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Financial Leverage as a Mediator: Exploring the Impact of External Auditor on Financial Reporting Timeliness

Mithkal Hmoud Alqaraleh[1] & Abdulnaser I. Nour[2]*Raed Abdelhaq[3]

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Abstract: Objective: This research aims at analyzing the impact of external auditor characteristics in the form of audit firm size and external auditor fees on the timeliness of financial reporting. It also tries to analyze the mediatory role of financial leverage in the impact of external auditor characteristics on financial reporting timeliness. **Methodology:** The study used a deductive methodology for conducting the research while using secondary data from annual reports of 144 firms listed in the Amman Stock Exchange in Jordan from 2019 to 2023. Financial reporting timeliness is measured in terms of financial reporting lag. The research model and hypotheses in this study are empirically validated using STATA software. **Important Findings:** It is found that there is a positive relationship between external auditor fees and financial reporting lag. On the other hand, the size of the audit firm does not have any considerable influence on the reporting lag. The results reveal that the financial leverage acts as a mediator for the relationship between external auditor characteristics and financial reporting lag. Additionally, the financial leverage has a negative impact on reporting lag, which means that companies having high financial leverage are expected to report faster than other companies. **Conclusions:** The study shows that external auditor characteristics do not equally affect the financial reporting timeliness. While audit fees increase reporting lags, there is no significant influence of the audit firm size on reporting lag. Financial leverage can be considered an essential mechanism for explaining financial reporting timeliness and acts as a mediating factor in this relationship. The research contributes to agency theory by incorporating the concepts of audit monitoring and financing structure into the financial reporting process. **Recommendations:** Companies need to improve the coordination process between external auditors to control the audit process and reduce the reporting lags, especially when the audit fees depend on the complexity of the audit process and workload.

Keywords: financial reporting timeliness, external auditor fees, audit firm size, financial leverage

الرافعة المالية كوسيط: استكشاف تأثير المدقق الخارجي على توقيت إعداد التقارير المالية

مثقال حمود القراله[1] ، عبدالناصر ابراهيم نور[2*]، رائد عبدالحق[3]

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الملخص: الهدف:تهدف هذه الدراسة إلى فحص أثر خصائص المدقق الخارجي، والمتمثلة في حجم شركة التدقيق وأتعاب المدقق الخارجي، على توقيت إعداد التقارير المالية. كما تسعى إلى اختبار الدور الوسيط للرافعة المالية في العلاقة بين خصائص المدقق الخارجي وتوقيت إعداد التقارير المالية. **المنهجية:** اعتمدت الدراسة المنهج الاستنتاجي، واستخدمت بيانات ثانوية جُمعت من التقارير السنوية لـ144 شركة أردنية مدرجة في بورصة عمّان خلال الفترة 2019–2023. وتم قياس توقيت إعداد التقارير المالية باستخدام فترة تأخر إصدار التقارير المالية. كما جرى اختبار نموذج الدراسة والعلاقات بين متغيراتها وتقييمها إحصائيًا باستخدام برنامج STATA. **أهم النتائج:** أظهرت النتائج وجود علاقة إيجابية بين أتعاب المدقق الخارجي وتأخر إعداد التقارير المالية، مما يشير إلى ارتباط ارتفاع أتعاب التدقيق بزيادة فترة تأخر إصدار التقارير. في المقابل، لم تظهر علاقة ذات دلالة بين حجم شركة التدقيق وتأخر إعداد التقارير المالية. كما بينت النتائج أن الرافعة المالية تؤدي دورًا وسيطًا في العلاقة بين خصائص المدقق الخارجي وتأخر إعداد التقارير المالية. إضافة إلى ذلك، كان للرافعة المالية أثر سلبي على تأخر التقارير، مما يشير إلى أن الشركات ذات الرافعة المالية المرتفعة تميل إلى إصدار تقاريرها المالية في توقيت أكثر ملاءمة. **الاستنتاجات:** تخلص الدراسة إلى أن خصائص المدقق الخارجي لا تؤثر بصورة موحدة على توقيت إعداد التقارير المالية؛ إذ ترتبط أتعاب التدقيق بتأخر التقارير، في حين لا يمثل حجم شركة التدقيق عاملًا مؤثرًا في فترة التأخر. كما تمثل الرافعة المالية آلية تفسيرية ووسيطة مهمة لفهم توقيت التقارير المالية. وتدعم النتائج نظرية الوكالة من خلال دمج منظوري الرقابة التدقيقية وهيكل التمويل. **التوصيات:** توصي الدراسة بتعزيز التنسيق بين الشركات والمدققين الخارجيين لإدارة إجراءات التدقيق والحد من تأخر التقارير، خاصة عندما تعكس أتعاب التدقيق ارتفاع تعقيد أعمال التدقيق وحجمها. كما ينبغي للجهات التنظيمية ومجالس الإدارة مراعاة هيكل التمويل عند تقييم توقيت التقارير المالية. وتوصي الدراسة المستقبلية بتوسيع الفترة الزمنية والعينات وإجراء مقارنات دولية.

