drawn about the topics of analysis, in addition to the possibility of making inferential statistical comparisons and conducting research (Kaur, et al., 2018). In such cases, descriptive statistics become crucial.

Descriptive statistics (Mishra, et al., 2019) are defined as the type of information provided in just a few words to describe the basic features of the data in the study, where it is used to summarize a set of observations, to convey as much information as possible in the simplest way possible. Descriptive statistics contain many measures, which are divided between; i) measures of central tendency (mean, median, mode, and mode), ii) measures of dispersion (range, standard deviation, and variance), iii) formal measures (frequency histogram, histogram, skewness coefficient, kurtosis coefficient, and normal distribution curve) (Kaur, et al., 2018).

Thus, although descriptive statistics are a simple means of summarizing data, they are fundamental and meaningful in statistical analysis and can be used as a building block upon which further analysis can be based (Dong, 2023).

(2) Pearson Correlation Coefficient

The correlation coefficient (denoted as r) is a statistical measure that determines the direction and strength of linear relationships between two continuous variables. It allows for a preliminary assessment of the hypothesized relationships among the study variables and helps identify whether the model is likely to suffer from multicollinearity. Moreover, it provides an indication of the magnitude of effect between variables (Kremelberg, 2011). The value of r for any pair of variables will always lie between:

$$-1 \leq r \leq 1$$

Where,

- **A correlation coefficient of 0** means that there is no relationship, whether positive or negative, between these two variables.
- **A correlation coefficient of +1 or -1** means that there is a direct or inverse perfect/perfect correlation between these two variables. We will probably never see a correlation between two variables that are equal to +1 or -1 in social sciences, because although the variables may be very closely related, the chance of error or random variation is greater than for there to be a perfect correlation.
- **The closer the correlation coefficient is to +1 or -1**, the stronger the correlation. In general, a positive correlation means that as one variable increases, the other will increase, and vice versa. A negative correlation means that if one variable increases, the other will decrease, and vice versa.

There are many guidelines for determining the degree of strength of the correlation between variables, one of which is what (Goller, et al., 2020) suggests in the following table (3-6):

Table (3-6): Interpretation of correlation coefficients according to Goller, et al. (2020) guidelines

Pearson correlation coefficient (r)	Correlation strength
$0.10 \leq r \leq 0.29$	Poor correlation
$0.30 \leq r \leq 0.49$	Intermediate correlation
$0.50 \leq r \leq 1.00$	Strong correlation

Since the correlation represents the effect size, we can describe the strength of the correlation verbally using the index suggested by Bartelt & Evans (1996) for the absolute value of r as in Table (3-7):

Table (3-7): Interpretation of correlation coefficients according to Bartelt & Evans (1996) guidelines

Pearson correlation coefficient (r)	Correlation strength
$0.00 < r \leq 0.19$	Very weak correlation
$0.20 \leq r \leq 0.39$	Weak correlation
$0.40 \leq r \leq 0.59$	Intermediate correlation
$0.60 \leq r \leq 0.79$	Strong correlation
$0.80 \leq r \leq 1.00$	Very strong correlation

(3) Dynamic Panel Data Model

In the current context, endogeneity is likely to arise between joint auditing and accounting conservatism. In other words, obtaining an unbiased estimate of the partial effect of joint auditing on the level of accounting conservatism is difficult, as the relationship between the two is expected to be simultaneous and possibly subject to reverse causality. To address this issue, the study employs appropriate instrumental variables (IVs) and uses the Generalized Method of Moments (GMM) technique

under either fixed effects or random effects specifications. While GMM effectively addresses the endogeneity problem, fixed or random effects specifications account for economic heterogeneity across firms.

The selection of valid instruments is critical. In practice, instruments must be correlated with the endogenous variable (joint auditing), while being uncorrelated with the error term and exerting no direct effect on the dependent variable (accounting conservatism). To avoid selecting potentially invalid external instruments, the study relies on the Dynamic Panel Data (DPD) technique, extended to the System GMM framework, as developed by Arellano and Bond (AB). This approach incorporates a lagged dependent variable as a regressor, enabling the estimation of a partially adjusted dynamic model, as illustrated in the following equation:

$$y_{it} = \alpha y_{it-1} + \beta x_{it} + u_i + \varepsilon_{it} \quad (4)$$

The key idea behind this model in addressing individual effects is by eliminating them through first differencing the equation. Accordingly, the first-differenced equation, which is equivalent to Equation (3), is formulated as follows:

$$\Delta y_{it} = \alpha \Delta y_{it-1} + \beta \Delta x_{it} + \Delta \varepsilon_{it} \quad (5)$$

In this context, the composite error term constructed in Equation (4) exhibits autocorrelation and is closely associated with the lagged dependent variable. Specifically, the first component now represents a first order moving average process MA(1), which includes y_{it-1} and $\varepsilon_{i,t-1}$, thereby violating the strict exogeneity assumption. This introduces endogeneity, which is addressed by employing internal instrumental variables, i.e., instruments derived from the lagged values of the endogenous variables. These lagged instruments are likely to be correlated with u_i - the

unobserved individual effects - which are removed through first-difference, thus eliminating the bias caused by omitted variables.

Accordingly, the Arellano & Bond (AB) estimator is particularly suitable for the following conditions (Baum & Christopher, 2006): i) Short time dimension (T) and large cross-sectional units (N). ii) A linear functional relationship. iii) A dynamic dependent variable, relying on past realizations. iv) Explanatory variables that are not strictly exogenous, i.e., they may be correlated with past and possibly present realizations of the error term. v) Fixed individual effects, implying the presence of unobserved heterogeneity. vi) Heteroskedasticity and autocorrelation within individual units, but no cross-sectional correlation between units.

(4) Fixed Effects Model (FEM)

As a preliminary assessment of the impact of joint auditing on accounting conservatism, the study initially estimates the model using the Fixed Effects Model (FEM) before proceeding with the more advanced Dynamic Panel Data (DPD) technique. This two-step strategy serves a dual purpose: First, FEM provides an initial evaluation of the relationship between joint auditing and the level of accounting conservatism. Second, it allows for the validation of the internal instruments later employed in the DPD estimation, ensuring that their influence is not directly exerted on accounting conservatism, but rather conditioned by the joint audit status of each firm.

The Fixed Effects approach can be viewed as a standard Ordinary Least Squares (OLS) model augmented by the inclusion of firm-specific dummy variables, thereby controlling for unobserved heterogeneity across firms.

This is operationalized by introducing a dummy variable for each firm, as represented in the following equation:

$$y_{it} = \beta_{0i} + \beta x_{it} + u_{it} \quad (6)$$

It is observed here that the subscript i is placed on the constant term, allowing it to vary across firms. These differences may arise from firm-specific characteristics such as company size, market experience, or other unique features. As a result, the analysis considers individual heterogeneity across firms. However, it is still assumed that the slope coefficients remain constant across all firms. Hence, the term "fixed effects" refers to the fact that, although the intercepts differ across observations, the slope coefficients are fixed for all firms (Gujarati, 2003).

(5) Effect Size for Assessing Practical Significance

Effect size provides a quantitative measure of the magnitude of differences between groups or the strength of associations between variables. It serves as a complement to statistical significance testing by offering insight into the practical significance of the results—i.e., whether the relationship has a small, medium, or large impact in the real-world accounting environment of the study sample. There are many types of effect size measures suited for various statistical tests, which generally fall into two families: i) measures of mean differences, and ii) measures of association or correlation. Reporting effect sizes has become a preferred practice in quantitative research across disciplines for several reasons:

1. Statistical significance alone is not sufficient. A p -value only indicates whether an observed relationship is unlikely to have occurred by chance (i.e., rejecting the null hypothesis), but it does not indicate the magnitude or practical relevance of that relationship. For instance, a

result may be statistically significant at $p < 0.05$, yet the effect size could be negligible rendering the result practically irrelevant for theory or decision-making.

