Jordan Journal of Business Administration, Volume **18**, No. **2**, **2022**

The Impact of Intangible Assets and Fair Value Measurement on Audit Fees: Empirical Evidence from Jordanian Banking Sector

Sulieman Mohammed A. Al Karaki [1] ***and Ali A. Al-Thuneibat*** [2]

ABSTRACT

This study aims at providing evidence concerning the impact of intangible assets and fair value measurement at levels 1 and 2 on audit fees. A sample of 13 Jordanian commercial banks with 91 observations over the period from 2011 through 2017 was used. Descriptive statistics and regression analysis were used to analyze the data and test the hypotheses of the study.

The findings of the study show that there is an insignificant impact for both intangible assets and fair valued assets measured at level 1 on audit fees. However, the results show that there is a significant impact of fair valued assets measured at level 2 on audit fees, a result which is consistent with a hypothesized scenario that a high level of uncertainty of estimation results in higher audit fees.

The researchers recommend that more attention should be given by commercial banks and audit firms to fair value measurement before arrangements related to audit fees, taking into account that a high level of uncertainty of estimation of fair value results in a higher audit risk and therefore, higher audit fees.

Keywords: Audit fees, Intangible assets, Fair value measurement, Jordanian commercial banks.

1 MA in Accounting, Accounting Department, Faculty of Business, The University of Jordan, Amman, Jordan. sulimanalkaraki@yahoo.com

2 Professor of Accounting and Financial Management, Accounting Department, Faculty of Business, The University of Jordan, Amman, Jordan. aaaldu@Ju.edu.jo

Received on 4/8/2020 and Accepted for Publication on 1/2/2021.

أثر الأصول غير الملموسة وقياس القيمة العادلة في أتعاب التدقيق: دليل عملي من قطاع البنوك الأردني

سليمان محمد الكركي[1] وعلي عبدالقادر الذنيبات[2]

ملخص

هدفت هذه الدراسة إلى التحقق من تأثير كل من الأصول غير الملموسة، وقياس القيمة العادلة عند المستويين الأول والثاني في أتعاب التدقيق الخارجي في البنوك التجارية الأردنية. وتكونت عينة الدراسة من ثلاثة عشر بنكاً تجارياً خلال الفترة الممتدة من عام 2011 إلى عام 2017، وبلغ مجموع المشاهدات التي خضعت للفحص 91 مشاهدة.

وقد استخدم الباحثان الإحصاءات الوصفية وتحليل الانحدار المتعدد لتحليل بيانات الدراسة واختبار فرضياتها. وقد بينت نتائج الدراسة عدم وجود تأثير ذي دلالة إحصائية لكل من الأصول غير الملموسة وقياس القيمة العادلة عند المستوى الأول في أتعاب التدقيق الخارجي في البنوك التجارية الأردنية. وبالمقابل، تبين وجود تأثير ذي دلالة إحصائية لقياس القيمة العادلة عند المستوى الثاني في أتعاب التدقيق، ويمكن أن تعزى هذه النتيجة إلى أن قياس القيمة العادلة عند المستوى الثاني تكتنفه درجة عالية من عدم التأكد تتطلب جهوداً إضافية للتحقق منها.

وبناءً على ما تم التوصل إليه من نتائج، أوصى الباحثان بمجموعة من التوصيات من أهمها ضرورة إيلاء البنوك التجارية وشركات التدقيق مزيدًا من الاهتمام لقياس القيمة العادلة عند تحديد أتعاب التدقيق، مع مراعاة أن ارتفاع مستوى عدم التأكد في تقدير القيمة العادلة يؤدي إلى ارتفاع مخاطر التدقيق، وبالتالي أتعاب التدقيق.

الكلمات الدالة: أتعاب التدقيق، الأصول غير الملموسة، قياس القيمة العادلة، البنوك التجارية الأردنية.

1 ماجستير في المحاسبة، قسم المحاسبة، كلية الأعمال، الجامعة الأردنية. sulimanalkaraki@yahoo.com

2 أستاذ المحاسبة والإدارة المالية، قسم المحاسبة، كلية الأعمال، الجامعة الأردنية. aaaldu@ju.edu.jo

تاريخ استلام البحث 2020/8/4 وتاريخ قبوله 2021/2/1.

INTRODUCTION

Audit market has been characterized by the existence of a high degree of competition between many players who have their own interests (Fargher and Zhang, 2014; Hu et al., 2015); a state which creates many factors that interact to provide a high top-level service and a fair level of audit fees (Ul Haq and Leghari, 2015). Determining factors influencing and therefore pricing audit services constitutes an important and rich topic for researchers and experts (Abuyahia and Al- Thuneibat, 2019; Bouqalieh and Nour, 2019). Both clients and auditors should consider the need for better understanding of the circumstances surrounding the contracting process between the related parties.

Many researchers (Al-Harshani, 2008; Castro et al., 2015; Kikhia, 2015; Musah, 2017) have studied the determinants of audit fees. These studies discussed most of the factors that play a crucial role in the determination of audit fees, including firm size, degree of complexity, client's risk, profitability, audit firm size and audit report lag (Abuyahia and Al-Thuneibat, 2019; Bouqalieh and Nour, 2019). Based on the results of these previous studies, this study concentrates on two additional factors; namely, intangible assets and fair value measurement, which are expected to provide additional evidence about the determinants of audit fees in developing countries.

Verification of intangible assets, in many cases, needs complicated procedures and tougher efforts to do because of the substantial discretion involved (Lev, 2001: Lev and Zambon, 2003; Lev and Daum, 2004; Ramanna and Watts, 2012). Consequently, auditors expect more work and risk allied with the process of auditing intangible assets (Siekkinen, 2016). Similarly, fair value measurement and verification exhibit increasing complexity and risk; that is, the presentation of three levels of inputs suggests a progressively significant level of subjectivity in the estimation process (Alexeyeva and Mejia-Likosova, 2016).

The determination of audit fees is a sensitive and critical task, administered by professional ethics and affected by many factors (Birjandi et al., 2017). Additionally, there is a growing interest in intangible assets due to their significance, as they generate more tasks related to the audit process itself (Russell, 2017). Moreover, there is a considerable increase in the complexity of estimating and evaluating the fair values of the related assets (Visvanathan, 2017).

In other words, intangible assets and fair value measurement pose unique challenges to auditors in terms of judgment and complexity (Alexeyeva and Mejia-Likosova, 2016; Monga, 2016), which means an actual dilemma in determining audit fees.

With all those facts and information in mind, it is clear that intangible assets and fair value measurement may play a crucial role in the increase of efforts paid by auditors due to the increase in the degree of complexity related to the implementation of bank operations; a situation which may lead audit firms to increase their audit fees charged to these banks (Visvanathan, 2017). Therefore, this research aims at examining the impact of intangible assets and fair value measurement on audit fees, with the hope that the results of this study will help in filling the gap in this issue. In other words, the core subject under investigation in this research will be the impact of intangible assets and fair value measurement on audit fees. More specifically, this study will try to answer the following questions:

1. Do intangible assets have an influence on the external audit fees in the Jordanian banking sector?
2. Do fair-valued assets measured at level 1 have an impact on the external audit fees in the Jordanian banking sector?
3. Do fair-valued assets measured at level 2 have an

impact on the external audit fees in the Jordanian banking sector?