الكلمات المفتاحية: توقيت التقارير المالية، رسوم المدقق الخارجي، حجم شركة التدقيق، الرافعة المالية

1 Administrative Sciences Department, Applied College, University of Tabuk, Kingdom of Saudi Arabia. Orcid: [https://orcid.org/0000-0003-4019-6143] email: malqaraleh@ut.edu.sa
2 Accounting department, Faculty of Business and Communication, An-Najah National University, Nablus, Palestine- E-mail: a.nour@najah.edu. Orcid: https://orcid.org/0000-0001-8525-9799
* Corresponding author email: a.nour@najah.edu
3 Accounting department, Faculty of Business and Communication, An-Najah National University, Nablus, Palestine- raed.abdelhaq@najah.edu. Orcid: https://orcid.org/0009-0008-5175-8213
* Corresponding author email: a.nour@najah.edu, orcid: : https://orcid.org/0000-0001-8525-9799

1 قسم العلوم الإدارية، الكلية التطبيقية - جامعة تبوك، المملكة العربية السعودية. malqaraleh@ut.edu.sa
.
2 جامعة النجاح الوطنية، كلية إدارة الأعمال والاتصال، قسم المحاسبة، نابلس، فلسطين.
* الباحث المراسل: a.nour@najah.edu
3 جامعة النجاح الوطنية، كلية إدارة الأعمال والاتصال، قسم المحاسبة، نابلس، فلسطين

Background

Financial reporting is a tool utilized in connecting parties within a company with stakeholders (Nursanti & Ningsih, 2024). An important quality of corporate financial reports is timeliness because it concerns the relevance of information that it presents (Yilmaz, Aksoy, & Khan, 2024). Financial report timeliness refers to a firm's ability to publish its financial report in the shortest possible time following the fiscal year-end. The information provided in financial reports, for example financial statements and company and economy outlook, is useful for decision making (H. M. Moghadam, Salehi, & Hajiha, 2023). Timeliness is also described as the ability of decision makers to make use of the provided information before it becomes irrelevant (Arowoshegbe, Uniamikogbo, & Adeusi, 2017).

Information timeliness is a critical quality sought by accounting regulators in emerging markets (Jayasinghe et al., 2021; Mertzanis, Garas, & Abdel-Maksoud, 2020). To improve their economies, emerging markets must have the ability to attract global investors. To accomplish this goal, market efficiency and financial reporting timeliness are necessary, as these will increase trade in financial securities. It is thus crucial for countries in Middle East such as Jordan to improve their local market. Privatization programs, which require market reforms and involve private investors, have been proposed in Jordan in 1997 (Alshyab & Sandri, 2022; Zurub, 2024). To increase efficiency, these reforms require appropriate and timely financial information.

Delayed financial report automatically invalidates information timeliness (Spiekermann et al., 2022). External auditors are thus under intense pressure to quickly complete and publish the audit report. Audit services can reduce financial reporting complexities and minimize misstated or manipulated financial reporting (Kassem, 2023). This significance has led to higher demand for the professional independent opinion of auditors. Furthermore, considering their role in improving financial reporting integrity in vibrant capital markets, audit firm size and audit fees are considered critical (Putra & kawisana, 2020). According to (Titman & Trueman, 1986), the use of such financial reporting assists investors in estimating the values of their options in a better manner. It also helps investors in making better informed decisions.

Leverage is the ratio of debt to total assets. Control costs increase when a firm borrows because of the difference between directors and creditors. Firms must disclose more information quicker to control these costs and convince shareholders.

For policymakers in Jordan, this study can be useful because one of their tasks is to lower timeliness violations among firms. By being aware of the mediation of financial leverage between audit firm size and external auditor fees with financial reporting timeliness, Jordanian regulators can design evidence-based policies to resolve this issue. Extant studies, however, have been inconclusive with regards to the determinants of financial reporting timeliness. This study investigates the direct and indirect associations between audit firm size and external auditor fees with financial reporting timeliness through financial leverage as a mediator. The results could assist auditor, auditee, and regulators in increasing their competencies in approximating the appropriate audit fee for ensuring timeliness. Additionally, several recommendations are presented to facilitate the development of audit career and regulators in Jordan.

This section has presented the introduction. The following section discusses the problem statement, followed by a review of past relevant studies, involving the discussions and findings on financial reporting timeliness, audit firm size, external auditor fees, financial leverage, and agency theory. The research hypotheses are then presented in the next section, followed conclusions and implications.