2. Unlike p -values, effect sizes allow for quantitative comparison across studies conducted in different settings, facilitating meta-analyses and promoting cumulative scientific knowledge.
3. Effect sizes also assist in conducting power analyses to determine the appropriate sample size for future research.

Therefore, effect size provides critical additional information for making informed inferential decisions, contributing to the broader discussion on the limitations of Null Hypothesis Significance Testing (NHST). For this reason, the American Psychological Association (APA) has recommended, in its *Publication Manual (5th edition, 2002)*—Section 1.01 "Design and Reporting of Research"—that all statistical reports include effect size measures.

Table (3-8) presents the interpretation of different effect size indices based on guidelines from Cohen (1988) and Hattie (2009).

Table (3-8): Interpretation for different effect sizes

<i>Cohen's d</i>	<i>Effect Size</i>		<i>Interpretation</i>	
	r^*	η^2	<i>Cohen (1988)</i>	<i>Hattie (2009)</i>
< 0	< 0	-	Adverse Effect	
0.0	0.00	0.000	No Effect	Developmental effects
0.1	0.05	0.003		
0.2	0.10	0.010		
0.3	0.15	0.022	Small Effect	Teacher effects
0.4	0.20	0.039		
0.5	0.24	0.060	Intermediate Effect	Zone of desired effects
0.6	0.29	0.083		
0.7	0.33	0.110		
0.8	0.37	0.140	Large Effect	
0.9	0.41	0.168		
≥ 1.0	0.45	0.200		

* Cohen (1988) reports the following intervals for r : 0.1 to 0.3: small effect; 0.3 to

6.Hypothesis Testing

6.1 Overview

This chapter addresses the process of analyzing the quantitative data collected from the financial statements, with the aim of achieving the study's objectives, testing its hypotheses, and answering its research questions. Through this process, the researcher will be able to propose a set of recommendations related to the study. Accordingly, this chapter presents the detailed results of the study, including the descriptive analysis — which involves presenting basic descriptive statistics for the study variables and analyzing their inter-correlations. The chapter then progresses to inferential statistics by conducting a regression analysis of the study's model to test the validity of its hypothesis. The statistical analyses were performed using the E-Views 13 statistical package and the Gretl 2025 statistical package.

6.2 Descriptive Analysis

Descriptive analysis is one of the statistical methods that serves as the foundation for all quantitative data analyses. It contributes to understanding and describing the key characteristics and features of a specific dataset. In this context, the descriptive analysis includes basic descriptive statistics for the study variables, as well as an examination of their correlations.

First: Statistical description of the data

Table (3-9) summarizes the relevant descriptive statistics, such as the mean and median as measures of central tendency, the standard deviation as a measure of dispersion, and the minimum and maximum values.

Additionally, the Jarque–Bera test is presented to assess the normality of the data distribution.

Table (3-9): Descriptive summary statistics, 2015-2021 (93 firms)

	<i>Obs.</i>	<i>Mean</i>	<i>Median</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>	<i>Normality test</i>
Dependent Variables:							
<i>Accounting Conservatism (ACONS_t)</i>	639	2.7317	4.8593	18.536	- 314.62	10.210	[1374324]***
Independent Variable:							
<i>Joint Audit (Jaudit_t)</i>	639	0.1581	0	0.3651	0	1	[435.358]***
Control Variables:							
<i>Firm Size (FSIZE_t)</i>	639	20.714	20.574	1.5656	17.539	25.475	[20.8710]***
<i>Financial Leverage (LEV_t)</i>	639	0.6333	0.4494	2.1946	0.0050	5.3680	[1788958]***
<i>Revenue growth (REV_t)</i>	639	1.3400	0.0797	10.492	- 0.9957	134.52	[328548.7]***
<i>Free Cash Flow (FCF)</i>	639	0.0932	0.0387	0.7905	- 1.4536	17.074	[3436124]***
<i>Loss of profits (LOSS_t)</i>	639	0.2144	0	0.4107	0	1	[206.411]***

Note: - *** indicate significance at 1%.

The previous brief statistical summary of all the included variables shows the following.

1) General characteristics (normality of the data distribution):

The statistical description shows that the minimum and maximum values for all study variables exhibit a very wide range, which is reflected in the notably high standard deviation values. This significant variability can be attributed to the natural differences among companies in terms of size, capital structure, market experience, operating conditions, and other structural and organizational factors. The results of the normality test support this conclusion, as they show clear statistical significance at strong confidence levels.

This requires the rejection of the null hypothesis (which assumes that the data follows a normal distribution) and acceptance of the alternative

hypothesis that the studied variables do not follow normal distribution. This means that the actual values of these variables vary greatly and are not concentrated around the meaning. Considering the data's inconsistency with the normal distribution, relying on the mean as a measure of central tendency becomes inappropriate, given its high sensitivity to extreme and outlier values. Therefore, the descriptive analysis will focus on the median as a more suitable measure for representing the center of distribution under such variability.

2) Dependent variable (accounting conservatism):

The results indicate considerable variation in the level of conservatism among the companies under study. The mean value reached about 2.73, suggesting a general tendency among Egyptian companies to adopt conservative practices in preparing their financial statements. However, the gap between the median (4.86) and the mean reflects a skewed distribution - specifically, a negative skew - meaning that there are extremely low outlier cases that have pulled the mean downward. This is further confirmed by the high standard deviation (18.54), which indicates significant dispersion in accounting conservatism data and implies that companies' conservatism behavior is not homogeneous. It is also noted that the minimum value reached -314.62, an extremely low figure that may reflect aggressive revenue recognition practices or a lack of application of conservatism policies.

In contrast, the maximum value was 10.21, representing the upper limit of conservatism practices within the sample. These disparate values highlight fundamental differences in the application of the conservatism principle, which could be linked to differences in audit characteristics -

such as the presence or absence of joint audits - or variations in governance quality and internal control from one company to another. Accordingly, this variation in accounting conservatism provides a logical basis for examining the role of joint audits in regulating and harmonizing these practices towards a more consistent level of accounting prudence.

3) Independent Variable (Joint Audit):

The mean value of this variable is approximately 0.158, indicating that only about 15.8% of the observations represent firms that underwent a joint audit, while the vast majority (84.2%) did not adopt this auditing approach. The median is zero, which is consistent with this imbalanced distribution, as most firms did not implement joint audits. This is further confirmed by the low standard deviation (0.365), reflecting limited variability due to the binary nature of this variable.

These results highlight that joint auditing remains a relatively rare practice in the Egyptian context, making its examination particularly relevant for understanding its potential impact on accounting conservatism. The scarcity of its application may be an indicator of weaker institutional or regulatory incentives for its adoption, or it may be due to concerns about procedural complexity and higher associated costs. Nonetheless, exploring the relationship between this variable and the level of accounting conservatism can shed light on whether joint audits serve as an effective mechanism for enhancing the quality of financial information and promoting greater prudence in financial reporting.

