

PRACTICING PROFESSIONAL SKEPTICISM IN LIGHT OF AUDIT STANDARDS AND LEGISLATION DURING THE COVID-19 PANDEMIC

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Abstract

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This paper examines the impact of the COVID-19 pandemic on professional skepticism from the perspective of Jordanian external auditors. To achieve the study objectives, a well-designed questionnaire was used to collect data. Non-parametric statistics were also employed to analyze the data and test the hypotheses. The study results revealed a significant impact of the pandemic on all business activities, including business operations, business risks, and performance, consistent with (Lesmana et al., 2024). The most important finding of the study is the significant impact of the pandemic on professional skepticism in auditing, especially when activating an objective view of audit evidence, critically evaluating evidence, and being alert to any circumstances that may indicate the possibility of fraud. This is consistent with (Xu et al., 2023; Xu & Yang, 2025), who concluded that professional skepticism resembles a sense-making process influenced by numerous actions and interactions within the audit environment. Therefore, the study recommends that audit firms and regulatory bodies focus on the need to take practical steps to develop a systematic approach that regulates and manages how auditors exercise professional skepticism, particularly in the context of workplace disasters.

Keywords: COVID-19, Professional Skepticism, Professional Judgment, Audit Risk, Audit Activities

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1. INTRODUCTION

As a result of the COVID-19 pandemic, social and economic turmoil around the world has created a kind of social distancing, disrupting interaction, which has affected all aspects of life (Al-Tammemi,

2020; International Ethics Standards Board for Accountants [IESBA], 2020; Adio-Moses, 2021; Adams & Abhayawansa, 2022; Al-Ansi, 2022; Rainero et al., 2020). A disruption that has a potential negative effect on all types of organizations was considered by Fearn-Banks (2007) as a crisis. Moreover,

Hermann (1963) stated that an organizational crisis limits the amount of time that can be spent responding. Additionally, researchers considered the COVID-19 pandemic crisis as one of the biggest challenges faced by the world during the previous period (Khatib & Nour, 2021; Chartered Professional Accountants of Canada [CPA Canada], 2021; Bedford et al., 2022; Almustafa et al., 2023). Its harsh effects have affected every aspect of life and limited almost all industries' activities all over the world (Khatib & Nour, 2021; Crucean & Hațegan, 2021; Bedford et al., 2022; Gong et al., 2022; Eutsler et al., 2023). Researchers stated that the COVID-19 pandemic influenced many business issues (Khatib & Nour, 2021; Gong et al., 2022; Bedford et al., 2022; Eutsler et al., 2023). It is generally recognized that the operations and activities of profit and non-profit organizations globally have been influenced and limited by the COVID-19 pandemic (CPA Canada, 2021). Furthermore, the limitations on businesses' operating capacity have impacted the financial performance and business risks of most business entities (Khatib & Nour, 2021; Shen et al., 2020; Almustafa et al., 2023). Therefore, many research studies have been undertaken to highlight the various consequences of the COVID-19 pandemic on the world's economic, social, political, and environmental conditions (Cho et al., 2022; Larrinaga & Garcia-Torea, 2022). Moreover, previous research stated that the challenges of the pandemic created the conditions for management's intervention in the financial statements' content and, therefore, the pandemic period could significantly impact the likelihood of a major misrepresentation in the entity's financial statements (Ali et al., 2022; Alharasis et al., 2024).

The pandemic caused a significant impact on the way audit activity is carried out and on the financial reporting (Crucean & Hațegan, 2021). Therefore, previous research discussed the consequences of the pandemic on many accounting and auditing issues, including audit risk, materiality, and professional judgment (Castka et al., 2020; Albitar et al., 2021; Hazaea et al., 2022; Bedford et al., 2022). The Institute of Chartered Accountants in Pakistan (ICAP, 2020) stated that for auditors, the COVID-19 pandemic and associated economic uncertainties pose a special set of difficulties. Auditors are expected to put in more extensive efforts while conducting the audits during the pandemic and post-COVID-19 environment. Furthermore, the ICAP (2020) added that the complexity and uncertainty emanating from COVID-19 resulted in greater use of management judgments in accounting and, therefore, would demand heightened professional skepticism.