Problem statement

Users of accounting information stress the importance of timely annual reports and other supplemental information (M. H. S. Alqaraleh & Nour, 2020). However, financial reporting timeliness is a critical issue in Jordan, as delayed financial statement publication has been reported to increase (Albawwat, Zureiqat, Al–Omari, Sulaihat, & Al-Haziamah, 2020). From 2019 to 2022, timeliness violation has increased from 44% to 47%. This situation raises serious questions about audit quality in Jordan, considering that audit services are the main reason for timeliness disclosure violations. It is thus of importance to estimate whether financial leverage mediates between external auditor fees and size and financial reporting timeliness. This objective is accomplished by determining the direct effects of external auditor fees and audit firm size on reporting timeliness and financial leverage, before estimating the mediation of financial leverage between external audit variables and reporting timeliness.

Literature Review

Related empirical studies are reviewed in this section, and among the key constructs highlighted include: financial reporting timeliness, audit firm size, external auditor fees and financial leverage. The constructs are discussed in the following subsections:

Financial reporting timeliness

Financial Accounting Standards Board 2010 considers timeliness as a critical factor of decision-driven informational relevance (Idris & Adediran, 2023). Put differently, information that is unavailable at the time it is needed is useless. Untimely financial reporting raises the questionability of financial information quality and usefulness (Lakshan, Low, & de Villiers, 2022). Firms' external stakeholders, particularly investors, regulators, and audit professionals, perceive timeliness as an indispensable quality of financial reporting (Monteiro, Vale, Silva, & Pereira, 2021). It is thus important that financial information is released on time to allow users' access to it during their decision making while also preventing insider trading (Emeh & Appah, 2013).

Timely financial information would allow investors to make an informed decision towards investing or not investing in a company. (A. Moghadam, Farid, & Mazarzehi, 2018) relevantly state that the market can become inefficient because of delayed accounting information. Setters of accounting standards perceive timely financial information as crucial because of its influence on the decisions of users. In other words, financial information timeliness is strongly tied with its usefulness (Rahmawati, 2018). Reporting timeliness is described in (Lukason & Camacho-Miñano, 2019) as an effort by financial statement preparers to make information accessible before it becomes unusable for decision-making. This is particularly salient in banking contexts, where the adoption of new accounting standards has been shown to affect the timing of loss recognition; (Alia, Abdeljawad, Selwadi, & Salahat, 2025) found that the application of IFRS 9 significantly influenced loan loss recognition timeliness in Gulf Cooperation Council banks, highlighting how regulatory and accounting frameworks shape reporting behavior across emerging markets in the Middle East.

Audit firm size

Auditee size has been found to influence the size of external audit fees. Typically, large companies, as they have greater transaction variety and volume, need extra auditor analysis and verification, which is reflected in the fees charged. Auditors have to spend more time and effort to analyze the financials and operations of larger firms, explaining their higher audit fees (Knechel, Thomas, & Driskill, 2020). Additionally, those firms incur higher agency and political costs because they are under closer public scrutiny; as a result, auditors perceive them to be riskier than smaller firms (M. H. Alqaraleh, 2024; Xu, Dao, & Petkevich, 2019).

Audit firms, by size, are categorized into large (Big 4) and small (non-Big 4). Large audit firms are expected to reduce agency costs and improve monitoring of opportunistic management behaviors (Meckling & Jensen, 1976). Because reputation is critical for the Big 4, they show more readiness to associate with companies that disclose more information in their published financial report (M. H. Alqaraleh, Nour, Kasasbeh, & Kielani, 2025; Zimon, Arianpoor, & Salehi, 2022).

External auditor fees

Audit fee size influences the motivation of auditors to perform well. Considering the complexity of audit procedures, it is normal that public accountants charge fees for their services (Stevani & Siagian, 2020). Clients that are considered risky may be charged higher audit fees owing to the number of substantive tests to be performed by audit firms, in addition to the risk premiums charged (Bae, Choi, Lamoreaux, & Lee, 2021). (Cenciarelli, Greco, & Allegrini, 2018) reported that ex-post bankrupt companies were being charged higher fees by auditors.

Risk premiums in audit fees have been reported to incur among listed firms, especially among clients with higher-than-average business risk, when there appear to be irregularities, and when companies are losing their internal controls (Matozza, Biscotti, D'Amico, & Strologo, 2020). (Xia, Lin, Li, & Bardhan, 2024) reported that discretionary accruals and audit fees are positively associated and in fact solidified by accounting-based management compensation. Higher audit fees are reported among firms with higher litigation risk and among firms with larger income-increasing discretionary accruals (Chang, Ho, Liu, & Ouyang, 2021).