4) Control Variables:

The results indicate that firms in the sample range from moderately to relatively large in size, with an average size of approximately 20.71 and a

relatively low standard deviation (1.56), suggesting a degree of homogeneity in this variable. From an accounting perspective, larger firms are generally more inclined to adopt conservative practices due to higher scrutiny from investors and regulators. In terms of leverage, the average is 0.63, implying a significant reliance on debt financing, which may motivate firms to adopt more conservative accounting policies to protect the interests of creditors. As for revenue growth, the results reveal considerable variability, with an average rate of 1.34% and a standard deviation of 10.49, indicating instances of both strong growth and contraction, and reflecting the fluctuations in operational performance within the Egyptian market.

Meanwhile, the average free cash flow was relatively low, at 0.093, with some instances registering negative values, suggesting liquidity constraints that may prompt certain firms to reduce their level of conservatism to present a more favorable financial position. Lastly, it was found that 21.4% of the firms reported losses during the study period ($LOSS_i = 1$), a factor that could drive management to adjust their accounting policies - either by increasing conservatism to restore trust, or by reducing it to portray improved performance, depending on their financing needs and circumstances.

Second: Correlation Matrix

Correlation analyses, in their various forms, are an integral part of describing and summarizing the proposed relationships between the measurement constructs. In this context, the focus is on the simple (bivariate) correlations between the study's variables, allowing for an

initial examination of the strength and direction of the hypothesized relationships. These results are presented in Table (3-10).

Table (3-10): *Correlation matrix between study variables, 2015-2021 (93 firms)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Accounting Conservatism (ACONS_t)</i>	(1) 1						
<i>Joint Audit (Jaudit_t)</i>	(2) -0.007	1					
<i>Firm Size (FSIZE_t)</i>	(3) 0.009	0.181***	1				
<i>Financial Leverage (LEV_t)</i>	(4) -0.002	-0.032	0.028	1			
<i>Revenue growth (REV_t)</i>	(5) 0.008	0.021	0.109***	0.315***	1		
<i>Free Cash Flow (FCF)</i>	(6) 0.017	-0.025	0.027	0.846***	0.221***	1	
<i>Loss of profits (LOSS_t)</i>	(7) -0.031	0.004	-0.115***	0.054	-0.026	-0.096**	1

Note: - ***, **, * indicate significance at 1%, 5% and 10% respectively.

Here, the results of the correlation table can be summarized in clear lines, as follows:

- Regarding the Correlation Between Joint Audit and Accounting Conservatism:** The results reveal a very weak and statistically insignificant negative correlation between joint auditing and the level of accounting conservatism, with a coefficient of only (-0.7%). This suggests that increasing firms' reliance on joint audits for the review of their financial statements is not significantly associated with any notable change in the level of accounting conservatism. This null finding may be viewed as an early indication that joint auditing has no direct or immediate impact on conservative accounting practices. It may reflect one of two possible scenarios: first, that the joint auditing regime in the Egyptian context has not yet reached a level of institutional effectiveness that allows it to exert a discernible influence on the quality of financial information or the managerial accounting behavior. Alternatively, it may imply that accounting conservatism is influenced by other more critical factors - such as industry

characteristics, firm size, or financing constraints - making joint audits alone insufficient to drive a significant shift in this area.

- **Regarding the Correlation Between Control Variables and Accounting Conservatism:** The results indicate that the correlations between accounting conservatism and all the control variables are very weak and statistically insignificant. This suggests that these variables do not exhibit a direct or meaningful association with firms' application of the accounting conservatism principle at this level of analysis. The relatively strongest of these relationships was observed for the sales loss variable (negative earnings), with a correlation coefficient of (-3.1%), followed by free cash flow (1.7%), firm size (0.9%), sales revenue growth (0.8%), and, finally, financial leverage (-0.2%).

Overall, it can be observed that the correlation coefficients between the independent and control variables range from weak to moderately strong. According to Gujarati (2003), correlation coefficients exceeding 0.7 may indicate a potential multicollinearity problem. In this regard, no evidence of such an issue was detected in the study model (except for the correlation between financial leverage and free cash flow). As for the preliminary indications inferred from the signs and strengths of the correlation coefficients, it is expected that joint auditing will have no significant effect on the level of accounting conservatism. Nonetheless, despite the limited nature of this association, assessing the role of joint audits remains valuable - especially when progressing to the regression analysis, which incorporates control variables that could potentially alter the magnitude or direction of the observed effect.

6.3 Inferential analysis

First: Verifying measurement problems

Prior to estimating the study model, it is essential to verify the quality and reliability of the model used for the analysis, ensuring that it is free from any measurement-related issues. This is necessary to confirm the validity of the results. To this end, a series of diagnostic tests were conducted, as presented in Tables (3-11) and (3-12).

Table (3-11): Diagnostic tests for study model

Problems (Tests used)	Null hypothesis	Test stats.	P-value
White test for heteroskedasticity	Heteroskedasticity not present	χ^2 stats. = 3.6243	1.000
Wooldridge test for autocorrelation	No first order autocorrelation	t stats. = 12.135	0.001***
Pesaran CD test for cross-sectional dependence	No cross-sectional dependence	Z stats. = -1.3461	0.178
Test for normality of residual	Error is normally distributed	χ^2 stats. = 71153.6	0.000***
Chow test for structural breakpoint	No structural breakpoint	F stats. = 2.7578	0.064

Note: - ***, **, * indicate significance at 1%, 5% and 10% respectively.

Table (3-12): Variance Inflation Factors (VIF) test for study model.

	VIF coefficient	1 / VIF
Joint Audit (J_{audit_t})	1.036	0.9653
Firm Size ($FSIZE_t$)	1.059	0.9443
Financial Leverage (LEV_t)	5.384	0.1857
Revenue growth (REV_t)	1.087	0.9200
Free Cash Flow (FCF)	5.264	0.1900
Loss of profits ($LOSS_t$)	1.094	0.9141
Mean VIF	2.4873	

Here it is clear from the following two tables:

- **Regarding the Issue of Heteroscedasticity:** The value of the chi-square statistic for the White test is 3.6243, which is statistically

insignificant. This result leads to accepting the null hypothesis of homoscedasticity, indicating that the error terms of the study model have constant variances.

- **Regarding the Issue of Serial Correlation:** In contrast, the value of the t -statistic for the Wooldridge test is 12.135, which is statistically significant at the 1% level. This result leads to rejecting the null hypothesis and accepting the alternative hypothesis, confirming the presence of serial correlation in the error terms of the study model.
- **Regarding the Issue of Cross-Sectional Dependence:** Like the heteroscedasticity test, the value of the Z-statistic for the Pesaran CD test is -1.3461, which is statistically insignificant. This result supports accepting the null hypothesis, indicating the absence of cross-sectional dependence in the error terms across firms in the study sample.
- **Regarding the Issue of Normality of Residuals:** Like the serial correlation test, the value of the chi-square statistic for the Jarque–Bera test is 71,153.6, which is statistically significant at the 1% level. This result leads to rejecting the null hypothesis that the residuals are normally distributed, thereby accepting the alternative hypothesis that the residuals of the study model do not follow a normal distribution.
- **Regarding the Issue of Structural Breakpoints:** The value of the F-statistic for the Chow test is 2.7578, which is statistically insignificant. This result leads to accepting the null hypothesis that no structural breaks exist in the data of the study model.
- **Regarding the Issue of Multicollinearity:** The results of the Variance Inflation Factor (VIF) test presented in Table (3-12) confirm that there is no significant multicollinearity problem between the

independent variables, as all VIF values are well below the critical threshold of 10.