According to the International Standard on Auditing ISA 200, professional skepticism is a mindset that entails the auditor critically assessing and conceptually challenging the degree of veracity of the audit evidence gathered, as well as being on the lookout for evidence that calls into question the accuracy of documents or responses received, and other information gathered. When deciding on the type, scope, and timeliness of audit methods and then assessing their outcomes, this involves being cautious to lower the possibility of missing odd situations, extrapolating the findings of their observations, or making false assumptions. Because certain situations may cause the financial statements to be distorted, the auditor must maintain a reasonable level of professional skepticism

throughout the planning, testing, and completion stages of the audit process (Castka et al., 2020; Hazaea et al., 2022; CPA Canada, 2021; Al-Khasawneh, 2021; Al-Ansi, 2022). Stated differently, auditors ought to maintain a healthy level of professional skepticism and remain vigilant for any indications that raise doubts regarding the accuracy of the financial statements and any situations that might point to potential financial reporting fraud.

Likewise, it is worth mentioning that laws and regulations establish a legal framework that defines auditors' responsibilities and duties and guides their professional conduct during the audit process. Furthermore, laws specify the consequences of negligence or noncompliance with auditing standards, which enhances auditors' commitment to professional standards and increases their interest in practicing professional skepticism. In other words, laws help foster professional skepticism by clarifying the auditor's legal responsibilities, defining the scope of their work, providing guidance on how to handle contradictory or uncertain evidence, and specifying the consequences of negligence or noncompliance.

Many Jordanian firms saw a drop in sales during the pandemic; most of them reported a decrease in the demand for their goods and services, as well as difficulties obtaining funding (Kebede et al., 2021). Stated differently, Jordan's economy has suffered significantly as a result of the COVID-19 pandemic because of the country's continuous lockdown (Al-Tammemi, 2020). The majority of business and audit operations were affected by the pandemic (Al-Khasawneh, 2021). To the best of the researchers' knowledge, no particular study has examined the potential impact of the pandemic on Jordanian auditors' professional skepticism, despite the fact that numerous research articles have examined the pandemic's implications on certain accounting and auditing concerns. Thus, by investigating the potential impacts of the COVID-19 pandemic on audit professionals' skepticism in the Jordanian setting, this study fills this research vacuum. It is anticipated that the study's findings will give regulators and audit firms a better understanding of how the pandemic has affected professional skepticism, thereby highlighting the necessity of taking concrete measures to create a systematic approach that arranges and controls the manner in which auditors exercise professional skepticism.

This article is organized as follows. Section 2 reviews the literature review and theoretical framework with hypotheses which is related to the topic. Section 3 presents the methodology of the study. Section 4 shows the results, tables, and discussion. Lastly, Section 5 provides the conclusion, limitations, and some recommendations for future research.

2. LITERATURE REVIEW

2.1. COVID-19 and business activities

The World Health Organization (WHO) classified COVID-19 as a pandemic in March 2020 after it was initially discovered in Wuhan, China, in December 2019 (Al-Tammemi, 2020; WHO, 2020). The way that different firms and industries have had to operate has been significantly impacted by this virus (IESBA, 2020; Adio-Moses, 2021; Adams &

Abhayawansa, 2022). Globally, people are experiencing job losses, supply chain breakdowns, interruptions, and financial misery as a result of the COVID-19 pandemic (IESBA, 2020). The COVID-19 pandemic has been progressively closing down the U.S. economy and may have major long-term economic repercussions, according to Famiglietti and Leibovici (2020).

Many organizations and their stakeholders were thus facing operational, financial, and personal challenges. In order to contain the COVID-19 pandemic and lessen its effects, governments everywhere have implemented a number of measures (Castka et al., 2020; Albitar et al., 2021; Hazaea et al., 2022). Government actions included school closures, work-at-home mandates, lockdowns and containment measures, and fiscal stimulus (Gopalakrishnan & Mohapatra, 2022). Khatib and Nour (2021) found that all firms' characteristics encompassing company performance, dividends, liquidity, governance structure, and leverage level were insignificantly influenced during COVID-19. Similarly, Almustafa et al. (2023) claimed that the COVID-19 pandemic raised firm risk overall and had a detrimental effect on business performance, particularly low-performing businesses, across the majority of industries. Furthermore, Shen et al. (2020) came to the conclusion that COVID-19 had a detrimental effect on businesses' performance overall due to limitations on people's travel and shopping as well as limits on imports and exports. Other studies noted that due to financial resource constraints, the pandemic had produced a different situation than in the past (Ferriani & Natoli, 2021). Due to the economic shock caused by the COVID-19 pandemic, enterprises' asset values declined, and operational risk increased as projected and actual costs, sales, and profits decreased (Shen et al., 2020; Narayan et al., 2021). Therefore, it means that the pandemic has negatively influenced many business issues all over the world, including business operations, performance, liquidity, profitability, business risk, and going concern. In other words, the conditions created by the pandemic were reflected in all types of business risks. Thus, this study puts out the following theory in light of the findings of earlier studies on the pandemic worldwide and according to Jordanian external auditors:

H1: The COVID-19 pandemic has a statistically significant effect on the clients' company activities.