Financial leverage

Financial leverage means debt-to-equity ratio. According to (Carreras Simó & Coenders, 2021), the ratio embodies the link between the loan and assets of investors within the capital structure. (Chen, Harford, & Kamara, 2019) indicate that financial leverage assesses the manner in which firms employ equity and loan to cover their operations and generate revenue. Higher financial leverage will result in higher costs of loan, resulting in low earnings per share (Arhinful & Radmehr, 2023). Financial leverage essentially comprises the ratio of short- and long-term debts to equity (Chukwuebuka & Okonkwo, 2020).

In making decisions, managers frequently find financial leverage to be a highly challenging issue. As reported by (Taebi Noghondari & Taebi Noghondari, 2017), debt ratio and financial risks are positively correlated, which in turn raises capital costs. Firms' utilization of financial resources must be improved to increase their profitability. Firms that increasingly maximize their borrowing are more likely to make profit in a consistent manner (Graham, Harvey, & Puri, 2017).

Agency Theory

Agency theory is associated with the working relationship between principal and agent, where the former entrusts to the latter the management and decision-making of their firm (Meckling & Jensen, 1976). During the course of their administration of the firm, agents may encounter various risks. On a yearly basis, agents prepare financial reports as part of their duty. Internal parties, specifically the audit committee, are tasked with monitoring those financial reports. These reports are then verified by an independent external party: the auditor. In monitoring company policies, the role played by audit committees is critical (Trotman & Trotman, 2015).

Financial statement audit could minimize agency problems. It is in fact a type of supervision. (Meckling & Jensen, 1976) describe audit fees as monitoring costs that an agent incurs mandatorily. External auditors are an independent third party that is presumed to be capable of assuring the fairness of financial statements prepared by the agent.

The theory also describes how financial reporting disclosure is linked to financial leverage. It suggests that highly leveraged companies have the incentive to provide more disclosure to associated parties. Notably, financial leverage is positively associated with agency costs. In fact, as asserted by (Della Seta, Morellec, & Zucchi, 2020), a higher proportion of debt leads to more likely transfer of wealth from debtholders to shareholders.

Hypothesis Development

Audit firm size and financial reporting timeliness

Larger audit firms tend to be less opportunistic because the impact of low-quality audit is more severe for them, i.e., they have "more to lose" (Nasihin & Purwandari, 2022). At the same time, they have in place certain factors that enable higher quality audit, including better audit teams, both in terms of quantity and quality, and well-established infrastructure. As a result, audit firm size is positively associated with timely financial disclosure (Aliyu, Bagudo, & Oghe, 2021; Kaawaase, Nairuba, Akankunda, & Bananuka, 2021). Similar evidence is also found in Jordan, where audit firm size and disclosure quality are positively linked (Shakhatreh, Alsmadi, & Alkhataybeh, 2020). In the Jordanian context specifically, (Alduneibat, 2024) examined the determinants of Key Audit Matters disclosure among firms listed on the Amman Stock Exchange and found that audit firm size was among the significant factors influencing the extent and quality of audit-related disclosures, further affirming the prominent role that larger audit firms play in shaping financial reporting practices in Jordan.

H1: Audit firm size determines financial reporting timeliness.

External auditor fees and financial reporting timeliness

There is much evidence supporting the importance of independence for the quality of financial statements. Higher audit fees place auditors under much higher scrutiny, particularly their objectivity and work quality. This is because they may be incentivized to overlook suspicious cases or refrain from asking clients to make adjustments. (Shakhatreh et al., 2020) found no link between audit fees and timeliness, whereas (Lin, 2023) found a positive association. The disruption caused by external shocks has further complicated the fee-quality relationship; (Aldahray, 2025) documented that audit firms increasingly relied on computer-mediated communication during the COVID-19 pandemic, a shift that altered audit delivery processes and raised questions about how remote auditing practices affect both the cost and timeliness of engagements, with implications for the fee structures charged to clients.

H2: External auditor fees determine financial reporting timeliness.

Audit firm size and financial leverage

(Alawaqleh, Almasria, & ALSAWALHAH, 2021) found that emerging companies tend to prefer employing large audit firms; the opposite has been reported among leveraged companies. Additionally, the authors found no relationship between corporate governance and auditor selection, while affirming the link between audit fees and auditor selection. Another study found no link between financial leverage and auditor selection (Zarei, Yazdifar, Dahmarde Ghaleno, & Azhmaneh, 2020). Utilizing 10 European countries as sample, (Habib, Wu, Bhuiyan, & Sun, 2019) examined the impact of leverage on auditor choice and reported that leveraged firms in countries with more effective laws in defending the rights of creditors tend to prefer big audit firms as their auditors. Additionally, (Cook, Kim, & Omer, 2020) reported the reluctance of leveraged companies in choosing large firms as their auditor.

H3: Audit firm size determines financial leverage.