Accordingly, it is evident that the study model does not suffer from the problems of heteroscedasticity, multicollinearity, cross-sectional dependence, or structural breaks. However, it does suffer from serial correlation and the nonnormality of residuals - issues that are expected when working with large and heterogeneous samples.

As a result, the study model will be estimated using the White robust standard errors technique, which effectively corrects for the serial correlation in the error terms by refining the standard errors, yielding highly efficient and reliable estimators. Meanwhile, the issue of nonnormality is not a serious concern in this context, as statistical theory confirms that OLS estimators tend toward a normal distribution as sample size increases. Hence, with a large sample such as the one used in the present study, statistical inference based on OLS is valid and can be reliably applied.

Second: FEM Results & Preliminary Evaluation of Instrument Appropriateness

In this context, the fixed effects model shows no significant impact of joint auditing on the level of accounting conservatism in the sample firms. The t-statistic for the regression coefficient is (-0.2855), which is statistically insignificant (i.e., the p-value is greater than 10%). As for the control variables, firm size and loss status have a positive and significant impact on accounting conservatism at the 5% significance level, and free cash flow also shows a positive effect, albeit at the 10% significance level. Conversely, financial leverage has a significant negative effect on

accounting conservatism at the 5% significance level, while sales growth has no significant effect.

Table (3-13): Joint Audit and Accounting Conservatism: Fixed Effects Model

Dependent variables: Accounting Conservatism ($ACONS_{i,t}$)

Method: 1-way fixed effects model with white standard errors

	Coefficient	Robust Std. Err.	t stats.	P-value
<i>Joint Audit ($Jaudit_{i,t}$)</i>	-0.05370	0.1881	-0.2855	0.785
<i>Firm Size ($FSize_{i,t}$)</i>	0.76220	0.1421	5.3629	0.002***
<i>Financial Leverage ($LEV_{i,t}$)</i>	-0.27430	0.0506	-5.4158	0.002**
<i>Revenue growth ($REV_{i,t}$)</i>	0.00280	0.0055	0.5099	0.628
<i>Free Cash Flow ($FCF_{i,t}$)</i>	0.53176	0.2289	2.3227	0.059*
<i>Loss of profits ($LOSS_{i,t}$)</i>	0.26665	0.0878	3.0382	0.023**
<i>Constant</i>	-12.9849	2.9281	-4.4345	0.004***
Key regression statistics				
Number of Obs.	639	Number of groups	93	
R-squared	0.9487	Adjusted R-squared	0.9394	
Fisher test (<i>F</i> stats.)	101.99	P-value for (<i>F</i> stats.)	0.000***	
Practical significance for Government ownership: Effect Size				
<i>Effect Size (r)</i>	-0.0123	<i>Interpretation</i>	No effect size	
<i>Effect Size (Cohen's d)</i>	-0.0246	<i>Interpretation</i>	No effect size	

Note: - ***, **, * indicate significance at 1%, 5% and 10% respectively.

Moving to the overall statistics presented at the bottom of Table (3-13), the adjusted R^2 value indicates that the study model explains approximately 93.9% of the variation in accounting conservatism. The remaining 6.1% is attributed to random errors arising from other variables that were not accounted for within the model. Meanwhile, the F-statistics of the Wald test is 101.99, which is significant at the 1% level, indicating the statistical significance of the overall model and leading to the rejection of the null hypothesis and acceptance of the alternative hypothesis that the study model is significant.

Since statistical significance is the least informative aspect of the results - merely indicating the likelihood that the observed relationship is

not due to chance - relying exclusively on the p-values is insufficient for a comprehensive interpretation. In other words, statistical significance only confirms that the relationship between joint auditing and accounting conservatism is unlikely to be due to random chance, but it does not measure its practical importance or strength. Therefore, effect size is calculated as an additional measure to assess the actual magnitude of the association, providing deeper insights beyond statistical significance. In other words, it provides an indication of the practical significance of the relationship in reality. As such, the effect size offers additional information for making a more informed inferential decision regarding the acceptance or rejection of the null hypothesis.¹

In this context, the effect size was calculated using partial correlations between joint auditing and accounting conservatism, controlling for the other covariates in the model (if these covariates also affect the dependent variable). The resulting value of the Cohen (1988) statistic was -0.0246, indicating a negligible or practically irrelevant effect of joint auditing on accounting conservatism. This suggests the need for further studies to investigate the factors that limit the effectiveness of joint audits in influencing accounting conservatism.

Third: DPD Model Results & Role of Instrumental Variables

Given the potential for significant bias in the FEM estimates due to the endogeneity between joint auditing and accounting conservatism, the DPD

¹ There is a wide discussion under the title Null Hypothesis Significance Testing (NHST). Therefore, the American Psychological Association (APA) recommends in Chapter 1.01 Research Design and Reporting that all published statistical reports also include effect sizes (APA Manual 5th Edition Section (2002)).

technique was employed using appropriate instrumental variables. The Sargan over-identification test (presented at the bottom of Table 3-14) confirms the validity of the instruments used, and further supported by the Hansen test, thereby strengthening the reliability of the model. In addition, the Wald test confirms the joint significance of the explanatory variables at the 1% level, alongside the statistical significance of including time dummy variables.

Table (3-14): Joint Audit and Accounting Conservatism: GMM Model

Dependent variables: Accounting Conservatism ($ACONS_{i,t}$)

Method: 2-step dynamic panel data (DPD) (with asymptotic standard error)

		Coefficient	Robust Std. Err.	Z stats.	P-value
Accounting Conservatism ($ACONS_{i,t}$) (-1)		0.84583	0.0034	245.3	0.000***
Joint Audit ($Jaudit_{i,t}$)		-0.06776	0.2198	-0.308	0.758
Firm Size ($FSize_{i,t}$)		-0.01329	0.0289	-0.460	0.646
Financial Leverage ($LEV_{i,t}$)		-0.44124	0.0406	-10.88	0.000***
Revenue growth ($REV_{i,t}$)		0.02563	0.0064	3.985	0.000***
Free Cash Flow ($FCF_{i,t}$)		1.23541	0.1007	12.27	0.000***
Loss of profits ($LOSS_{i,t}$)		0.41357	0.1799	2.299	0.022**
Constant		1.63033	0.6165	2.644	0.008***
Key regression statistics					
Number of Obs.	547	Number of instruments	32		
Test for AR(1) errors	-1.2130 (0.225)	Test for AR(1) errors	1.0537 (0.292)		
Sargan over-identification	36.723 (0.009)***	Hansen over-identification	44.980 (0.000)***		
Wald (joint) test	120566 (0.000)***	Wald (time dummies) test	127.23 (0.000)***		
Practical significance for Government ownership: Effect Size					
Effect Size (r)	-0.0134	Interpretation	No effect size		
Effect Size (Cohen's d)	-0.0267	Interpretation	No effect size		

Note: - ***, **, * indicate significance at 1%, 5% and 10% respectively.

At first glance, Table (3-14) shows that the results derived from the DPD technique are more robust, consistent, and stable. The absence of any significant effect of joint auditing on the level of accounting conservatism persists even after controlling for dynamic endogeneity, with the p-value of

the Z-statistic exceeding 10%. This finding is aligned with the earlier correlation results, which also indicated a very weak and statistically insignificant negative correlation (no more than -0.7%) between joint auditing and accounting conservatism. This result supports the study's main hypothesis that "joint auditing has no significant effect on accounting conservatism" within the sample firms. It suggests that the application of joint auditing — as implemented in the Egyptian environment - lacks the institutional and regulatory strength required to drive firms towards a higher level of accounting conservatism. This may be due to its largely formal nature, with limited effective coordination between the joint auditors, compounded by the absence of a robust institutional framework to support this auditing approach, thereby limiting its actual impact on accounting policies.