The research significance stems from its expected contribution and practical implications in the the improvement of audit fees estimation by highlighting the impact of intangible assets and fair value measurement on audit fees by targeting a crucial sector in the Jordanian economy; namely, the banking sector. It also holds a theoretical significance as a pioneer research, up to the knowledge of the researchers, which investigates the influence of intangible assets and fair value measurement on audit fees in the Jordanian context.

Moreover, an important motivation for conducting this study stems from the ongoing discussion involving audit fees and the high degree of flexibility and levels of uncertainty involved in the valuation and measurement of intangible assets (Hu et al., 2015). Additionally, fair value measurement and the application of IFRS 13 add additional challenges for auditors; that is, they increase audit risks (Siekkinen, 2016) and therefore, their effect on audit fees must be considered. The intangibles high flexibility and the levels of inputs used to determine the fair values create a high degree of uncertainty in their valuation (Alexeyeva and Mejia-Likosova, 2016; Monga, 2016), which made it very attractive for research purposes. Furthermore, there is a lack of studies that investigated the impact of both intangible assets and fair value measurement simultaneously on audit fees. Therefore, the results of this study are expected to provide auditors and auditees with insights that would help in determining reasonable amounts of audit fees. In other words, the study calls for managers and auditors to pay more attention to fair value measurement and intangible assets when negotiating audit fees.

Theoretical Framework and Hypotheses Development

Audit Fees

Audit fees represent the cost paid by an auditee to cover charges required by an auditing firm, in order to audit the financial statements (Asthana et al., 2019). The determination of such fees constitutes a crucial issue for clients, auditors and shareholders, since there is no specific rule that governs them; therefore, the market for audit services has been a topic of great interest, both for regulators and researchers (Gandia and Huguet, 2018; Musah and Anokye, 2018). Simunic (1980) developed an audit fees model that decomposed audit fees into two essential components, attributed to audit effort and the expected loss from litigation. He recognized that external audit fees are simply a function of a quantity represented by professional labor hours and a price represented by an average hourly billing rate.

The best method of charging fees might be through the use of either a fixed or variable amount. Nonetheless, this process might lead to lower or higher fees and in consequence, it is destructive for the client and may hurt the auditor. Additionally, the findings of Picconi and Reynolds (2013) suggest that the economic interpretation of the factors affecting audit fees in many cases is more complex than previously thought and is a potentially fruitful area for future research.

Audousset-Coulier (2009) used audit fees to assess auditors' independence as a perceived proxy for audit quality. He argued that audit fees disclosures are part of the mechanisms aiming at reducing agency costs and increasing transparency; therefore, he added, audit fees seem to be useful for shareholders, but the relevance of audit fees disclosures for other external users is still an open question.

Audit fees studies attempted to link audit fees with a set of predictor variables (Gandıa and Huguet, 2018; Musah and Anokye, 2018; Audousset-Coulier, 2009). Realizing this, many researchers classified them on

the basis of characteristics specific to auditee, including auditee size, auditee risk, complexity and profitability, while others based their classification on characteristics specific to audit firms, including auditor's size and audit tenure (Kikhia, 2015). Many researchers (Picconi and Reynolds, 2013; Castro et al., 2015; Kikhia, 2015; Naser and Hassan, 2016; Musah, 2017) concluded that the most determinant factor of audit fees is the size of the client.

For example, Naser and Hassan (2016) stated that there is a significant positive association between audit fees and firm size and audit committee independence, while there is a significant negative association between audit fees and complexity. Similarly, Kikhia (2015) concluded that the auditee size was found to be the key determinant of external audit fees, while financial risk was found to be negatively and significantly related with the level of external audit fees. Likewise, Castro et al. (2015) concluded that there is a positive relationship between audit fees and the client's complexity and size and audit firm.

Intangible Assets

International accounting standard (IAS 38) defines an intangible asset as an identifiable non-monetary asset without a physical substance, controlled by the entity as a result of past events and from which future benefits are expected. Thus, the three critical attributes of an intangible asset are: (1) identifiability (2) control (power to obtain benefits from the asset) and (3) future economic benefits.

The valuation process of intangible assets, in many cases, requires a specific verification for the legal contacts and documents. This process needs more time and effort to be exercised by auditors (Gnanakumar, 2017). Datta et al. (2020) argued that auditors find it relatively more challenging to audit clients with higher levels of intangibles. For example, the goodwill (as a complex asset) needs extensive time and subject matter experts to estimate its fair value. This infers that intangibles may necessitate spending greater auditing efforts to build a fair and comprehensive verification (Visvanathan, 2017). Moreover, from auditing standing point, the intangible assets differ from the tangible assets in terms of being uncertain to be evaluated, which in turn (Datta et al., 2020) justifies the increase in audit risk. Similarly, Visvanathan (2017) stated that intangible assets impose exceptional tasks to auditors in terms of decision and difficulty. As a result, auditors may charge higher fees for firms with higher share of intangible assets on the balance sheet.

According to Johnstone et al. (2014), auditors have to follow agreed upon procedures to undertake their auditing duties. Such procedures may include substantiating the presence of assets and certifying that all contacts related to these assets are wholly documented. Moreover, they need to verify whether ownership rights to the assets are well recognized and verified and balances are suitably imitating the assets' estimation. Audit firms must perform efficient tests to ensure that intangible assets are possessed by the firm itself and are accurately evaluated. They need to evaluate the organization's damage testing and assumption concerning the write-off (Monga, 2016).

Furthermore, Messier et al. (2017) suggested that the inherent risk associated with intangible assets and goodwill raises severe risk worries. With the judgment and effort related to valuation and assessment of intangible assets, the auditor would likely estimate the risk as high, a notion which is consistent, to some extent, with the view of Visvanathan (2017), who suggested that auditors charge higher fees for firms with higher amounts of intangible assets, since such assets pose unique challenges to auditors due to high complexity, compared with tangibles assets.

Ramanna and Watts (2012) stated that accounting

for intangible assets, particularly goodwill, accords an important unverifiable choice to the client managers and thus they can influence the stated numbers using this choice. This may involve a positive association between audit fees and intangibles on the balance sheet, which is most likely, principally because of the sharp audit risk over the assessment of intangible assets (Visvanathan, 2017). Additionally, Datta et al. (2020) stated that firms with a higher proportion of intangible assets are associated with higher audit efforts and higher litigation risk for auditors, manifesting in higher audit fees. Based on this discussion, the first hypothesis that will be tested in this study is:

H1: There is a statistically significant impact of intangible assets presented on the balance sheet on audit fees.

Fair Value Measurement

The International Financial Reporting Standard (IFRS 13) defines fair value as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date". The standard has categorized fair value inputs into the following three levels:

1. Level-1 inputs: level-1 inputs constitute the announced quoted prices for identical assets in the active market for assets and liabilities.
2. Level-2 inputs: level-2 is that level in which the similar asset or liability has a specific contractual period, involving that the second-level inputs should be observable over the whole period of an asset or a liability.
3. Level-3 inputs: level-3 inputs are those in which the fair value depends on unobservable values in the market, rather than those the company tries through the available information, depending on the nature of the asset or liability.