External auditor fees and financial leverage

Financial leverage has different impacts on audit fees. (Barua, Hossain, & Rama, 2019) and (Malmir & Barati, 2017) reported its negative effect, while (Imeni & Daryaei, 2021) found its positive influence. Highly leveraged firms are charged more substantial audit fees because of their higher risk premium, i.e., higher risk of client failure and auditor litigation.

H4: External auditor fees determine financial leverage.

Financial leverage and financial reporting timeliness

Companies with higher leverage rely on external loans for assets financing. Public perception towards such companies is lower because it signals their inability to manage their operations well. To restore public trust, such companies may pressure auditors to issue a favorable opinion. Leverage significantly determines financial reporting timeliness (Fujianti & Satria, 2020), though this link was not found in Jordan (Al-Tahat, 2015; Basalat, Al Koni, & Nour, 2023). Related evidence from the Jordanian context further points to the significance of reporting-period decisions in shaping disclosure outcomes; (Al-Hamadeen, Issa, & Hewins, 2024) demonstrated that firms' choice of financial year-end carries significant implications for the quality and timeliness of their financial disclosures, suggesting that structural reporting decisions interact with financing conditions to influence how promptly firms communicate financial information to external stakeholders.

H5: Financial leverage determines financial reporting timeliness.

Financial leverage as mediation

Taking into account the findings of past related studies, including (Baron & Keny, 1986) and (M. H. Alqaraleh & Oudat, 2022), the discussed variables can each play the role as mediator. They can provide explanations on how the independent, mediating, and dependent variables are interrelated.

H6: Financial leverage mediates between audit firm size and financial reporting timeliness.

H7: Financial leverage mediates between external auditor fees and financial reporting timeliness.

Method

This study investigated whether financial leverage mediates between external auditor fees and size and financial reporting timeliness. The sample was 169 industrial firms listed on the Amman Stock Exchange in 2019–2023. Twenty-five firms were omitted because they were listed during the sample period, leaving only 144 firms as the final sample. The variables are listed in Table 1. STATA was used for analysis.

Table 1: Measurement of variables

Variables	Code	Description	Supporter
Financial reporting timeliness	FRT	Reporting time lag, the number of days between end of fiscal year of a firm and the publication date of its annual report	Alqaraleh and Nour (2020)
Audit firm size	AFZ	Dummy variable that equals 1 if the firm is audited by a Big 4 audit firm and 0 otherwise.	Knechel, et al. (2020)
External auditor fees	EAF	Natural logarithm of audit fees	Shakhatreh et al. (2020)
Financial leverage	FLV	Ratio of total debt to total assets	Fujianti and Satria (2020)

Four multiple regression models were constructed to estimate the variable interrelationships (Sekaran & Bougie, 2016):

Model 1: Effect of AFZ and EAF on FLV

$$FLV_{it} = \beta 0 + \beta 1\mathrm{AFZ}_{it} + \beta 1\mathrm{EAF}_{it} + \varepsilon i$$

Model 2: Effect of AFZ and EAF on FRT

$$FRT_{it} = \beta 0 + \beta 1\mathrm{AFZ}_{it} + \beta 1\mathrm{EAF}_{it} + \varepsilon i$$

Model 3: Effect of FLV on FRT

$$FRT_{it} = \beta 0 + FLV_{it} + \varepsilon i$$

Model 4: Effect of AFZ, EAF, and FLV on FRT

$$FRT_{it} = \beta 0 + \beta 1\mathrm{AFZ}_{it} + \beta 1\mathrm{EAF}_{it} + \beta 2\mathrm{FLV}_{it} + \varepsilon i$$

where (i) represents firm, (t) represents year, FRT is financial reporting timeliness, AFZ is Audit firm size, EAF is External auditor fees, FLV is financial leverage, and ε is the error term.

Model Specification

The model specifications were formulated specifically to assess the hypothesized relationships among audit firm size, external auditor fees, financial leverage, and financial reporting timeliness. In line with the goal of the study regarding the testing of a theory-based mediating process, the model is concerned with both the direct and indirect impacts of the focus variables stemming from Agency Theory. Instead of developing a fully developed prediction model for financial reporting timeliness, the current study aims to provide an understanding of how financial leverage mediates the impact of the external auditor factors on financial reporting timeliness. In addition, the sample only comprises industrial firms that are listed on Amman Stock Exchange and operate under the same regulatory system, minimizing differences caused by institutional and industry-related aspects.

Mediation Testing Procedure

Testing for financial leverage mediation was done via the use of (Baron & Keny, 1986) causal-step regression method. According to this method, a significant association must be shown first between the independent variables and the mediator, between the independent variables and the dependent variable, and between the mediator and the dependent variable. After which, the final regression analysis was performed with both the independent variables and the mediator to show whether there is a change in the effect of the independent variables on financial reporting timeliness when the mediator is controlled. Mediation is demonstrated by the significant effect of the mediator on the dependent variable, and the change in the strength of the association between the independent and dependent variables.