2.2. COVID-19 and auditing

Globally, COVID-19 has sparked hitherto unheard-of political, social, ethical, and economic transformations (Eutsler et al., 2023). Additionally, companies had to deal with disruptions in their supply chain, working methods, client demand, and lack of finance (Bedford et al., 2022). As a result, business institutions' and audit companies' reactions to the situation's requirements are essentially constrained. The environment brought forth by the COVID-19 pandemic made business and audit firms' issues worse (Hategan et al., 2022; Yanti et al., 2022). The crisis had a big impact on auditors who worked longer hours and remotely, coping with more uncertainty and interruptions (Bedford et al., 2022).

According to the opinions of Saudi auditors, Akrimi (2021) came to the conclusion that the COVID-19 pandemic had a major impact on the quality of the audit. Accordingly, the pandemic has had a variety of impacts on the external auditing

profession, requiring auditors to adjust their audit procedures and face a number of difficulties (Serag & Daoud, 2021a, 2021b; Dahabiyeh & Mowafi, 2023; Zaidan et al., 2023). For instance, auditors were forced to switch to remote audits due to travel limitations and the pandemic's lockdown, which limited their capacity to physically examine client operations and conduct on-site visits (Serag & Daoud, 2021a; Astuti & Sarwono, 2022). The shift towards remote auditing has accelerated the adoption of technology-driven solutions in the audit profession. Auditors have increasingly relied on digital tools, data analytics, and remote communication platforms to perform their tasks effectively (Indra et al., 2021).

Additionally, Serag and Daoud (2021b) determined that COVID-19 affects a wide range of related risks, including supply chain risks, reputation concerns, health and safety risks, and cyber and fraud risks. Auditors were compelled to modify their conventional methods of operation, adopt new auditing methodologies, and maximise the utilisation of technology. Similarly, Hazaea et al. (2022) contended that the conventional auditing methods are no longer enough for gathering the necessary data and evidence for the auditing process. They went on to say that a number of causes, such as audit system flaws, a lack of governance, noncompliance with international standards, and a lack of appropriate evidence, had led to the decline in auditing quality during the COVID-19 pandemic.

Murphy (2020) contended that risk assessments during the pandemic are unique since clients are adjusting to major changes in their workplaces and organizations. As a result, auditors need to comprehend the client's operations, capital structure, and industry in order to evaluate risk. Internal controls and risk assessments are greatly impacted by the pandemic-related changes in operations and office closures. Auditors need to be aware of the growing fraud risk factors (Kend & Nguyen, 2022). Furthermore, 3% of audit processes conducted in 2020 were created to address audit risks related to the COVID-19 pandemic, according to Kend and Nguyen (2022). Furthermore, professional skepticism has a strong and favourable correlation with auditors' assessments and choices, according to auditing literature (Quadackers et al., 2014). We do not fully grasp the effects of these changes in Jordan, despite the fact that prior studies have demonstrated that business, accounting, and auditing processes evolved in reaction to international crises. Thus, this study puts out the following second hypothesis in light of the findings of earlier studies on the pandemic worldwide. From the perspective of the external auditors:

H2: The COVID-19 pandemic has a statistically significant impact on audit activities.

2.3. COVID-19 and professional skepticism

Since the COVID-19 pandemic may have had a more severe impact than others, auditors are under increased pressure to modify how they conduct all audit-related tasks. In light of the evolving dangers brought about by the pandemic, auditors need to be agile and adaptive. According to Satya and Shauki (2022), when the auditor is physically absent during a remote audit, the level of his professional skepticism is diminished. The degree of assurance and audit quality declines in tandem with a decline

in professional skepticism. However, because the collection and evaluation of audit evidence is an ongoing activity throughout the audit process, professional skepticism could be applied during this process. The auditor must stay open-minded and not form a conclusion until he is satisfied that the evidence collected is sufficient and appropriate to validate or challenge the information provided to them. The ICAP (2020) claimed that because of the potential for a number of factors, such as increased risk and vulnerability to material misstatement, the presence of fraud indicators, errors found, complex judgements, and incomplete or inconsistent audit evidence that deviates from the initial risk assessment, the auditor should be able to exercise professional skepticism when gathering audit evidence. Furthermore, according to the United States Government Accountability Office (GAO, 2020), auditors may have to assess if COVID-19-related conditions hinder them from gathering adequate, relevant evidence; as a result, auditors must exercise a suitable degree of professional skepticism. Because of this, it would be even more crucial to respond with professional skepticism to the drastically altered circumstances that came with the pandemic and impacted numerous business and audit-related issues. Business issues may include business operating activities, business going concern, and management judgment about accounting estimations. Additionally, audit issues may include professional judgment, audit risk, materiality, audit evidence, and professional judgment.