Additionally, the International Auditing and Assurance Standard Board (2008) itemized a number of challenges which auditors encounter when auditing fair-value accounting. These challenges cover assessments about important assumptions made by others, the obtainability and dependability of indication, the extent of assets and liabilities that can be measured by fair value and the complexity of the valuation methods used (IAASB, 2008).

Therefore, the International Standard on Auditing (ISA) 545 (auditing fair value measurements and disclosures) established standards and provided guidance on auditing fair value measurements and disclosures contained in financial statements. According to this standard, auditors must verify whether the process of measurement is in compliance with the accepted frame of financial reporting. However, the auditor's responsibility is restricted to the verification of the rationality of the assumptions on which those values were estimated during the audit period (IAASB, 2008).

Auditors' evaluation of fair value data constitutes a difficult task for them compared with many other sorts of data in terms of time, effort and expertise required (Bratten et al., 2013). They designated three main stages to deal with the fairly-valued data as per auditing standards, entailing; firstly; testing of assumptions, models and underlying data; secondly; developing independent estimates; and lastly; reviewing subsequent events. Thus, they stressed the necessity of selection to review and test the managers' models and assumptions (Kumarasiri et al., 2011; Bratten et al., 2013).

According to Kumarasiri et al. (2011), the audit of fairly valued assets and liabilities is subject to an unusual judgment by auditors. Likewise, Benston (2006) reported that it will be difficult for external auditors to authenticate the figures or even encounter management evaluation. Additionally, Musah and

Anokye (2018) found that IFRS adoption has a positive and significant relationship with audit and non-audit fees post IFRS adoption. Their results support the argument that the adoption of IFRS increases the complexities of financial reporting and audit risk, resulting in higher audit and non-audit fees. Similarly, Boon Heng The et al. (2013) investigated the impact of mandatory adoption of financial reporting standards related to financial instruments on audit fees in Malaysia. They found that the adjustments for the re-measurement of financial instruments are associated with changes in audit fees.

However, the difficulties facing auditors in auditing fair values are expected to vary depending on the level of outputs used in measuring fair values. Even though level-1 inputs constitute the announced quoted prices for identical assets in the active market for assets and liabilities, they need specific efforts from the auditor and audit risk is expected to increase (Alexeyeva and Mejia-Likosova, 2016; Siekkinen, 2016). The expected increases in audit efforts and audit risks are expected to be reflected on the determination of audit fees. Therefore, based on the above discussion, the second hypotheses that will be tested in this study is:

H2: There is a statistically significant impact for fair value measurement, at level 1, on audit fees.

However, although auditors are expected to face very serious issues with auditing level-1 fair values, difficulties increase as the described fair values move down the grading levels (Siekkinen, 2016). Level-2 and level-3 valuations face the risk of mistakes or deliberate executive bias in the selection of a suitable model in the expectations and other inputs used to estimate the fair values (Singh and Doliya, 2015). According to Alexeyeva and Mejia-Likosova (2016), audit risks are principally influenced by the subjectivity in fair value valuation. The degree of this influence is expected to have a direct relationship with the degree of uncertainty in fair value evaluation. They added that among the levels of inputs used to measure fair values, subjectivity is primarily involved in the assessment of level-2 and level-3 inputs. Therefore, an increasing degree of uncertainty will likely impact the difficulty of audit procedures and will involve more audit efforts (Enahoro and Jayeoba, 2013). The gradually increased efforts will likely result in an increase in audit fees. However, because the measurement of level 3 of fair value depends on unobservable values in the market, the banking sector companies in Jordan in practice ignored it due to difficulties of application. Therefore, because we didn't find any information related to this level, we based our hypotheses only on level 1 and level 2. Therefore, based on the above discussion, the third hypothesis that will be tested in this study is:

H3: There is a statistically significant impact for fair value measurement, at level 2, on audit fees.

Research Methodology

Population and Sample of the Study

The population of this research consists of all commercial banks in Jordan, constituting a major component of the Jordanian financial sector. A sample of thirteen commercial banks listed in Amman Stock Exchange (ASE) under the umbrella of the Jordanian financial sector as of December 2017 over the period (2011-2017), with 91 bank-year observations, was selected. The study concentrated on the banking sector because of the specific regulations of this sector and the specific interest of this sector in applying IFRS 13. However, we considered all Jordanian commercial banks, but the number of the banks in fact is limited. The other thing is that the study period covers the years (2011-2017), because the IFASB stated that the IFRS 13 is applicable to annual reporting periods beginning on or after the

first of January 2013, but an entity may apply it to an earlier accounting period and the application is required prospectively as of the beginning of the annual reporting period in which the IFRS initially applied (https://www.iasplus.com/en/standards/ifrs/ifrs13). As a result, the Jordanian banks applied IFRS 13 and disclosed the fair values starting from the end of 2011.

In order to collect the data needed to measure the variables of interest and examine the study hypotheses, the published annual reports for the targeted commercial banks listed in Amman Stock Exchange during the period (2011-2017) were investigated. We derived the data on audit fees, intangible assets, fair value measurement and all other control variables from the disclosed information in these reports.

Models of the Study and Their Explanation

The dependent variable in this study is represented by the annual audit fees, whereas intangible assets as well as fair value measurement at both levels 1 and 2 are the independent variables. Moreover, the control variables include auditee size, auditee risk, profitability, audit report lag and loss.

Taking into consideration the broad objective of the study and proposed hypotheses, two models were applied. Following the basic regression model used by Simunic (1980) and then used by many researchers with some modifications (see for example: Field et al., 2004; Bratten et al., 2013; Ettredge et al., 2013; Choi and Yoon, 2014; Musah, 2017), we used the following models:

$$LNAUDIT\ FEES_{it} = \beta_0 + \beta_1 INTANG/TA_{it} + \beta_2 FVA1/TA_{it} + \beta_3 LNTA_{it} + \beta_4 LEV_{it} + \beta_5 ROA_{it} + \beta_6 ARL_{it} + \beta_7 LOSS_{it} + e_{it.} \quad (1)$$

$$\backslash LNAUDIT\ FEES_{it} = \beta_0 + \beta_1 INTANG/TA._{it} + \beta_2 FVA2/TA_{it} + \beta_3 LNTA_{it} + \beta_4 LEV_{it} + \beta_5 ROA_{it} + \beta_6 ARL_{it} + \beta_7 LOSS_{it} + e_{it.} \quad (2)$$

Variables' Measurement

The Dependent Variable: Audit Fees

The natural logarithm for the total value of audit fees as a dependent variable was used. These fees were obtained from the annual reports of the commercial banks listed in Amman Stock Exchange (ASE).

The Independent Variables

Two independent variables were used; namely, intangible assets and fair value measurement at level 1 and level 2.