Empirical Results and Discussion

The descriptive statistics in Table 2 show that on average, it took around 65 days after the financial year-end for the sample firms to publish their financial reports ($M = 65.78$). The Big 4 audited more than one-third of the firms ($M = 34.3\%$). The mean natural logarithm of audit fees was 9.682. FLV had a mean of -0.0043, suggesting that that there might be a specific issue with the data or the way it was calculated. The actual means of the sample firms were not largely dispersed, as indicated by the small standard deviations. Jarque–Bera statistics indicated the normal distribution of data.

From the above results for the descriptive statistics, we can observe that the financial leverage is highly dispersed and not normally distributed, as shown in the skewness and kurtosis measures. After carefully going through the dataset, it was discovered that the reason for these skewed and leptokurtic distributions is mainly because of a few firm years that have extremely high leverage ratios. The measure was crosschecked using the company's financial statements, and it showed that there were no errors in data entry or coding.

Table 2. Descriptive Statistics

	FRT	*AFZ*	*EAF*	*FLV*
Mean	65.78333	0.34305	9.6822	-0.0043
Standard Error	1.185473	0.01770	0.0597	0.0083
Standard Deviation	3.880959	0.47506	1.6012	0.2222
Sample Variance	1.850763	0.2257	2.5638	0.0495
Kurtosis	8.337168	-1.5653	-1.237	332.23
Skewness	1.95609	0.6626	0.0633	-15.904
Minimum	7	0	6.93	4.88
Maximum	313	1	12.395	0.55

EAF and LEV ($r = 0.044$, $p < 0.05$), EAF and AFZ ($r = 0.014$, $p < 0.05$), and EAF and FRT ($r = 0.042$, $p < 0.05$) were weakly correlated. There was a no significant correlation between FRT and LEV ($r = -0.074$, $p < 0.05$) and AFZ and FLV ($r = -0.012$, $p < 0.05$). FRT appeared to be strongly correlated with AFZ ($r = 0.258$, $p < 0.05$). This is expected because it summarizes the scores of other variables.

Therefore, to minimize bias, FRT was regressed separately against AFZ to test the

final hypothesis

Table 3. Correlation Matrix

	FRT	*AFZ*	*EAF*	*LEV*
FRT	1			
AFZ	0.25775247	1		
EAF	0.04225523	0.01397905	1	
FLV	-0.0738001	-0.0115218	0.04371242	1

Hypotheses and discussions

Figure 2 and Table 4 show the estimations of model one, i.e., the relationship between AFS, EAF, and LEV. AFZ did not influence FLV (β = 0.126, $p > 0.05$), while EAF negatively influenced LEV (β = -0.065, $p = 0.019$). This suggests that firms that pay higher audit fees appear to be more conservative in their debt structure. Significance was tested by comparing the *t*-values to the *t*-table.

Table 4. Multiple regression analysis (Model one)

Variables	Coefficient	T-Test	P-Value
Model One			
Constant	0.932181	-1.578726	0.11483997
AFZ	0.125899	0.2881354	0.77332636
EAF	-0.06492	- 2.36209413	0.01870706
R2	0.3503		
Adj R2	0.3043		
F	3.2672		
Sign.	0.0000		

Figure 2. Model 0ne

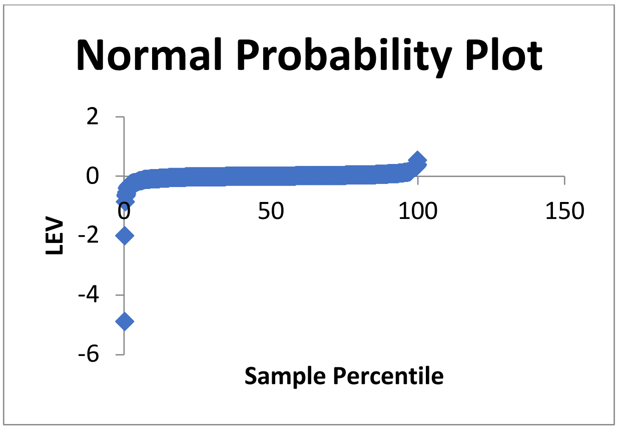


Figure 3 and Table 5 show the results for model two. The regression results showed that both AFZ ($\beta = 1.318$, $p < 0.05$) and EAF ($\beta = 1.079$, $p < 0.05$) positively influenced FRT. These findings indicated that larger audit firms and higher auditor fees are associated with longer financial reporting lags, indicating a delay in the issuance of financial reports. Significance was tested by comparing the *t*-values to the *t*-table.