Auditors are expected to encounter numerous new or distinct audit difficulties in the current context. Therefore, it will be even more crucial to respond to drastically altered conditions that could impact such things with professional skepticism (CPA Canada, 2021). When planning and carrying out the audit in the setting that the pandemic has generated, professional skepticism is essential. More precisely, the auditor needs to be inquiring, aware of circumstances that could point to potential signs of fraud risks or conflicting audit evidence, and capable of critically evaluating the audit evidence that is gathered. When using professional skepticism, auditors must contend with a number of obstacles, such as time restraints, client pressure, intricate transactions, innate biases, and limited access to relevant data (Hurtt, 2010).

Additionally, one of the key ideas of auditing is professional skepticism, according to Aschauer et al. (2017). Researchers believe it has a significant impact on how well high-quality audits are performed (Nelson, 2009; Hurtt et al., 2013; Sayed Hussin & Iskandar, 2013). More importantly, it is considered by Messier et al. (2013) as a major factor when facing crises and accounting scandals. However, some researchers considered it as a trait concept (Hurtt, 2010; Quadackers et al., 2014), which means that it is like other personal traits such as curiosity, consciousness, and extroversion. Other researchers considered it as a contingency concept (Nelson, 2009), that is, it is affected by the audit circumstances (Glover et al., 2015). Additionally, audit standards support the view that professional skepticism is a condition resulting from risks associated with the context in which the audit is conducted.

This view includes considering internal and external factors for understanding professional skepticism. Therefore, the status changes created via

the COVID-19 pandemic should be considered when studying this issue. Likewise, researchers added that, with respect to professional skepticism, auditors must take both variables (auditor characteristics and environmental variables) into account in relation to true skeptical behavior (Hurtt et al., 2013; Nelson, 2009). Conceptualizing professional skepticism as an interaction between personal and situational characteristics is expected to enable the auditor to effectively conduct the audit during the circumstances created by the pandemic. Professional skepticism will be more necessary as a result of the pandemic's increased risk of material misstatements pertaining to control and inherent hazards. These risks also put more strain on the gathering and assessment of audit evidence. Thus, this study puts out the following hypothesis in light of the findings of earlier studies on the pandemic worldwide and according to external auditors:

H3: There is a statistically significant impact of the COVID-19 pandemic on audit professionals' skepticism.

3. RESEARCH METHODOLOGY

The demographic and sample of the study, the study tool used to gather the data, and the techniques for data analysis and hypothesis testing are all covered in this section of the study methodology.

3.1. Population and sample of the study

This study population includes all certified external auditors with practitioners whose names are listed with the Jordanian Association of Certified Public Accountants (JCPA). The number of JCPAs practicing the auditing profession in Jordan reached 570 auditors according to the latest statistics in the records of the association for the year 2023. A sample of 100 questionnaires was distributed, as this number is reasonable and exceeds the number that can be adopted using statistical equations. The number of questionnaires received and considered valid for analysis reached 68 questionnaires.

3.2. Study tool design and variable measurement

The study questionnaire was developed to include questions regarding the impact of the pandemic on certain important issues of clients' business and audit issues related to the audit process. More specifically, the questions concentrated on *Business activities*, *Audit activities*, and *Professional skepticism*. The selection of study variables was determined with consideration given to consistency with the research questions and objectives and ensuring relevance; that is, the variables should be well-defined, easy to understand and avoid ambiguity, and be measurable. Therefore, the questionnaire included questions to measure the variables of the study as follows:

- *Business activities*: Measured by questions about business risk, financial performance, operational activities, going concern, and management's judgment regarding estimates.

- *Audit activities*: Measured by questions about the auditors' understanding of customers' activities, audit professional judgment, audit professional skepticism, audit risks, audit evidence decisions, and materiality.

• *Professional skepticism*: Measured by questions about the activation of an objective view of audit evidence, the critical evaluation of evidence, the alertness to contradiction between audit evidence types, the alertness to any conditions that may indicate possible fraud, and the reliability of audit evidence.