Intangible Assets

According to IAS 38, intangible assets refer to non-monetary cash without physical substance. In general, the most popular types of intangible assets in the Jordanian banks are computer systems and goodwill. Intangible assets in this study will be used as an independent variable and will be measured as a proportion to total assets.

Fair Value Measurement

According to IFRS 13 and IFRS 7, the fair value is the value that could be received from selling an asset or paying for a liability on the date of measurement. Fair value hierarchy has been prepared with the purpose of increasing consistency and comparability in the measurements and related disclosures. These values were calculated by the banks considering the following hierarchy and were disclosed within the financial statements.

The hierarchy has been categorized into three levels of inputs as follows:

1. Level-1 inputs: level-1 inputs constitute the announced quoted prices for identical assets in the active market for assets and liabilities.

2. Level-2 inputs: level 2 is that level in which the similar asset or liability has a specific contractual period, involving that the second-level inputs should be observable over the whole period of an asset or liability.
3. Level-3 inputs: level-3 inputs are those in which the fair value depends on unobservable values in the market, rather than those the company tries through the available information, depending on the nature of the asset or liability. However, in practice, the third level was found to be ignored due to difficulties of application, particularly those pertaining to problems related to data availability.

Control Variables

A number of control variables that were used in the previous studies (Bouqalieh and Nour, 2019; Abuyahia and Al- Thuneibat, 2019; Musah, 2017; Visvanathan, 2017; Alexeyeva and Mejia-Likosova, 2016; Naser and Hasan, 2016; Gonthier-Besacier and Schatt, 2007) and appeared to be important in this study were applied as follows:

Auditee Size

Some of the previous studies (Musah, 2017) indicated that audit fees will increase as the firm size increases; that is, large firms require more time for auditing and this needs more efforts from the auditor, leading to an increase in the audit fees. Thus, auditee size will be used as a control variable and will be measured using the natural log of total assets.

Auditee Risk

According to Visvanathan (2017), audit fees may increase as a result of an increase in risk that affects a firm; a situation that may lead to an increase in audit risk related to additional efforts required by audit firm. So, auditee risk will be used as a control variable in this study and will be measured using leverage ratio.

Profitability

Audit fees may be affected by a firm's profitability; that is, any reduction in the profitability of a firm may increase audit risk, which may lead to an increase in the audit fees due to the rise of the efforts paid by the audit firm (Musah, 2017). Therefore, the firm's profitability will be used as a control variable and will be measured through ROA.

Audit Report Lag (ARL)

ARL is the number of days between the end of a financial year and the date of the issuance of the audit report. Naser and Hasan (2016) concluded that an increase in this period will result in an increase in audit fees. ARL will be used as a control variable in this study.

Loss

Losses may involve additional audit fees, due to audit risk facing the concerned audit firm during its work. In this study, this variable was introduced as a control variable in the form of a dummy variable with a value of 1 when there is a loss and zero otherwise (Visvanathan, 2017).

Variables' measurement

Variable	Measurement
AUDITFEES	Natural logarithm of audit fees.
INTANG/TA	Intangible assets reported on the balance sheet scaled by total assets.

FVA1/TA	Fair-valued assets measured at level 1 of fair value hierarchy divided by total assets.
FVA2/TA	Fair-valued assets measured at level 2 of fair value hierarchy divided by total assets.
NLTA	Natural log of total assets.
LEV	Total liabilities divided by total assets.
ROA	Return on assets.
ARL	The lag between the audit report date and the end of the accounting year.
LOSS	An indicator variable that equals 1 if income is negative and 0 otherwise.

Data Analysis and Hypotheses Testing

Table (1) illustrates the results of Pearson correlation matrix between the variables of the two models. The Table shows that audit fees, expressed in terms of the natural log, are inversely insignificantly correlated with intangible assets, expressed as a proportion of total assets, with a correlation value of (-0.127). If we look at the descriptive statistics, we find that the mean of audit fees is nearly stable; it ranges between JD 230,000 and JD 235,000, while the mean of intangible assets is increasing; that is, the mean ranges between JD 3,455,000 and JD 5,763,000, which may justify the negative relationship between the two variables. The table also shows that the variable audit fees is not significantly correlated with fair-valued assets measured at level 1, although the correlation is positive, with a value of (0.144).

Table (1)

Pearson correlation matrix between the variables of the models

Correlations									
Variable	**Audit fees**	**Intangibles**	**F.V.A. 1**	**F.V.A. 2**	**Auditee size**	**Auditee risk**	**Profitability**	**ARL**	**Loss**
Audit fees	1								
Intangibles	-0.127	1							
F.V.A. 1	0.144	0.020	1						
F.V.A. 2	0.366**	-0.173	0.285**	1					
Auditee size	0.941**	-0.129	0.179	0.278**	1				
Auditee risk	0.056	-0.027	-0.274**	-0.163	0.088	1			
Profitability	-0.011	0.030	0.308**	0.150	0.016	-0.375**	1		
ARL	-0.234*	0.034	-0.129	0.034	-0.301**	0.054	-0.278**	1	
Loss	-0.137	-0.055	-0.014	-0.005	-0.109	0.116	-0.305**	0.013	1

*Significant at 5% level.

**Significant at 1% level.

However, audit fees have a positive and significant correlation with fair-valued assets measured at level 2, with a positive value of (0.366), while there is a high correlation between audit fees and auditee size, measured in natural logarithm of total assets, with a value of (0.94). Moreover, the table reveals a presence of an insignificant correlation between audit fees and auditee risk, measured by leverage ratio, with a value of (0.056). However, audit fees were found to be inversely correlated with profitability, measured by return on assets, audit report lag, measured in days between the end of financial year and date of audit report issuance and loss, expressed as a dummy variable, with values of (-0.011), (-0.23) and (-0.137), respectively.

Multicollinearity Test

The results of Pearson correlation matrix revealed that the correlation coefficients between the independent variables of the study were below 80%, which means that the models are free from the multicollinearity problem. This information was checked further by deriving Variance Inflation Factor (VIF) and tolerance coefficients. Table (2) indicates that the (VIFs) related to all independent variables in the models were with values lower than (1.5).

Table (2)
VIF and tolerance coefficients

	Model (1)		Model (2)		N
Variables	**Tolerance**	**VIF**	**Tolerance**	**VIF**	91
Intangible assets	0.976	1.024	0.956	1.046	91
Fair-valued assets measured at level 1	0.826	1.211			91
Fair-valued assets measured at level 2			0.824	1.214	91
Auditee size	0.824	1.213	0.771	1.296	91
Auditee risk	0.814	1.229	0.830	1.205	91
Profitability	0.678	1.476	0.701	1.427	91
Audit report lag	0.822	1.217	0.791	1.263	91
Loss	0.867	1.153	0.872	1.147	91

Additionally, the tolerance values associated with the independent variables were between 0.678 and 0.976 for the first model and between 0.701 and 0.956 for the second. The outcomes of the VIF and tolerance reassure the absence of multicollinearity among the independent variables, suggesting valid data for use. It is worth mentioning that such outcomes are in line with Berenson et al. (2012), who stated that values of VIF of less than (5) and tolerance values near (1) are seemingly to be free from multicollinearity problem.