Moreover, the results of the DPD model reveal a significant and positive effect of prior-period accounting conservatism on its current level (at the 1% significance level). This finding suggests that firms adopting higher levels of accounting conservatism in prior periods tend to maintain this approach in subsequent periods. This is a critical accounting insight, indicating that accounting conservatism is not a one-off or circumstantial decision, but rather a repeated and stable behavior that often reflects managerial orientation, internal accounting culture, or internal corporate controls. This persistence may also be explained by firms' desire to maintain the reliability of financial reports and reduce earnings volatility that could potentially mislead external stakeholders. Hence, this self-reinforcing nature of accounting conservatism highlights the importance of focusing future studies on its structural and cultural antecedents within

firms, rather than relying exclusively on external institutional drivers such as auditing regime or regulatory pressure.

Regarding the control variables, revenue growth and free cash flow have a significant and positive effect on accounting conservatism at the 1% level, suggesting that firms with strong financial performance and liquidity tend to adopt more conservative accounting practices to enhance the credibility of their financial statements and support the sustainability of their results. Similarly, losses have a significant and positive effect on accounting conservatism at the 5% level, indicating that firms experiencing setbacks or losses tend to adopt a more cautious approach to measurement and disclosure as a defensive response to unstable operating conditions.

In contrast, financial leverage has a significant negative effect on accounting conservatism at the 1% level, suggesting that highly leveraged firms may reduce the degree of accounting conservatism to present more favorable results to creditors or to avoid breaching financing covenants. Meanwhile, firm size shows no significant effect on accounting conservatism, implying that its role diminishes when compared to stronger influences associated with performance, liquidity, and financing factors.

Finally, the Cohen statistic presented at the bottom of the table confirms the absence of any effect size (and hence any practical significance) for joint auditing in its influence on accounting conservatism. This highlights the need for further studies to investigate the factors that limit the effectiveness of joint auditing within the context of accounting conservatism. In sum, these results reflect a strong alignment between statistical evidence and accounting theory and underscore the urgent need for future in-depth studies that explore the institutional and organizational

dynamics that hamper the role of joint auditing - focusing especially on the nature of the interaction between joint auditors, the degree of coordination, corporate governance structure, and the level of regulatory intervention.

7. Conclusions

This study aimed to assess the effect of joint audits on the level of accounting conservatism among listed companies. To achieve this objective, the study employed balanced panel data for a sample of 93 non-financial firms listed on the Egyptian Stock Exchange over a 7-year period from 2015 to 2021, yielding a total of 651 firm-year observations. This sample size provides adequate statistical power to draw reliable inferences.

To measure the level of accounting conservatism, the study adopted the Khan and Watts (2009) model, which captures firm-specific conditional conservatism levels based on disclosed financial reports. Joint audit was measured using a dummy variable that takes the value of 1 if the company's financial statements were certified by more than one audit firm, and 0 otherwise. Additionally, five control variables were included in the model: firm size, leverage, sales (revenue) growth, free cash flows, and sales loss, all of which represent critical institutional characteristics that must be controlled when examining the relationship between joint audits and accounting conservatism.

Relying on several statistical techniques—most notably the dynamic panel data model, the fixed effects model, and effect size estimations—the study found no significant effect of joint audit on the level of accounting conservatism among the sampled firms, even after adjusting for dynamic biases. This finding supports the study's hypothesis. The results suggest that the implementation of joint audit, as it currently stands in the Egyptian

context, lacks sufficient regulatory or supervisory force to drive firms toward greater prudence in financial reporting. This may be attributed to the formalistic nature of joint audit implementation without effective coordination between auditors or a robust regulatory framework supporting such audit practices, which ultimately limits its influence on accounting policy choices.

On the other hand, the study found a positive and significant effect of prior-period accounting conservatism on the current level of conservatism. This implies that firms that adopted a high level of accounting conservatism in the past are likely to maintain the same behavior in subsequent periods. This result is of substantial accounting significance, as it suggests that conservatism is not a one-time or situational decision but rather a recurring and stable behavior that may reflect managerial orientation, an internal accounting culture, or even established internal control policies. This persistence may also be explained by the desire to maintain the reliability of financial reports or to avoid earnings volatility that could confuse external users of financial information. Accordingly, this self-reinforcing nature of conservatism highlights the importance of studying its structural and cultural determinants within firms, not merely the external institutional factors such as audit systems or regulatory pressure.

Moreover, Cohen's effect size statistic indicated no practical significance for joint audit in influencing accounting conservatism. This finding calls for further research to explore the factors that limit the effectiveness of joint audits in enhancing conservatism. Based on the above, the results show a strong alignment between the statistical evidence

and the accounting implications and emphasize the need for future in-depth studies to explore the institutional and regulatory context that weakens the influence of joint audits. Such studies should focus on the nature of the relationship between joint auditors, the degree of coordination, corporate governance structures, and the level of regulatory intervention.

8. Recommendations

- **Enhancing the Regulatory Framework for Joint Audits:** The study recommends the development of legislative and supervisory frameworks governing the joint audit process in the Egyptian market. This should ensure the existence of clear guidelines for coordination between joint auditors, define the responsibilities of each party, and promote the quality of their cooperation. This may include the issuance of binding instructions by the Financial Regulatory Authority (FRA) or the Egyptian Stock Exchange to regulate the procedures of joint audits and guarantee continuous professional interaction between auditors.
- **Adopting Effective Mechanisms for Evaluating Joint Audit Quality:** Regulatory bodies should develop performance indicators to assess the effectiveness of joint audits based on their actual impact on financial reporting quality and accounting conservatism, rather than merely their formal existence. This may involve creating a review system to evaluate whether joint auditors arrive at consistent conclusions and whether their approach to the audit is independent or collaborative in nature.
- **Focusing on Corporate Accounting Culture as a Determinant of Conservatism:** In light of statistical evidence indicating the

persistence of conservative behavior within firms, the study recommends that both research and practice pay greater attention to internal company structures—particularly the nature of accounting culture, internal control systems, and management’s philosophy toward financial reporting. Strengthening this internal culture may have a more profound impact on promoting accounting conservatism than merely imposing external oversight mechanisms.

- **Encouraging Future Research on the Nature of Joint Auditors’ Relationships:** The study suggests conducting future research that focuses on the professional dynamics between joint auditors, including the extent of integration and coordination, and how these dynamics affect financial reporting outcomes. Additionally, it is important to examine the role of corporate governance - especially in family-owned firms or firms with concentrated ownership structures - in shaping the influence of joint audits on actual financial reporting results.
- **Promoting Quality-Driven Professional Practices Rather Than Quantity-Based Approaches:** Although involving multiple auditors is theoretically expected to enhance oversight, this study highlights that regulatory and professional quality is far more critical than the mere number of auditors involved. Therefore, the study recommends adopting evaluation standards based on the quality of professional judgment, the ability to detect material mistakes, and neutrality in addressing contentious accounting issues, as these are fundamental determinants of financial reporting quality.