The questionnaire was designed and developed following an intensive review of the related literature. It was designed so that the answers are based on a five-point Likert scale. The apparent validity of the study tool was tested by presenting it to a group of accountancy researchers interested in audit research, where some modifications were made based on their recommendations. Cronbach's alpha was used to test the reliability and stability of the scale. As mentioned above, the number of questionnaires received from the certified public accountants, which were considered valid for analysis, reached 68. Out of the 68 questionnaires, 50% of the respondents are mainly auditors with over 10 years of audit experience, 97% of the respondents hold a Bachelor of Accountancy, 70% hold professional certificates, and 35% of the respondents are working in big audit firms. The data collected was analyzed, and the hypotheses of the study were tested using many statistical techniques, including descriptive statistics, one-sample Chi-square, ordinal regression, including Cox and Snell, and Chi-square, and multiple regression.

4. RESEARCH RESULTS

4.1. The effect of COVID-19 on business activities

Table 1 presents a summary of the statistical results of the respondents' views about the effect of COVID-19 on *Business activities*. As appears from the table, the views of the external auditors about all factors related to businesses' activities are

higher than the mean of the scale. In other words, the average of their responses about all issues was 3.62, representing a percentage of 72%. The averages of the responses to all factors ranged between 3.8451 and 3.2535, with small values of standard deviations, which means that the responses of the external auditors are highly homogeneous. It appears that the external auditors realized that during the pandemic, in general, business entities witnessed an increase in business risk, a decline in clients' financial performance, weak customers' operational activities, and an increase in exercising professional judgment regarding estimates. Table 1 also shows that the χ^2 values for all factors range between 70.197-12.197, and all of them are significant, which means that we accept hypothesis *H1*. This result is consistent with the arguments produced by many research studies that stated that, during the pandemic, many entities and their stakeholders were experiencing financial, operational, and personal difficulties (Khatib & Nour, 2021; IESBA, 2020; Adio-Moses, 2021). However, even though the COVID-19 pandemic's detrimental effects are lessened by good governance, on firms' performance and business risk, many respondents argued that these changes were also influenced by the industry of the business and the nature of the activities performed by each business entity, and by the restrictions taken by the government. Additionally, we used Mann-Whitney to test whether there are significant differences between the views of the external auditors related to the size of the audit firm and the professional qualifications of the auditors, but the results showed that there is an insignificant difference between their views regarding the impact of the pandemic on companies' activities. This means that, based on the external auditors' views, the COVID-19 pandemic has a major effect on *Business activities* regardless of their audit firm size.

Table 1. One-sample statistics of the respondents' views about the effect of COVID-19 on *Business activities*

Variable	Mean	Std. dev.	χ^2	Asym. sig.
Business risks	3.8451	0.68968	12.197	0.020
Financial performance	3.8169	0.76176	70.197	0.000
Operational activities	3.8169	0.83341	58.366	0.000
Going concern	3.3521	0.81238	25.394	0.000
Management's judgment regarding estimates	3.2535	1.02425	33.718	0.000

4.2. The effect of COVID-19 on audit activities

Table 2 presents a summary of the statistical results of the respondents' views about the effect of COVID-19 on *Audit activities*. As appears from the table, the views of the external auditors about all factors related to *Audit activities* are higher than the mean of the scale. In other words, the average of their responses about all issues was 3.79, representing a percentage of 76%. The means of all factors were ranged between 4.0563 and 3.5775 with small values of standard deviations, which means that the responses of the external auditors are highly homogeneous. These results suggest that the external auditors realized that during the pandemic, in general, the pandemic effects were reflected on all audit issues, including the need for understanding customers' activities and the business environment, audit professional judgment, professional skepticism, risk assessment, audit evidence decisions, and materiality. More specifically, the respondents recognized that, during

the pandemic, the auditors' understanding of the customers' activities and the business environment is a critical issue with a mean of 3.8028, representing a percentage of 0.76 and should be reflected on the auditors' professional judgment regarding all audit issues with a mean of 3.9014 and a percentage of 0.78. Additionally, the mean of the respondents' views regarding the effect of the pandemic on *Professional skepticism* is 4.0563, representing a percentage of 0.81. Moreover, the average of the respondents' views regarding the influence of the pandemic on the assessment of audit risk is 3.8732 with a percentage of 0.75. Similarly, the average of their views about audit evidence decisions is 3.7183 with a percentage of 0.74, and finally, the mean of their views about the determination of materiality is 3.5775 with a percentage of 0.72. It appears from these statistics that, according to the respondents' views, auditors realized that all matters related to the audit process were influenced by the pandemic and received reasonable attention from the auditor. More

importantly, the *Professional skepticism* exercised by the auditors during the pandemic was considered as the most important issue influenced by the pandemic.