Statistical Description of the Dependent and Independent Variables

Audit Fees

Table 3 indicates that, on average, audit fees related to the Jordanian commercial banks (measured in natural log) for the period (2011-2017) were about K 235 JD. The mean of these fees increased from

about 221 thousand JD to about 258 JD. Their values ranged between a minimum value of about 55 thousand JD in 2014 and a maximum value of about 1.2 million JD in 2017, with a standard deviation ranging between 256 thousand JD and 295 thousand JD, suggesting high variation between audit fees among commercial banks during the period of study. To test the hypotheses, audit fees values were introduced in the model in a natural logarithm form.

Table (3)
Audit fees for the Jordanian commercial banks over the period (2011-2017) (Thousand JD)

Audit fees									**N**
Year	2011	2012	2013	2014	2015	2016	2017	Total	91
Minimum	57	60	62	55	72	66	89	55	91
Maximum	1144	1160	1018	1018	1104	1104	1178	1178	91
Mean	230	228	231	221	234	244	258	235	91
Std. Deviation	295	295	265	256	279	275	290	270	91

Intangible Assets

Table 4 indicates that, on average, intangible assets related to the Jordanian commercial banks (measured as a proportion of total assess) for the period (2011-2017) were about 5.8 million JD. The mean of total value of these assets increased from 3.5 million JD to 8.9 million JD, with an increase of about 154%, resulting from the continuous importance given by the commercial banks to this financial component.

Table (4)
Intangible assets from the total assets for Jordanian commercial banks over the period (2011-2017) (Thousand JD)

Intangible assets									**N**
Year	2011	2012	2013	2014	2015	2016	2017	Total	91
Minimum	380	422	723	1,027	936	635	488	380	91
Maximum	8,887	13,334	19,699	23,712	24,804	24,352	25,083	25,083	91
Mean	3,455	4,081	4,441	5,980	5,776	7,707	8,899	5,763	91
Std. Deviation	2,836	3,718	5,271	6,346	6,693	7,759	8,698	6,283	91

The values of intangible assets ranged between a minimum value of 380 thousand JD in 2011 and a maximum value of about 25.1 million JD in 2017, with a standard deviation ranging between about 2.8 million JD and about 8.7 million JD.

Fair Value Measurement

According to IFRSs (13 & 7), fair values are categorized into three separated levels. The first-level inputs are represented by quoted prices in active markets for identical assets or liabilities that the entity can access at the measurement date. In return, level-two inputs are inputs other than quoted market prices included within level one that are observable for assets or liabilities either directly or indirectly. However, level-three inputs for measuring the fair value depend on unobservable values in the market.

Table (5) shows that, on average, fair valued assets measured at level one for Jordanian commercial banks (measured as a proportion of total assess) for the period (2011-2017) were about 84.8 million JD. The total value of these assets increased from about 57.1 million JD to about 10.4 million JD and ranged between a minimum value of 196 thousand JD and a maximum value of about 954.9 million JD, varying at a standard deviation between about 121 million JD and about 269.9 million JD.

Table (5)

Fair valued assets measured at level 1 for Jordanian commercial banks over the period (2011-2017) (Thousand JD)

Fair valued assets measured at level 1									N
Year	2011	2012	2013	2014	2015	2016	2017	Total	91
Minimum	2,062	1,237	1,226	965	742	355	196	196	91
Maximum	851,126	882,636	820,876	954,951	751,450	658,279	447,410	954,951	91
Mean	100,350	97,080	87,578	99,286	83,134	72,127	57,074	84,753	91
Std. Deviation	237,257	248,044	231,596	269,921	211,297	177,837	121,024	210,133	91

Table (6) indicates that, on average, fair valued assets measured at level 2 related to the Jordanian commercial banks (measured as a proportion of total assess) for the period (2011-2017) were about 27.2 million JD, ranging between about 22.6 million JD and about 32.7 million JD, with an increase of about 38%. These were between a minimum value of about 43 thousand JD and a maximum value of about 223.3 million JD, varying with a standard deviation between about 54 million JD and about 72 million JD.

Table (6)

Fair valued assets measured at level 2 for Jordanian commercial banks over the period (2011-2017) (Thousand JD)

Fair valued assets measured at level 2									N
Year	2011	2012	2013	2014	2015	2016	2017	Total	91
Minimum	86	82	101	342	88	43	218	43	91
Maximum	219,629	194,554	187,805	223,312	220,030	212,584	192,298	223,312	91
Mean	30,658	27,400	25,205	32,737	26,705	26,139	22,560	27,164	91
Std. Deviation	65,980	58,388	57,575	71,840	64,519	62,257	53,914	59,483	91

Hypotheses Testing

As appears from Table (7), the models under study are highly significant at a level of 1%. It appears from the table that the values of F-statistic for the two models were about 97.12 and about 109.58, respectively, which means that the models are strong enough and that the variables included are capable of explaining the variance in audit fees. The adjusted R square percentages are about 0.88 and about 0.89, respectively. These percentages indicate that the models explain 88% and 89% of the variance in the audit fees, respectively.

H1: There is a statistically significant impact for the intangible assets presented on the balance sheet on audit fees.

To test this hypothesis, it is observed from Table (7) that the standard coefficient β is negative with a value of 0.007 with a probability of 0.847 for the first model, compared to a positive value of 0.009 with a probability of 0.806 for the second model, which means that, according to both models, there is an insignificant impact of intangible assets on the audit fees.

Table (7)
Regression analysis results

	Model (1)			**Model (2)**			**N**
Model	**Beta**	**T**	**Sig.**	**Beta**	**T**	**Sig.**	91
intangible assets	-0.007	-0.193	0.847	0.009	0.247	0.806	91
FVA1	-0.024	-0.605	0.547				91
FVA2				0.119	3.147	0.002	91
Total assets	0.958	24.017	0.000	0.912	23.359	0.000	91
Leverage ratio	-0.046	-1.135	0.260	-0.023	-0.598	0.552	91
Return on assets	-0.035	-0.798	0.427	-0.062	-1.522	0.132	91
Audit report lag	0.045	1.123	0.265	0.021	0.543	0.588	91
Loss	-0.040	-1.017	0.312	-0.053	-1.454	0.150	91
R	0.944			0.950			
R Square	0.891			0.902			
Adjusted R Square	0.882			0.894			
F	97.115			109.583			
Sig.	0.000			0.000			
Durbin-Watson	1.945			2.046			