References

- Abdelmoula, L. (2022). Assessment of joint audit mission quality in Tunisia. *EuroMed Journal of Business* 18, no.1: 68–84.
- Adewumi, A. S. (2021). Audit Characteristic and Accounting Conservatism Quality. *The International Journal of Humanities & Social Studies*, 9(5).
- Akadiri, O. P. (2011). Development of a multi-criteria approach for the selection of sustainable materials for building projects. PhD Thesis, University of Wolverhampton, Wolverhampton, UK.
- Akinyomi, O. J., & Joshua, A. A. (2022). Determinants of audit quality in Nigeria: evidence from listed consumer goods sector in Nigeria. *Academy of Accounting and Financial Studies Journal*, 26, 1-14.
- Al-Abedi, T. K., Hasen, A. M., Mohaisen, H. A., & Flayyih, H. H. (2022). The Impact of Corporate Governance on Accounting Conservatism in the Financial Statements of Justice Shareholders. *Central Asia & the Caucasus* (14046091), 23(1).
- Aldoseri, M. M., Albaz, M. M., & Ghali, A. A. (2022). The Managerial Determinants of Accounting Conservatism during COVID-19 Era: Evidence from Saudi Arabia. *Information Science Letters An International Journal* 11(3):951-957.
- Ali, K. S., Mohaisen, H. A., & Hameed, A. A. (2019). Joint Audit and the Financial Reporting Quality: Empirical Study on Iraqi Voluntary Joint Audits. *International Journal of Innovation, Creativity and Change*, 7(8), 343-359.
- Anagnostopoulou, S. C., A. E. Tsekrekos, and G. Voulgaris. 2021. Accounting Conservatism and Corporate Social Responsibility. *British Accounting Review* 53, no. 4:100942.
- Anastasi, A. (1992). What counselors should know about the use and interpretation of psychological tests. *Journal of Counseling & Development*, 70(5), 610-615.

- Appelbaum, D.A., Kogan, A. and Vasarhelyi, M.A., 2018. Analytical procedures in external auditing: A comprehensive literature survey and framework for external audit analytics. *Journal of Accounting Literature*, 40(1), pp.83–101.
- Ayoola, T. J. (2022). Audit fees, audit seasonality and audit quality in Nigeria: a mediation analysis. *Journal of Financial Reporting and Accounting*. Retrieved from <https://www.emerald.com/insight/content/doi/10.1108/JFRA-01-2022-0010/full/pdf>
- Balios, D., Kotsilaras, P., Eriotis, N., & Vasiliou, D. (2020). Big data, data analytics and external auditing. *Journal of Modern Accounting and Auditing*, 16(5), 211–219.
- Barghathi, Yasser. (2020). Joint audit, audit market concentration, and audit quality: perceptions of stakeholders in the UAE. *Journal of corporate ownership and control*. Vol.17. PP. 32-45.
- Bartelt, M. C., & Evans, J. W. (1996). Exact island-size distributions for submonolayer deposition: Influence of correlations between island size and separation. *Physical Review B*, 54(24), R17359.
- Baum, C. F. (2006). An introduction to modern econometrics using Stata. Stata press.
- Beardsley, E. L., Goldman, N. C., & Omer, T. C. (2022). Audit office industry diversity and audit quality. *Journal of Accounting, Auditing & Finance*, 37(4), 777-805.
- Behrend, J., & Eulerich, M. (2022). Breaking the Barrier—On the Use of Joint Audits in the Internal Audit Profession. *Journal of international accounting research*.
- Bell, E., & Bryman, A. (2007). The ethics of management research: an exploratory content analysis. *British journal of management*, 18(1), 63-77.
- Bell, E., Bryman, A., & Harley, B. (2022). Business research methods. Oxford
- Bellikli, U., & Daştan, A. (2021). Accounting conservatism and intellectual capital: Evidence from Turkey with comparison models and sectors. *Ege Academic Review*, 21(4), 333-355.

- Biddle, G. C., Ma, M. L., & Song, F. M. (2022). Accounting conservatism and bankruptcy risk. *Journal of Accounting, Auditing & Finance*, 37(2), 295-323.
- Biehl, H., Bleibtreu, C., & Stefani, U. (2021). The effects of joint audits on audit quality and audit costs: a game-theoretical explanation for contradictory empirical results. Available at SSRN 3816011.
- Bonett, D. G., & Wright, T. A. (2015). Cronbach's alpha reliability: Interval estimation, hypothesis testing, and sample size planning. *Journal of organizational behavior*, 36(1), 3-15.
- Boone Jr, H. N., & Boone, D. A. (2012). Analyzing likert data. *The Journal of extension*, 50(2), 48.
- Brown, S., Davidovic, J., Hasan, A. (2021) The algorithm audit: scoring the algorithms that score us. *Big Data and Society*. 2021; published online Jan 28.
- Cai, Y., & Li, M. (2022). CEO-CFO tenure consistency and audit fees. *Pacific-Basin Finance Journal*, 101779.
- Chang, C. J., Li, Y., & Luo, Y. (2022). Auditor distraction and audit quality. *Review of Accounting and Finance*, volume 21 , p. 341 - 373
Posted: 2022.
- Chen, F., Li, Q., & Xu, L. (2021). Universal demand laws and the monitoring demand for accounting conservatism. *Journal of Business Finance & Accounting*, 48(7-8), 1246-1289.
- Chintapalli, P., Li, Y., & Pun, H. (2022). Audit and Compliance in Supply Chains with Damage Cost Sharing under Supplier's Responsibility Standards. Available at SSRN 4240119.
- Clark, V. L. P., & Creswell, J. W. (2010). *Understanding research: A consumer's guide*. Merrill/Pearson Educational.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*, 2nd ed.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, 16(3), 297-334.

- Crucean, A. C., & Hațegan, C. D. (2022). Evoluția onorariilor de audit–perspectivă asupra riscurilor auditorilor. *Audit Financiar*, 20(167).
- Cui, L., Kent, P., Kim, S., & Li, S. (2021). Accounting conservatism and firm performance during the COVID-19 pandemic. *Accounting & Finance*, 61(4), 5543-5579.
- Dagiliene, L. and Kloviene, L. (2019) Motivation to use big data and big data analytics in external auditing. *Managerial Auditing Journal*, 34 (7). pp. 750-782. ISSN 0268-6902.
- Dang, N. H., & Tran, M. D. (2020). Impact of financial leverage on accounting conservatism application: the case of vietnam. *Custos E Agronegocio Online*, 16(3), 137-158.
- Dietrich, J. R., Muller III, K. A., & Riedl, E. J. (2022). On the validity of asymmetric timeliness measures of accounting conservatism. of *Accounting Studies*.
Rev. Account. Stud. 2023; 28:2150-2195
- Do, C., & Nabar, S. (2019). Macroeconomic effects of aggregate accounting conservatism: A cross-country analysis. *Journal of International Financial Management & Accounting*, 30(1), 83-107.
- Dong, Y. (2023). Descriptive Statistics and Its Applications. *Highlights Sci. Eng. Technol*, 47, 16-23.
- El-habashy, H. A. (2019). The effect of corporate governance attributes on accounting conservatism in Egypt. *Academy of Accounting and Financial Studies Journal*, 23(3), 1-18.
evidence from India. *Journal of Global Responsibility*, 12(4), 435-451.
- Firoozi, M., & Magnan, M. (2022). Audit committee members' proximity to corporate headquarters and audit fees. *Managerial Auditing Journal*, 37(8), 1062-1090.
- Gaddis S. M. (Ed.). (2018). An introduction to audit studies in the social sciences. In *Audit Studies: Behind the Scenes with Theory, Method, and Nuance*. Cham: Springer, pp. 3–44.