The table also shows that the χ^2 values for all factors range between 69.634–24.831, and all of them are significant, which means that we agree with the hypothesis *H2*. This result is consistent

with the arguments produced by many research studies that stated that the pandemic influenced many *Audit activities* (Eutsler et al., 2023; Bedford et al., 2022; Albitar et al., 2021). This outcome is anticipated given the shifts in numerous business operations and the audit firms' reactions to the government's pandemic-related limitations.

Table 2. One-sample statistics of the respondents' views about the effect of COVID-19 on *Audit activities*

Variable	Mean	Std. dev.	χ^2	Asym. sig.
Understanding customers' activities	3.8028	0.83870	24.831	0.000
Audit professional judgment	3.9014	0.79561	69.634	0.000
Audit professional skepticism	4.0563	0.73460	48.831	0.000
Audit risks	3.8732	0.90915	49.352	0.000
Audit evidence decisions	3.7183	0.77797	36.662	0.000
Materiality	3.5775	0.85627	55.408	0.000

Additionally, we used Mann-Whitney to test whether there is a significant difference between the views of the external auditors related to the size of the audit firm and the professional qualifications of the auditors, but the results showed that there is an insignificant difference between their views. This means that the external auditors in Jordan can overcome the pandemic challenges regardless of their affiliations and qualifications, and there is a significant effect of the COVID-19 pandemic on *Audit activities* regardless of their audit firm size.

Furthermore, we tested the effect of the changes in *Business activities* during the pandemic on *Audit activities*. As appears from Table 3, the correlation factor represented by Cox and Snell is 0.408 with a Chi-square of 37.252, and it is significant (Sig. = 0.000). This indicates that, from the perspective of the external auditors, the effects of the modifications in company operations on

all *Audit activities* are statistically significant. Furthermore, we employed the Mann-Whitney test to see whether the external auditors' opinions regarding the size of the audit firm and their professional backgrounds differed in any way. The findings indicated that the differences were negligible. This indicates that regardless of the size of the audit firm and the professional credentials of the Jordanian auditors, the effect of the changes in *Business activities* on all *Audit activities* during the pandemic from the perspective of the external auditors is statistically significant. This result agrees with past research that concluded that the challenging conditions resulting from the pandemic created a context that paves the way to an increased risk of material misstatement, therefore, auditors' ability to respond to such risks was increasingly more challenging (Barr-Pulliam et al., 2023).

Table 3. The impact of the changes in *Business activities* on the changes in *Audit activities* during the pandemic

Model	Cox and Snell	-2 log likelihood	χ^2	Sig.
Effect of business change on audit change during the pandemic	0.408	181.844	37.252	0.000

4.3. The effect of COVID-19 on professional skepticism

Table 4 provides a summary of the statistical results of the respondents' views about the effect of COVID-19 on *Professional skepticism*. As appears from the table, the views of the external auditors about all elements of *Professional skepticism* are higher than the mean of the scale. The means of all factors ranged between 3.7042 and 3.4507 with small values of standard deviations, which means that the responses of the external auditors are highly homogeneous. As appears from the table, the average of their responses about the effect of the pandemic on the need for activating an objective

view of audit evidence is 3.6056, and the necessity of critically evaluating audit evidence is 3.4507. The views of the external auditors also indicated that the auditors realized that they must be alert to any contradictions between audit evidence, with an average of 3.5634, and be vigilant to conditions that may indicate possible fraud, with an average of 3.7042. Additionally, the average of their responses about the effect of the pandemic on the need for giving more professional care to the reliability of audit evidence is 3.5915. Furthermore, some respondents asserted that, during the pandemic, the exercise of *Professional skepticism* related to audit evidence decisions and specific matters related to management estimates was very important.