It is worth mentioning that such results (with more than 5% significance) reveal that intangible assets for the first model explain about -0.007 of the difference in audit fees, whereas, as per for the second model, intangible assets explain only about 0.009 of the difference in audit fees. Both results reflect the fact of a lack of

importance of intangible assets in the determination of audit fees when auditing Jordanian banks. As a result, this hypothesis will be rejected for both models and we have to accept the null hypothesis that states: there is no statistically significant influence of intangible assets presented on the balance sheet on audit fees. This result is in contradiction with the findings of Vistavanthan (2017), who argued that the increase in intangible assets presented on the balance sheet leads to an increase in related audit fees. However, although some researchers concluded that auditors may find it relatively more challenging to audit firms with higher intangible assets (Datta et al., 2020), they pose unique challenges to auditors in terms of judgment and complexity (Visvanathan, 2017). However, the results of this study may indicate that auditors may find it easier to audit intangible assets than tangible assets, because audit evidence used to evaluate the fair presentation of intangible assets mostly depends on inquiries and documentation; that is, physical examination and confirmation can't be used. As documentation is cheaper than physical examination and confirmation, audit of intangible assets needs less efforts by auditors and therefore less audit fees. The other thing is that the impact of intangible assets on audit fees may depend on the context in which companies act. Ghio et al. (2018) stated that prior literature documents that the role of fair value estimates depends on firm's specific characteristics, the information environment and the institutional context. Additionally, it may be argued that the institutional setting related to auditing in Jordan is still not so strong; therefore, auditors may not take the potential of litigation costs into consideration when performing the process of collection and evaluation of audit evidence even in cases of higher uncertainty related to assets' evaluation. This implies that if auditors don't expect higher litigation risk, their efforts may be not affected and therefore, audit fees may be not influenced.

H2: There is a statistically significant impact for fair value measurement, at level 1, on audit fees.

This hypothesis suggests that the increasing uncertainty of fair value estimation results in higher audit fees. Having tested this hypothesis through the first model, by including in the model the two variables intangible assets and fair valued assets at level 1, along with the selected control variables, it is shown in Table (7) that the fit of the model is relatively high (Adjusted R^2 = 88.2%), indicating a good explanatory influence. The result of the coefficient of FVA1 has a negative sign, but it is insignificant at the level of 0.05 significance (β =-0.024); (t = -0.605, with a probability value of 0.547); a finding that reveals that fair valued assets measured at level 1 explain about 0.024 of the variations in audit fees, taking into consideration the fact that it was found that they were inversely insignificantly correlated. So, this hypothesis will be rejected and we accept the null hypothesis which states that there is no statistically significant impact of fair value measurement, at level 1, on audit fees. It is worth mentioning that this result is harmonized with the findings of Alexeyeva and Mejia-Likosovo (2016) who concluded that there is an insignificant relationship between fair valued assets measured at level 1 and audit fees.

Ettredge et al. (2014) found that the association between fair value estimates and audit fees depends on the levels of inputs used to measure the fair value; that is, the level of uncertainty increases according to the level of inputs used in the measurement. This means that the uncertainty related to level-1 inputs is expected to be at a minimum level in comparison with those of other levels. As a result, a minimum level of audit efforts will be required in verifying the fair value of the assets measured at level 1 in comparison to the other levels and therefore, less audit fee is

required. This means that level-1 inputs are expected not to influence audit fees, because they depend on quoted prices and don't need much judgment and audit effort. Additionally, this result is consistent with the findings of Alexeyeva and Mejia-Likosova (2016), who investigated this relationship for a sample of banks from 24 European countries between 2008 and 2013 and stated that fair valued assets are not associated with audit fees (Ghio et al., 2018). Likewise, Yaacob (2013) suggested that the adoption of FRS 139 has not significantly increased audit fees.

H3: There is a statistically significant impact for fair value measurement, at level 2, on audit fees.

This hypothesis suggests that increasing ambiguity of fair value estimation will lead to higher audit fees. Having tested this hypothesis through the second model, by including in the model the variables intangible assets and fair valued assets at level 2, along with the selected control variables, it is shown in Table (7) that the fit of the model is relatively high (Adjusted R^2 = 89.4%), revealing a good explanatory power. The result of this coefficient of FVA2 has a positive sign and is significant at 0.01 level (β = -0.119); (t = 3.147, with a probability value of 0.002); a finding revealing that fair valued assets measured at level 2 explain about 0.119 of the variation in audit fees, taking into consideration the fact that the two variables are directly correlated. So, this hypothesis will be accepted and we reject the null hypothesis that states that there is no statistically significant impact for fair value measurement, at level 2, on audit fees. It is worth mentioning that Alexeyeva and Mejia-Likosova (2016) argued that subjectivity is primarily involved in the assessment of level-2 and level-3 inputs. Therefore, an increasing degree of uncertainty will be likely to impact the difficulty of audit procedures and will involve more audit effort. The gradually increased effort will likely result in an increase in the audit fees.

The signs of control variables are generally consistent with previous research. In line with studies on audit fees, the company size (total assets) has a positive sign and is highly significant. This result is consistent with the results of Bouqalieh and Nour (2019), who found a positive effect for the size of the company and size of the audit firm on audit fees in Jordan. This is also consistent with many research studies that concluded that the client size is the most influential factor in determining audit fees (Kimeli, 2016; Naser & Hassan, 2016; Gonthier-Besacier and Schatt, 2007). The results of the study show also that the audit report lag has a positive insignificant impact on audit fees. This result is inconsistent with the results revealed by other studies (Naser and Hasan, 2016). However, this result may be attributed to the circumstances surrounding the audit process, which may be not related to the auditee, but rather to the circumstances of the audit firm itself.

Additionally, leverage ratio has a negative and insignificant impact on audit fees, which is consistent with the results of the study conducted by Naser & Hassan (2016). This result may be attributed to the high degree of financial risk of all commercial banks in Jordan; that is, the results of this study reveal that the average of the leverage ratio amounts to 86%. Moreover, the results reveal that both return on assets and loss have a negative and an insignificant influence on audit fees. This result is consistent with the findings of some previous studies (Abuyahia and Al- Thuneibat, 2019; Bouqalieh and Nour, 2019; Naser & Hassan, 2016).

Finally, it is very important to emphasize, on the first hand, that the results of this study are congruent with the findings of some previous studies and incongruent with the findings of others, which reminds us of the possible effects of the context in which any study is conducted on the results of the

study. Therefore, the findings of this study regarding the effect of intangible assets on audit fees are congruent with what was stated by Goncharov et al. (2014), who found lower audit fees for firms reporting property assets at fair value relative to those employing depreciated cost.

Similarly, on the other hand, the results of this study regarding the effect of fair value measurement on audit fees, are expected to be influenced by the specific context within which Jordanian banks work. Ghio et al. (2018) stated that prior literature documents that the role of fair value estimates depends on firm's specific characteristics, the environment and the institutional context. Additionally, they added that fair values can lead to lower monitoring costs; however, any reduction in audit fees will vary with salient characteristics of the fair value reporting, including the difficulty to measure and the treatment within the financial statements.

Therefore, we find that some researchers (Bratten et al., 013) argued that the fair value measurement requires more efforts by the management and then by the auditors in terms of measurement uncertainty regarding the assumptions and estimates used and the choice between them, which is expected to result in an increase in audit fees. However, Ettredge et al. (2013) noted that these difficulties are less substantial with fair-valued assets based on Level-1 inputs and are most pronounced for fair values obtained using other levels.