- Garanina, T., & Kim, O. (2023). The relationship between CSR disclosure and accounting conservatism: The role of state ownership. *Journal of International Accounting, Auditing and Taxation*, Vol.50,100522.
- Ghali, A. M. (2018). Measuring the impact of the joint audit approach on the relationship between the level of accounting conservatism and the value of the company. *Journal of Accounting Thought*. Ain Shams University. 22(4).
- Gina, Atu. (2021). Joint-Audits and Audit quality of Financial Statements in Listed Companies in Nigeria. *Journal of accounting, business and finance*. Vol.7. PP.1-19.
- Glover, J., & Xue, H. (2022). Accounting conservatism and relational contracting. *Journal of Accounting and Economics*. *Journal of Accounting and Economics*, 76 (1) (2022), p. 101571.
- Goller, M., Harteis, C., Gijbels, D., & Donche, V. (2020). Engineering students' learning during internships: Exploring the explanatory power of the job demands-control-support model. *Journal of Engineering Education*, 109(2), 307-324.
- Gujarati, D. N. (2003). Basic econometrics (4th ed.). New York: McGraw Hill.
- Guo, J., Huang, P., & Zhang, Y. (2020). Accounting conservatism and corporate social responsibility. *Advances in accounting*, 51(2020),Article 100501.
- Hafiz, S. T. (2020). The relationship between conservative accounting practices and joint auditing in the light of auditing quality by applying it to joint-stock companies listed on the Egyptian Stock Exchange. *Egyptian Journal of commerce study*. 41(11).
- Haider, I., Singh, H., & Sultana, N. (2021). Managerial ability and accounting conservatism. *Journal of Contemporary Accounting & Economics*, 17(1), 100242.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. (2006). Multivariate data analysis. Uppersaddle River.
- Hajawiyah, A., Wahyudin, A., Kiswanto, Sakinah, & Pahala, I. (2020). The effect of good corporate governance mechanisms on accounting

- conservatism with leverage as a moderating variable. *Cogent Business & Management*, 7(1), 1779479.
- Hegazy, Mohamed A. and ebrahim, hekmat (2022) Are Joint Audits Associated with Higher Audit Quality? (March 14, 2022). *Corporate Ownership & Control Journal*, 19(2), 204-2016 (2022).
- Henson, R. N. (2015). Analysis of variance (ANOVA). *Brain mapping*, 1, 477-481. Hillsdale, NJ: Erlbaum.
- Hintze, J. L. (2007). User's Guide III. *Regression and Curve Fitting*. Kaysville, Utah: NCSS Statistical System.
- Hooda, N.; Bawa, S.; Rana, P.S. (2018). Fraudulent Firm Classification: A Case study of an external audit. *Applied Artificial Intelligence*, 32, 48–64.
- Hsieh, C. C., Ma, Z., & Novoselov, K. E. (2019). Accounting conservatism, business strategy, and ambiguity. *Accounting, Organizations and Society*, 74, 41-55.
- Huang, C. C., Yen, S. W., Liu, C. Y., & Huang, P. C. (2014). The relationship among corporate social responsibility, service quality, corporate image and purchase intention. *International Journal of Organizational Innovation*, 6(3).
- Huberty, C. J. (1989). Problems with stepwise methods-better alternatives. *Advances in social science methodology*, 1, 43-70.
- Hunga, D. N., Vanb, V. T. T., Ngaa, N. T. H., Haa, H. T. V., Hanga, T. T., Anha, N. T. L., & Loana, N. T. T. (2020). Accounting Conservatism and Cash Dividend Policy of Enterprises in Vietnam. *Sustainable Development in Accounting, Auditing And Finance*, 87.
- Jasim, A. P. D. M. R. (2022). The Impact of the Joint Audit on the External Auditors Opinion of An Applied Study on a sample of companies listed on the Iraqi Stock Exchange. *Tikrit Journal of Administration and Economics Sciences*, 18(59 part 2).
- Jemaa, Fatma. (2022). Institutionally Sustaining or Abandoning Mandatory Joint Audits: The Contrasting Cases of France and Denmark. *Journal of European accounting review*.

- Jung, Y., & Cho, M. K. (2022). Impacts of reporting lines and joint reviews on internal audit effectiveness. *Managerial Auditing Journal*.
- Kajola, S. O., Olabisi, J., Tonade, A. A., & Agbatogun, T. O. (2022). Determinants of audit fees in Nigerian banks. *Accounting and taxation review*, 6(1), 29-45.
- Kartikasari, L., Chariri, A., & Fuad, F. (2022). Managerial Ability and Convergent Interest on Accounting Conservatism: Internal Control Quality as a Mediator. *Quality-Access to Success*, 23(186).
- Kaur, P., Stoltzfus, J., & Yellapu, V. (2018). Descriptive statistics. *International Journal of Academic Medicine*, 4(1), 60-63.
- Khalil, O. M. (2020). The Impact of Joint Audit on Fraud Detection in Accounting Conservatism from the Point of View of Auditors. *Research in world economy*, 11(1), 153-160.
- Khalilov, A., & Osma, B. G. (2020). Accounting conservatism and the profitability of corporate insiders. *Journal of Business Finance & Accounting*, 47(3-4), 333-364.
- Khersiat, O. M. (2020). The Impact of Joint Audit on Fraud Detection in Financial Reporting from the Point of View of Auditors. *Research in world economy*, 11(1), 153-160.
- Kim, H. Y. (2014). Analysis of variance (ANOVA) comparing means of more than two groups. *Restorative dentistry & endodontics*, 39(1), 74.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610.
- Kremelberg, D. (2011). Pearson's, chi-square, t-test, and ANOVA. *Practical statistics: A quick and easy guide to IBM® SPSS® statistics, STATA, and other statistical software*, 119-204.
- Krismiaji, K., & Astuti, R. P. (2020). Accounting Conservatism and Earnings Management–Indonesian Evidence. *Jurnal Bisnis dan Akuntansi*, 22(1), 113-120.

- Kumar, K., Parida, M., & Katiyar, V.K. (2013). Short term traffic flow prediction in heterogeneous condition using Artificial Neural Network. Accepted for publication in *Transport journal, Taylor and Francis*.
- Lewis, M. (2007). Stepwise versus Hierarchical Regression: Pros and Cons. *Online Submission*.
- Lobo, G. (2018). The effect of joint auditor pair composition on audit quality: evidence from impairment tests. *Journal of contemporary Accounting Research*. Vol. 34. PP. 118–153.
- Ma, L., Zhang, M., Gao, J., & Ye, T. (2020). The effect of religion on accounting conservatism. *European Accounting Review*, 29(2), 383-407.
- Manoel, A. A. S., & Moraes, M. B. D. C. (2022). Accounting conservatism and corporate cash levels: Empirical evidence from Latin America. *Corporate Governance: An International Review*, 30(3), 335-353.
- Marnet, O. (2022). The role of joint audit in audit quality-Practitioners' insights. Available at SSRN 4078751.
- Martinus, B., Bayu, U. R., & Ika, W. (2022). Determination of Tax Avoidance on The Mining Sector Companies in Indonesia. *Eurasia: Economics & Business*.
- Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of cardiac anaesthesia*, 22(1), 67-72.
- Mnif, Y., & Salamn, A. S. A. J. (2022). The role of joint auditing to improving the quality of the electronic auditor's report in Iraqi banks.
- Mouton, J., & Marais, H. C. (1988). *Basic concepts in the methodology of the social sciences*. Hsrc Press.
- Nguyen, T., & To, Y. (2020). Auditing quality from perspective of auditing firms in Vietnam. *Accounting*, 6(5), 763-772.
- Nicoletti, A. (2018). The Effects of Bank Regulators and External Auditors on Loan Loss Provisions. *Journal of Accounting and Economics*, 66, 244-265.