Table 4. One-sample statistics of the respondents' views about the effect of COVID-19 on *Professional skepticism*

Variable	Mean	Std. dev.	χ^2	Asym. sig.
Activating an objective view of audit evidence	3.6056	1.22450	58.718	0.000
Critical evaluation of evidence	3.4507	1.26252	53.986	0.000
Contradiction between audit evidence types	3.5634	1.27316	62.268	0.000
Conditions that may indicate possible fraud	3.7042	1.30268	34.000	0.000
Reliability of evidence	3.5915	1.26013	34.282	0.000

These results are expected because *Professional skepticism* requires the activation of an objective view of the audit evidence obtained and critically evaluating it. Additionally, the auditor needs to be on the lookout for any contradictions in the evidence, as well as any situations that can point to fraud or raise doubts about the accuracy of certain documents or responses to certain queries. These findings support an earlier study by Xu et al. (2023), which claimed that *Professional skepticism* is a sensemaking process that entails identifying contradictory signs, formulating interpretations, and debating with clients to provide meaning. Additionally, it is anticipated that the auditor's evaluation of the components of *Professional skepticism* will be impacted by the client-auditor relationship as well as the impact of the pandemic situation. According to CPA Canada (2021), auditors are likely to encounter a variety of new or different audit difficulties in the current environment. As a result, it will be even more crucial to respond to drastically altered conditions with professional skepticism. Additionally, the table demonstrates that all of the components' χ^2 values fall within 62.268 and 34.000 and are significant, indicating that we accept the hypothesis *H3*.

Because of the importance of certain issues of *Business activities* and *Audit activities*, such as business risk, audit risk, and professional judgment in the context of the COVID-19 pandemic and to

check the robustness of the previous results, we used Cox and Snell in addition to the Chi-square to analyse the effect of these issues on *Professional skepticism* during the pandemic. We tested the hypothesis using the views of the respondents about the impact of the pandemic on business risk, audit risk, and professional judgment. As appears from Table 5, the correlation factor, Cox and Snell, related to the relationship between (business risk, audit risk, and professional judgment) and the activation of the objective view of audit evidence during the pandemic is 0.798 with a Chi-square of 107.287, and it is significant (Sig. = 0.024). Similarly, the Cox and Snell factor related to the critical evaluation of evidence is 0.319 with a Chi-square of 25.006, and it is significant (Sig. = 0.000). Likewise, the Cox and Snell factor related to the analysis of contradiction between audit evidence types is 0.805 with a Chi-square of 202.000, and it is significant (Sig. = 0.000). Additionally, the Cox and Snell factor related to the awareness of conditions that may indicate possible fraud is 0.521 with a Chi-square of 48.590, and it is significant (Sig. = 0.000). Finally, the Cox and Snell factor related to the concern about the evidence reliability is 0.292 with a Chi-square of 207.000, and it is significant (Sig. = 0.000). These results support the previous result that there is a major effect of COVID-19 on *Professional skepticism* and all its elements.

Table 5. The impact of business risk, audit risk, and professional judgment on the elements of *Professional skepticism*

Model	Cox and Snell	-2 log likelihood	χ^2	Sig.
Activating an objective view of audit evidence	0.798	47.945	107.287	0.024
Critical evaluation of evidence	0.319	112.960	25.006	0.000
Contradiction between audit evidence types	0.805	105.933	202.000	0.000
Conditions that may indicate possible fraud	0.521	97.037	48.590	0.000
Reliability of evidence	0.292	127.205	207.000	0.000

It is notable that, to increase the degree of dependency on the results about the impact of *Business activities* and *Audit activities* on *Professional skepticism* during the pandemic, we used multiple regression as an additional test. As appears from Table 6, we see that the R^2 value is 0.294, which indicates that shifts in business and audit issues, including business risk, audit risk, and professional judgement, can account for about 29.4% of the variation in *Professional skepticism* during

the pandemic. Furthermore, an efficient model is revealed by the F-ratio, which has a value of 8.616. According to this value, professional judgement, audit risk, and business risk can all be included to improve the prediction of professional skepticism. The complex interactions between business risk, audit risk, professional judgement, and *Professional skepticism* throughout the pandemic are thus well captured by the selected model.

Table 6. Model summary, analysis of variance (ANOVA), and regression coefficients of the impact of business risk, audit risk, and professional judgment on *Professional skepticism*

Panel A: Model summary				
Model	R	R^2	Adjusted R^2	Std. error
1	0.542	0.294	0.260	0.12357
Panel B: ANOVA				
Model	Sum of squares	Mean square	F	Sig.
1	0.395	0.132	8.616	0.000
Panel C: Regression coefficients				
Factor	Beta	t	Sig. p-value	VIF
Business risk	0.264	3.192	0.001	1.081
Professional judgment	0.354	3.234	0.002	1.089

Note: VIF — variance inflation factor.