It is also important to state that the International Standard on Auditing (ISA) 545 (auditing fair value measurements and disclosures), which aims to "establish standards and provide guidance on auditing fair value measurements and disclosures contained in financial statements", states that the auditor responsibility is restricted to the verification of the rationality of the assumptions on which those values were estimated during the auditing period. This may lead to the conclusion that managements don't need to use specific assumptions regarding the fair values at level 1, because these values are determined by the quoted prices, but the need for assumptions increases as we move to other levels. In other words, higher efforts are required by the auditor for more risk related with these levels. The evaluation of higher uncertainty estimates (level 2) requires greater audit effort. Therefore, an increasing level of uncertainty required in the evaluation of level-2 inputs can significantly increase audit fees.

Conclusions and Recommendations

This study was conducted with the purpose of investigating the influence of intangible assets and fair value measurement on audit fees in Jordanian commercial banks over the period (2011-2017). Its main results are summarized as follows:

* There is an insignificant relationship between audit fees and intangible assets; a result that may be attributed to the fact that the proportion of intangible assets in the total assets of the Jordanian commercial banks is meager (over the period of study, their average proportion constituted only about 0.2% of total assets), compared with that of tangible assets. Therefore, their smallest portion does not lead to an increase in the degree of complexity which increases burdens on the auditor leading to a major increase in audit fees. It is worth mentioning that this result is inconsistent with the findings of Vistavanthan (2017) and Field et al. (2004), who indicated the existence of a significant relationship between intangible assets and audit fees; a difference that may be attributed to the fact that these studies were conducted in different environments.
* There is an insignificant relationship between audit fees and fair valued assets measured at level 1. In return, a significant relationship was found at level

2; a result that may be attributed to the higher efforts required by the auditor for more risky levels of inputs used to measure fair values. In other words, the evaluation of higher-uncertainty estimates (level 2) requires greater audit effort. Moreover, an increasing level of uncertainty required in the evaluation of level-2 inputs can significantly increase the probability of audit errors and consequently, opportunity of risk. Overall, higher audit effort supplemented by higher risk will most likely lead to higher audit fees. This argument is in line with the findings of Ettredge et al. (2013), who concluded that fair valued assets represent either corporate risk or measurement uncertainty involving higher audit efforts. Data related to Jordanian banks revealed that the majority of these banks concentrate in their assessment on levels 1 and 2 of fair value inputs. However, taking into account the fact that level 1 is mainly concerned with (quoted prices) and involves lower complexity degree and efforts required by the management and the auditors, it is found that those depending on level 1 have more portion than those depended on level 2. It is noted that although these results were found to be consistent with Alexeyeva and Mejia-likosova (2016) with regard to fair valued assets at level 1, they were found to be in contradiction with them regarding fair valued assets at level 2.

* As far as control variables are concerned, it was found that with the exception of auditee size, all other control variables (auditee risk, profitability, audit report lag and loss) were insignificantly related with audit fees. It may be argued that the effect of these factors is governed by other contextual and environmental factors.

The conclusions to be derived from these results provide a supporting evidence that the fair valued assets measured at level-2 inputs are significantly correlated with the audit fees. However, the results of intangible assets and fair valued assets measured at level 1 were found to lack an impact on audit fees. Additionally, the results concerning the control variables introduced in the study provide evidence that bank's size plays a major role in the determination of audit fees. The implications of these conclusions are that the findings will be of interest for investors, regulators, managers, boards of directors and auditors. Fair value measurement and the application of IFRS 13 add additional challenges for auditors; that is, they increase audit risks and therefore their effect on audit fees must be considered. Therefore, the results of this study are expected to provide auditors and auditees with insights that would help in identifying reasonable amounts of audit fees. Based on the results of the study and taking into account the required continuous development of auditing and audit profession in Jordan, the researchers would recommend the following:

- The results of this study provide a new evidence about the determinants of audit fees from a developing country, which may direct our attention to the need for understanding this issue within the context and applying other methodologies, such as interpretive methodology.
- More attention should be given by commercial banks and audit firms to fair value measurement before arrangements related to audit fees, taking into account the results obtained in this study, which pointed out that a high uncertainty of estimation of fair value results in higher audit fees. That is, the results of the study showed that level 2 has a significant impact on audit fees.
- Additionally, objective principles should be applied when determining audit fees, in order to cover all factors involved in the determination of audit fees and avoid gaps and surprises in practice, taking into consideration the finding of this study

that revealed that auditee size is the most important determinant of the audit fees.

- Researchers are recommended to consider the impact of the institutional setting on audit efforts expended on the verification of intangible assets and fair value measurement and implement the study on other sectors, such as the industrial and services sectors. Researchers should consider the interaction that takes place while negotiating the amount of audit fees.

REFERENCES

Abuyahia, J.S., & Al-Thuneibat, A. 2019. Effect of Ownership Structure on External Audit Fees: Evidence from Jordan. ***Jordan Journal of Business Administration***, 15 (3): 403-420.

Abu Nassar, M.H. 1999. Specific Factors for Audit Fees in Jordan from the Point of View of the Auditors and Public Shareholding Companies. ***Journal of Administrative Sciences Studies***, 26 (2): 397-411.

Alexeyeva, I., & Mejia-Likosova, M. 2016. The Impact of Fair Value Measurement on Audit Fees: Evidence from Financial Institutions in 24 European Countries. ***International Journal of Auditing***, 20 (3): 255-266.

Al-Harshani, M.O. 2008. The Pricing of Audit Services: Evidence from Kuwait. ***Managerial Auditing Journal***, 23 (7): 685-696.

Asthana, S., Khurana, I., & Raman, K.K. 2019. Fee Competition among Big 4 Auditors and Audit Quality. ***Review of Quantitative Finance and Accounting***, 2: 1-36.

Audousset-Coulier, S. 2009. The Use of Audit Fees As a Proxy for Audit Quality: Theory and Evidence. ***SSRN Electronic Journal***, DOI: 10.2139/ssrn.1327490

Berenson, M., Leavine, D., Szabat, K., & Krehbiel, C. 2012. ***Basic Business Statistics: Concepts and Applications***. Twelfth Edition, Pearson Higher Education AU.

Birjandi, H., Mansoorabady, A., & Fathi, Z. 2017. Investigating Effective Factors on Audit Fees with an Emphasis on Stickiness of Audit Cost. ***Research Journal of Finance and Accounting***, 8 (9): 50-60.

Boon Heng The, Sin Huei Ng, Tze San Ong, & Wei Ni Soh. 2013. The Impact of Financial Reporting Standard 139 Financial Instruments: Recognition and Measurement on Audit Fees. ***The Social Sciences***, 8 (6): 610-617.

Bouqalieh, B.K., & Nour, A.I. 2019. Effect of Mergers and Acquisitions on Audit Fees and the Opinion of External Auditor: Applied Study on Jordanian Public Shareholding Companies. ***Jordan Journal of Business Administration***, 15 (1): 147-168.

Bratten, B., Causholli, M., & Myers, L.A. 2013. Fair Value Accounting, Auditor Specialization and Earnings Management: Evidence from the Banking Industry. ***Social Science Research Network***, 1-48.

Castro W., Peleias, I., & Daselva, G. 2015. Determinants of Audit Fees: A Study on the Companies Listed in the BM &FBOVESPAP. Brazil. ***R. Cont.Fin.-USP,*** Sao-Paulo, 26 (69): 261-273.