Table 5. Multiple regression analysis (Model Two)

Variables	Coefficient	T-Test	P-Value
Model Two			
Constant	4.3939306	5.09675988	0.0000003
AFZ	1.3177736	5.34841413	0.0000007
EAF	1.07943693	2.50608191	0.0124959
R2	0.4932		
Adj R2	0.4563		
F	6.7754		
Sign	0.0000		

Figure 3. Model Two

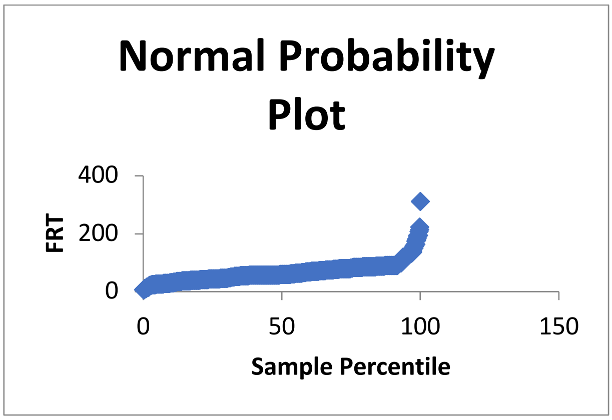


Figure 4 and Table 6 show the results of model three. LEV negatively influenced FRT (β = 1.566, $p < 0.05$). This suggests that the negative coefficient indicates that higher financial leverage is associated with shorter reporting lag and therefore with more timely financial reporting. This suggests that highly leveraged firms, facing greater pressure from creditors and the capital market, are incentivized to release their financial reports more promptly in order to maintain stakeholder confidence and satisfy their debt covenants. *t*-values to the *t*-table.

Table 6. Multiple regression analysis (Model Three)

Variables	Coefficient	T-Test	P-Value
Model Three			
Constant	5.7377731	5.55523110	0.000003
FLV	-1.5661691	-1.9829202	0.047757
R2	0.3714		
Adj R2	0.2854		
F	3.9319		
Sign	0.0000		

Figure 4. Model Three

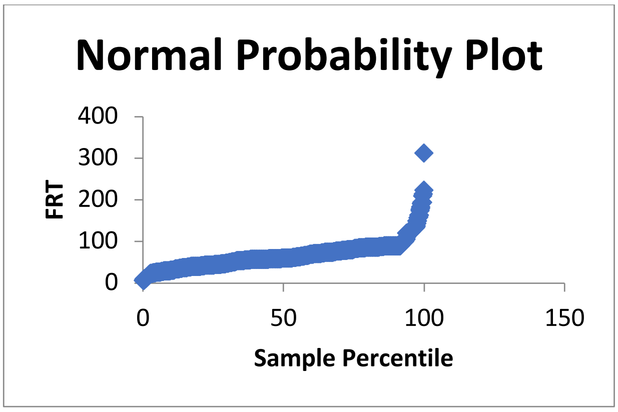
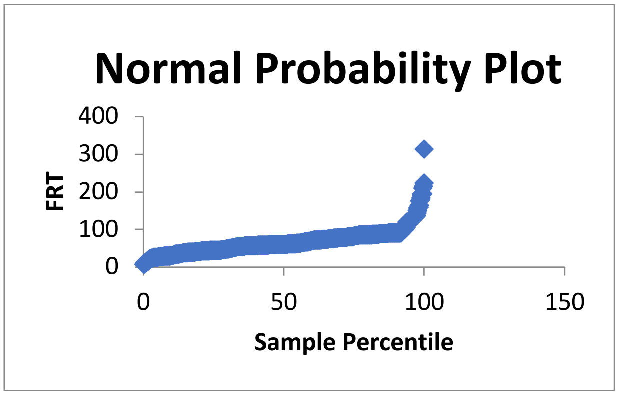


Figure 5 and Table 7 show the results for model four, which integrates the effects of AFZ and EAF on FRT via LEV as a mediator. Financial leverage mediated the relationship between external auditor characteristics and reporting lag. The negative coefficient of financial leverage suggests that the mediating mechanism contributes to reducing reporting delay ($\beta = 1.196$, $p < 0.05$), and EAF and FRT ($\beta = 0.905$, $p < 0.05$). Significance was tested by comparing the *t*-values to the *t*-table.

Table 7. Multiple regression analysis (Model Four)

Variables	Coefficient	T-Test	P-Value
Model Four			
Constant	1.0766447	4.45211751	0.00000964
AFZ	1.1964485	4.74909788	0.00000231
EAF	0.9052856	2.32148094	0.02039704
FLV	-0.457811	-2.0281154	0.04291822
R^2	0.5201		
Adj. R^2	0.5050		
F	5.2212		
Sign.	0.0000		

Figure 5. Model Four



Conclusion

In this research, the effect of external auditor features, such as audit firm size and external auditor fees, on financial reporting timeliness of Jordanian firms listed at the Amman Stock Exchange was analyzed. Also, the role played by financial leverage in the effect of external auditor features on financial reporting timeliness was considered. The results of this analysis demonstrate that external auditor fees positively correlate with financial reporting lag. Since financial reporting timeliness is assessed by the time span between the fiscal year end and the release date of the annual report, the positive correlation implies that firms with higher audit fees usually exhibit longer reporting lag. At the same time, there was no statistically significant effect of audit firm size on reporting lag. However, financial leverage proved to be a mediator of the relationship between external auditor features and financial reporting lag. In particular, it turned out that a high financial leverage level corresponds to low reporting lag.