The table also shows that the beta coefficients for business risk, professional judgment, and audit risk are 0.264, 0.354, and 0.322, respectively, with significance values of 0.001, 0.002, and 0.005, respectively. These results support the previous results and indicate that the influence of

the pandemic on *Business activities* and *Audit activities* extended to *Professional skepticism*. These results are consistent with previous research by Sayed Hussin et al. (2017), who concluded that *Professional skepticism* among auditors varies due to differences in personal characteristics and working

environments. It is also in line with the ISA 200 definition, which states that *Professional skepticism* is an attitude that involves a critical evaluation of audit evidence, a questioning mindset, and a heightened awareness of circumstances that can point to a potential misstatement brought on by fraud or error.

5. CONCLUSION

From the perspective of Jordanian external auditors, this paper examines how the COVID-19 pandemic has affected audit professionals' skepticism. A sample of the external auditors was given a questionnaire that was created. In addition to questions about specific aspects of customers' businesses, such as business operations, risk, performance, and going concern, the questionnaire also asked about the effect of the pandemic on professional skepticism. Professional judgment, audit risk, materiality, and proof were among the other audit-related questions it asked.

According to the study's findings, the pandemic has a major effect on all aspects of business operations, risk, performance, going concern, and management's professional judgment. Numerous earlier investigations (Khatib & Nour, 2021; Shen et al., 2020; Cho et al., 2022; Larrinaga & Garcia-Torea, 2022; Almustafa et al., 2023) are in agreement with this outcome. Governments' use of border closures, countrywide lockdowns, and mobility restrictions to lessen the pandemic's consequences also contributed to this outcome (Narayan et al., 2021). These actions forced enterprises to close or reduce their businesses (Al-Tammemi, 2020; Raouf et al., 2020).

The results also revealed that external auditors in Jordan realized that the transition to virtual audit due to the pandemic has influenced most audit activities. More specifically, the study findings revealed that the pandemic significantly impacted audit activities to understand client operations and the business environment because the pandemic directly influenced this environment. The results also showed that the pandemic affected audit activities to assess audit risks, materiality, audit evidence decisions, and professional judgment. More importantly, the results showed that the pandemic environment increased uncertainty facing the auditors and prompted them to increase the activation of professional skepticism. The results revealed that the pandemic's effects on business and audit activities extended to influence the auditor's professional skepticism. The pandemic has led to an increase in environmental, social, and governance transformations (Adams & Abhayawansa, 2022), and the effects extended to audit efforts and quality of auditors' performance (Al-Ansi, 2022). This finding was also expressed by some participants who stated that there is a clear impact of the pandemic transformations on business

activities, which also extended to the way external auditors perform the audit process, including professional skepticism.

Additionally, the study results revealed that external auditors in Jordan realized that, due to the circumstances created by the pandemic, they must pay more attention to all elements of professional skepticism. These elements include activating an objective view of audit evidence, critically evaluating audit evidence, alertness to any inconsistencies among audit evidence, alertness to any conditions that might indicate the possibility of fraud, and professional care about the reliability of audit evidence. The respondents' views support the previous research results that considered professional skepticism as an essential issue to the process of critically evaluating audit evidence, especially if there is some kind of contradiction between this evidence and there is some Skepticism regarding the accuracy of records, answers to questions, and other data gathered from management and people in charge of governance (Hurt et al., 2013; Sayed Hussin & Iskandar, 2013; Aschauer et al., 2017). Additionally, these conclusions support the views expressed by previous research that professional judgement is not merely a trait but can also be understood as an emergent state that can develop over time based on situational characteristics, including client and environmental characteristics (Marks et al., 2001; Nelson, 2009).

Finally, it appears that the circumstances resulting from the pandemic have motivated external auditors to increase the exercise of professional skepticism and consider all its elements. Therefore, it is necessary to recognize the importance of educating professionals on how to enhance professional skepticism. The findings of the study encourage regulators and audit firms to take practical steps for developing a structured approach that organizes and manages the way auditors carry out professional skepticism. The approach should emphasize organized processes and careful planning that enhance the effectiveness of professional skepticism. In addition, always, and most importantly, during periods of crisis, audit firms must take responsibility for promoting a skeptical attitude among audit staff, whether through training programs or job training. Additionally, it is recommended that future research should consider other methods, such as interviews, to have expert meanings of the viewpoints of the external auditors and other groups, such as internal auditors, to enhance our understanding of the impact of crises on professional skepticism. Moreover, the study results may not be generalizable to other settings; therefore, future studies should consider other contexts and conduct comparative studies between countries. In other words, to achieve a more understanding of professional skepticism during crisis periods, further research needs to be expanded in terms of context, scope, and time.

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