- Okaro, S. (2018). Mandating joint audits in Nigeria: Perspectives and issues. *International Journal of Academic Research in Business and Social Sciences*. Vol.8. PP.316–338.
- Okereke, L. C. (2022). Audit Quality and Earnings Management of Listed Consumer Goods Manufacturing firms in Nigeria: An Empirical Analysis.
- Prabowo, T. S., Noermijati, N., & Irawanto, D. W. (2018). The influence of transformational leadership and work motivation on employee performance mediated by job satisfaction. *Jurnal Aplikasi Manajemen*, 16 (1), 171-â.
- PWC. (2011). Emergence of new examination approach – Joint Audits. Retrieved November,2021.
- Qaid, M. M. A. J. Q., Wadgule, M., & Khaled, M. S. (2022). Determinants of Audit Quality in Governmental Institutions. *Studies in Economics and Business Relations*, 3(1).
- Raza, H. (2021). *Determinants of share price among non-financial listed firms across sectors in Pakistan* (Doctoral dissertation, Universiti Teknologi Malaysia).
- Reid, L., Carcello, J., Li, C. and Neal, T. (2019). Impact of Auditor Report Changes on Financial Reporting Quality and Audit Costs: Evidence from the United Kingdom. *Contemporary Accounting Research*, 36 (3): 1501–39.
- Roy, R., Sukumar, G. M., Philip, M., & Gopalakrishna, G. (2023). Face, content, criterion and construct validity assessment of a newly developed tool to assess and classify work-related stress (TAWS-16). *Plos one*, 18(1), e0280189.
- Ruch, G. W., & Taylor, G. (2015). Accounting conservatism: A review of the literature. *Journal of Accounting Literature*, 34(1), 17-38.
- Samra, Y.M.A.; Elzahar, H. M.A. and Fayed, H.M.A. (2022). The Impact of Joint Audit on Audit Planning Quality: A Field Study, *Scientific Journal for Financial and Commercial Studies and Research, Faculty of Commerce, Damietta University*, 3(1)1. pp . 35-82.

- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 587-632). Cham: Springer International Publishing.
- Saunders, M. (2014). *Research Methods for Business Students* (6th edh).
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & sons.
- Seok-Tae Ha, Eun-Sil Kim, & Seong-Pyo Jo. (2022). the effect of profit transparency on audit fee and audit time. *Regional Industry Research*, 45(1), 3-36.
- Sharma, G. (2017). Pros and cons of different sampling techniques. *International journal of applied research*, 3(7), 749-752.
- Sharma, M., & Kaur, R. (2021). Accounting conservatism and corporate governance: Evidence from India. *Journal of Global Responsibility*, 12(4), 435-451.
- Shaw, T. S., Raithatha, M., Krishnan, G. V., & Cordeiro, J. J. (2021). Did mandatory CSR compliance impact accounting Conservatism? Evidence from the Indian Companies Act 2013. *Journal of Contemporary Accounting & Economics*, 17(3), 100280.
- Siddiqui, J. (2019). Are four eyes better than two? An examination of recent empirical evidence on the impact of joint audits. University of Manchester, Manchester, Uk.
https://assets.publishing.service.gov.uk/media/5c63fcd840f0b676d487d06b/dr_javed_siddiqui_response_to_update_paper.pdf
- Staszkievicz, P., & Karkowska, R. (2022). Audit fee and banks' communication sentiment. *Economic Research-Ekonomska Istraživanja*, 35(1), 1618-1638.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education*, 2, 53.
- Thompson, B. (1995). Stepwise regression and stepwise discriminant analysis need not apply here: A guidelines editorial. *Educational and psychological measurement*, 55(4), 525-534.

- Thompson, S. K. (2012). *Sampling* (Vol. 755). John Wiley & Sons.
- Ugwunta, D. O., & Ugwuanyi, B. U. (2019). Accounting Conservatism and Performance of Nigerian Consumer Goods Firms: An Examination of the Role of Accruals. *International Journal of Financial Research*, 10(1), 1-9.
- Van der Zahn, M., & Tebourbi, I. (2023). Audit quality and abolition of mandated joint-audits: evidence from Kuwait. *Journal of Applied Accounting Research*, 24(1), 70-105.
- Wang, K., & Chen, Z. (2016). Stepwise regression and all possible subsets regression in education. *Electronic International Journal of Education, Arts, and Science (EIJEAS)*, 2(Special Issue), 60-81.
- Witte, R. S., & Witte, J. S. (2017). *Statistics*. John Wiley & Sons.
- Wu, J., Liu, B., Chang, S., & Chan, K. C. (2022). Effects of air pollution on accounting conservatism. *International Review of Financial Analysis*, 84, 102380.
- Zadeh, F. N., Askarany, D., & Asl, S. A. (2022). Accounting Conservatism and Earning Quality. *Journal of Risk and Financial Management* 15: 413.
- Zhang, X., Gao, S., & Zeng, Y. (2019). An empirical study of the relationship between accounting conservatism and executive compensation-performance sensitivity. *International Journal of Accounting & Information Management* 27(1), 130–150.
- Zhou, G. (2022, December). Construction and Application of Digitalized Audit Trust System Based on Blockchain Technology. In 2022 International Conference on Bigdata Blockchain and Economy Management (ICBBEM 2022) (pp. 52-59). Atlantis Press.

المستخلص:

تسعى هذه الدراسة إلى فحص أثر المراجعة المشتركة على مستوى التحفظ المحاسبي في الشركات غير المالية المدرجة في البورصة المصرية. تم استخدام بيانات بانل متوازنة تغطي 93 شركة خلال الفترة من 2015 إلى 2021، بإجمالي 651 مشاهدة سنوية، وذلك بهدف توفير تحليل دقيق عبر الزمن. تم اعتماد نموذج خان وواتس (2009) لقياس التحفظ المحاسبي، وتطبيق نماذج بانل ديناميكية ونماذج التأثيرات الثابتة لمعالجة البيانات والتحكم في الانحيازات الديناميكية المحتملة. أظهرت النتائج عدم وجود تأثير معنوي سواء من الناحية الإحصائية أو العملية للمراجعة المشتركة على التحفظ المحاسبي، وهو ما يشير إلى ضعف فاعلية هذا النظام بصيغته الحالية في البيئة المصرية. ويُعزى ذلك إلى غياب التنسيق الفعّال بين المراجعين، وضعف الإشراف التنظيمي، مما يجعل المراجعة المشتركة إجراءً شكلياً أكثر من كونها أداة رقابية مؤثرة في جودة التقارير المالية. في المقابل، كشفت النتائج عن وجود علاقة إيجابية قوية بين مستويات التحفظ السابقة والحالية، مما يعكس استمرارية السلوك التحفظي في إعداد التقارير المالية، ويُعزى ذلك إلى عوامل مثل ثقافة العمل المحاسبي، تفضيلات الإدارة، وفعالية نظم الرقابة الداخلية. وتؤكد نتائج تحليل حجم الأثر (Cohen's d) غياب التأثير العملي للمراجعة المشتركة، ما يدعو إلى مراجعة الأطر التنظيمية والمؤسسية، وتعزيز آليات التنسيق بين المراجعين، بما يدعم فاعلية هذا النظام في تحقيق تقارير مالية أكثر تحفظاً.

الكلمات المفتاحية: المراجعة المشتركة، التحفظ المحاسبي، المراجعة الخارجية.