Choi, W., & Yoon, S. 2014. Effects of IFRS Adoption, Big N Factor and the IFRS-related Consulting Services of Auditors on Audit Fees: The Case of Korea. ***Asian Journal of Business and Accounting***, 7 (1): 55-80.

Datta, S., Jha, A., & Kulchania, M. 2020. On Accounting's Twenty-First Century Challenge: Evidence on the Relation between Intangible Assets and Audit Fees. ***Review of Quantitative Finance and Accounting***, 55 (July): 123-162.

Enahoro, J.A., & Jayeoba, J. 2013. Value Measurement and Disclosure in Fair Value Accounting. ***Asian Economic and Financial Review***, 3 (9): 1170-1179.

Ettredge, M.L., Xu, Y., & Yi, H.S. 2014. Fair Value

Measurements and Audit Fees: Evidence from the Banking Industry. ***Auditing: A Journal of Practice & Theory***, 33 (3): 33-58.

Fargher, N., & Zhang J.Z. 2014. Changes in the Measurement of Fair Value: Implications for Accounting Earnings. ***Accounting Forum***, 38: 184-199.

Field, L., Fraser, D., & Wilkins, M. 2004. An Investigation of the Pricing of Audit Services for Financial Institutions. ***Journal of Accounting and Public Policy***, 23: 53-77.

Gandıa, J. L., & Huguet, D. 2018. Differences in Audit Pricing between Voluntary and Mandatory Audits. ***Academia Revista Latinoamericana de Administracion***, 31 (2): 336-359. DOI:10. 1108/ARLA-01-2016-0007.

Ghio, A., Filip, A., & Jeny, A. 2018. ***Fair Value Disclosures and Fair Value Hierarchy: Literature Review on the Implementation of IFRS 13 and SFAS 157***. DOI: 10.13140/RG.2.2.11458.43208.

Gnanakumar, B. 2017. Intangible Assets on the Balance Sheet and Audit Fees. ***International Journal of Disclosure and Governance***, 14 (3): 241-250.

Goncharov, I., Riedl, E.J., & Sellhorn, T. 2014. Fair Value and Audit Fees. ***Review of Accounting Studies***, 19 (1): 210-241.

Gonthier-Besacier, N., & Schatt, A. 2007. Determinants of Audit Fees for French Quoted Firms. ***Managerial Auditing Journal***, 22 (2): 139-160.

Hu, F., Percy, M., & Yao, D. 2015. Asset Revaluation and Earnings Management: Evidence from Australian Companies. ***Corporate Ownership and Control***, 13 (1): 1287-1296.

https://www.ifrs.org/issued-standards/list-of-standards/ias-38-intangible-assets

https://www.ifrs.org/issued-standards/list-of-standards/ifrs-7-financial-instruments-disclosures.

https://www.ifrs.org/issued-standards/list-of-standards/ifrs-13-fair-value-measurement https://www.iasplus.com/en/standards/ifrs/ifrs13

IAASB. 2008. https://www.iaasb.org/news-events/2008-01/international-auditing-and-assurance-standards-board-completes-first-phase-clarity-project.

Johnstone, K.M., Gramling, A.A., & Rittenberg, L.E. 2014. ***Auditing: A Risk-based Approach Conducting a Quality Audit.*** 9th Edition, Cengage Learning, OH.

Kikhia, H. 2015. Determinants of Audit Fees: Evidence from Jordan. ***Accounting and Finance Research***, 4 (1): 42-53.

Kimeli, E.K. 2016. Determinants of Audit Fees Pricing: Evidence from Nairobi Securities Exchange (NSE). ***International Journal of Research in Business Studies and Management***, 3 (1): 23-35.

Kumarasiri, J., & Fisher, R. 2011. Auditors' Perceptions of Fair-value Accounting: Developing Country Evidence. ***International Journal of Auditing***, 15 (1): 66-87.

Lev, B. 2001. ***Intangibles: Management, Measurement and Reporting***. Washington D.C.: Brookings Institution.

Lev, B., & Zambon, S. 2003. Intangibles and Intellectual Capital: An Introduction to a Special Issue. ***European Accounting Review***, 12 (4): 597-603.

Lev, B., & Daum, J.H. 2004. The Dominance of Intangible Assets: Consequences for Enterprise Management and Corporate Reporting. ***Measuring Business Excellence***, 8 (1): 6-17.

Marr, B. 2008. Disclosing the Invisible: Publishing Intellectual Capital Statements. ***CMA Management***, August/September, 35-39.

Messier, W., Glover, S., & Prawitt, D. 2017. ***Auditing and Assurance Services***. New York: McGraw-Hill Companies.

Monga, V. 2016. Accounting's 21st Century Challenge: How to Value Intangible Assets. ***The Wall Street Journal***. https://www.wsj.com/articles/accountings-21st-century-challenge-how-to-value-intan gible-assets-1458605126.

Musah, A., & Anokye, F.K. 2018. The Effects of IFRS Adoption and Big 4 Audit Firms on Audit and Non-

Audit Fees: Evidence from Ghana. ***Journal of Accounting and Management Information Systems***, 17 (3): 330-352.

Musah, A. 2017. Determinants of Audit Fees in a Developing Economy: Evidence from Ghana. ***International Journal of Academic Research in Business and Social Sciences***, 7 (11): 716-730.

Naser, K., & Hassan, Y. 2016. Factors Influencing External Audit Fees of Companies Listed in Dubai Financial Market. ***International Journal of Islamic and Middle Eastern Finance and Management***, 9 (3): 346-363.

Picconi, M., & Reynolds, K. 2013. ***Audit Fee Theory and Estimation: A Consideration of the Logarithmic Audit Fee Model***. Working Paper, Florida State University

Ramanna, K., & Watt, R. 2012. Evidence in the Use of Invariable Estimate in Required Goodwill Impairment. ***Journal of Accounting and Economics***, 17 (4): 749-780.

Russell M. 2017. Management Incentives to Recognize Intangible Assets. Accounting and Finance, 57 (April): 211-234.

Siekkinen J. 2016. Value Relevance of Fair Values in Different Investor Protection Environments. ***Accounting Forum***, 40 (1): 1-15.

Simunic, D.A. 1980. The Pricing of Audit Services: Theory and Evidence. ***Journal of Accounting Research***, 18 (1): 161-190.

Singh, J.P., & Doliya, P. 2015. On the Audit of Fair Value Measurements. ***Economic Horizons***, 17 (1): 59-69.

Ul Haq, A., & Leghari, M.K. 2015. Determinants of Audit Fee in Pakistan. ***Research Journal of Finance and Accounting***, 6 (9): 176-188.

Visvanathan, G. 2017. Intangible Assets on the Balance Sheet and Audit Fees. ***International Journal of Disclosure and Governance***, 14 (3): 241-250.

Yaacob, N.M. 2013. The Relationship between Financial Reporting Standards (FRS) 139 and Audit Pricing: The Case of Malaysia. ***Journal of Modern Accounting and Auditing***, 9 (5): 641- 649.