The research contributes to the existing literature in several ways. First, it sheds light on the impact of firms' financing choices on the relationship between external auditor features and reporting performance. Secondly, it advances agency theory by incorporating elements related to financial leverage in order to explain reporting differences among firms. The research findings also provide important information regarding reporting lag determinants in emerging markets, especially for the Jordanian case. In practice, the research results imply that managers, auditors, and regulators need to give attention to factors that might cause a delay in reporting performance. Despite the fact that high audit fees represent high efforts of the auditing process, they are also linked to delayed reporting. In addition, firm's financial decisions might affect reporting due to their impact on financial leverage. Thus, regulators can benefit from monitoring factors related to both audits and financial decisions of firms.

Theoretical Contributions

This study advances prior research in several important ways. While previous studies have largely focused on the direct relationship between audit characteristics and financial reporting timeliness, the current study extends this stream of literature by examining the underlying mechanism through which external auditor characteristics influence reporting timeliness. Specifically, financial leverage is introduced as a mediating variable, providing a more comprehensive explanation of how audit firm size and audit fees affect the timing of financial disclosures. Furthermore, the study contributes to the theoretical development of agency theory by integrating audit monitoring mechanisms and firms' financing structures within a unified framework. This approach moves beyond the conventional examination of direct associations and offers a deeper understanding of the pathways through which audit-related factors shape reporting outcomes.

The study also contributes contextually by providing evidence from Jordan, an emerging market characterized by distinct institutional and regulatory conditions. Given the limited empirical evidence on the interaction between audit characteristics, financial leverage, and reporting timeliness in Middle Eastern economies, the findings provide insights that enrich the international literature and improve understanding of financial reporting behavior in emerging markets. Accordingly, the contribution of this study lies not merely in testing previously established relationships in a different setting, but in uncovering the mediating role of financial leverage, extending agency theory, and providing updated evidence from an underexplored emerging-market context.

Policy and Practical Implications

The study presents actionable implications for companies, auditors, and regulators. First, the positive association between external auditor fees and reporting lag indicates that higher audit fees are associated with longer delays in financial report publication. Regulators and policymakers should therefore monitor audit fee levels alongside timeliness compliance, as disproportionately high fees may signal complex engagements that slow down the reporting process. Second, regulators and policymakers may consider improving audit fee transparency to incentivize performance and reliability in audit practices.

Companies should also evaluate their financial leverage policies in light of these findings. Firms with higher leverage may experience greater scrutiny, pushing them toward timely reporting. Auditors may need to adopt risk-based approaches when dealing with leveraged clients to ensure effective coordination and timely financial statement releases.

Study Limitations

This study is limited in scope to Jordanian listed firms from 2019 to 2023, which may constrain the generalizability of its results across other periods or national contexts. The timeframe might not capture long-term shifts or external shocks, such as the COVID-19 pandemic's full economic aftermath.

Additionally, the use of publicly available data from annual reports, while reliable, may overlook internal organizational factors that influence audit processes or decision-making dynamics. Audit firm size was treated as a single categorical variable, which may oversimplify variations in audit quality across firms of different sizes or structures.

While the study employs a parsimonious model specification in line with its mediation purpose, future studies might add more firm-level control variables related to governance for an enhanced robustness test of the results.

Suggestions for Future Research

Future studies could expand the scope by including firms from multiple countries or regions to examine the cross-national validity of the findings. Comparative studies between developed and emerging markets may reveal how institutional differences shape the relationship between audit practices and reporting timeliness.

Researchers could also integrate qualitative data, such as interviews with audit partners or financial officers, to explore underlying motivations and internal processes. Moreover, future research might employ longitudinal designs that capture pre- and post-crisis data to better understand the resilience of audit systems during economic downturns.

Finally, further work can dissect audit firm characteristics more granularly such as industry specialization, rotation frequency, and audit technology adoption to better understand how these factors impact timeliness and disclosure quality.

Disclosure Statement:

- **Ethical approval and consent to participate: Not applicable, because this study was conducted using secondary data which is available to public and involves no human subjects.**

- **Availability of data and materials: The data used for this study is publicly available annual reports and can be obtained from the corresponding author upon request.**

- **Author contribution: All authors participated in designing, analyzing, interpreting, and writing the paper and approved the final version of the paper.**

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