# THE INFLUENCE OF INTERNAL AUDIT FUNCTION QUALITY, AUDIT COMMITTEE EFFECTIVENESS ON THE AUDIT REPORT LAG: EMPIRICAL EVIDENCE FROM JORDAN

تأثير جودة وظيفة التدقيق الداخلي وكفاءة لجنة المراجعة الداخلية على تأخر اصدار تقرير مراجع الحسابات الخارجي: دليل عملي من الاردن

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#### Abstract

This paper examines the association of the internal audit function and audit committee with audit report lag. We posit that companies with a high internal audit function quality and effective audit committees have a shorter audit report lag. We use a composite measure of internal audit function and audit committee. Data was obtained from 87 respondents (internal auditors) of listed companies in Amman Stock Exchange (ASE) in Jordan and annual reports of the respective firms for the year 2009. Ordinary Least Square (OLS) regression analysis shows high quality of internal audit function and effective audit committees are associated with shorter audit report lag.

**Keywords**: internal audit function quality; audit committee effectiveness; audit report lag; Amman stock exchange.

JEL classification codes:M4, M41, M42.

#### الملخص:

تتناول هذه الدراسة اختبار علاقة جودة وظيفة التدقيق الداخلي وخصائص لجنة المراجعة الداخلية مع تأخر اصدار تقرير مراجع الحسابات الخارجي. تفترض هذه الدراسة بان وجود وظيفة تدقيق داخلي ذات جودة عالية ولجنة مراجعة داخلية ذات كفاءة عالية سيؤدي الى تقليل عملية التأخر في اصدار تقرير مراجع الحسابات الخارجي. تم الحصول على بيانات هذه الدراسة من قبل 87 شركة مسجلة في بورصة عمان من خلال المراجعة اليدوية لتقاريرها المالية وكذلك من 87 مجيب على الاستبيانات الموزعة على المراجعين الداخليين لنفس الشركات. من خلال استخدام تحليل انحدار المربعات الصغرى الاعتيادي، اوضحت نتائج هذه الدراسة بانه كلما زادت جودة وظيفة التدقيق الداخلي وكفاءة لجنة المراجعة الداخلية كلما اثر عكسياً على تأخر اصدار تقرير مراجع الحسابات الخارجي. الكلمات المفتاحية: جودة وظيفة التدقيق الداخلي، كفاءة لجنة المراجعة الداخلية، تأخر اصدار تقرير مراجع الحسابات الخارجي، بورصة عمان.

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#### Introduction

Audit Report Lag (hereafter ARL) refers to the time period from a company's financial year end to the date of the auditor's report (Imam, Ahmed and Khan, 2001). It represents one of the most crucial factors that influence the timeliness of earning announcements (Givoly and Palmon, 1982; Ashton, Willingham and Elliott, 1987). Majority of the companies (over 70 %) do not declare their earnings until the issuance of auditor's report (Bamber, Bamber and Schoderbok, 1993). Hence, audit report lag provides a key role in the transference of audit information to the market (Dopuch, Holthausen and Leftwich, 1986; Lai, Cheuk and Hom, 2005) and has been associated with the market reactions (Chambers and Penman, 1984). Likewise, researchers (e.g., Newton and Ashton, 1989; Afify, 2009) indicated that ARL is considered as one of the critical indicators of audit efficiency and thus, efficient auditors should perform more timely audits. Moreover, researchers and professional agencies consider the timeliness of financial reporting (ARL is the most influential factor in timeliness) as an important characteristic which reflects the relevancy and reliability of financial information and financial information becomes less relevant with the passage of time (FASB, 1980; Hendriksen and Van Breeda, 1992; Lawrence and Glover, 1998; McGee and Tarangelo, 2008).

Along the same line, researchers (e.g. Prickett, 2002; Kulzick, 2004) argued that the timeliness of financial reporting reflects one of the important aspects of transparency of financial information and therefore, represents one of characteristics of good corporate governance identified by international organizations such as OCED and World Bank (McGee and Yuan, 2008). On the other hand, Khasharmeh and Aljifri (2010) argued that ARL has greater importance especially for emerging economies since other non-financial statements such as news conferences, media releases and financial analysts' forecasts are not well developed. In addition, the regulatory bodies in these markets are not as effective as in western developed countries (Wallace and Briston, 1993; Chahine and Tohme, 2009).

Due to the importance of ARL, previous studies have examined the determinants of ARL among companies and focused only on company's specific variables such as company size (Henderson and Kaplan, 2000; Ahmed and Kamarudin, 2003; Leventis, Weetman and Caramanis, 2005; Che-Ahmed and Abidin, 2008; El-Bannany, 2008; Lee, Mande and Son, 2008; Afify, 2009; Khasharmeh and Aljifri, 2010; Mohamad-Nor, Shafie and Wan-Hussin, 2010; Hashim and Abdul Rahman, 2011), year end (Ahmed and Kamarudin 2003; Mohamad-Nor et al., 2010), auditor type (Leventis et al., 2005; Owusu-Ansah

and Leventis, 2006; Lee et al., 2008; Khasharmeh and Aljifri, 2010; Mohamad-Nor et al., 2010), extraordinary items in financial reporting (Jaggi and Tsui, 1999; Ahmed and Kamarudin, 2003; Leventis et al., 2005; El-Bannany, 2008; Lee et al., 2008), audit opinion (Ahmed and Kamarudin, 2003; Leventis et al., 2005; Abdullah, 2007; Che-Ahmed and Abidin, 2008; Lee et al., 2008; Mohamad-Nor et al., 2010), sign of income (Henderson and Kaplan, 2000; Ahmed and Kamarudin, 2003; Lee et al., 2008; Afify, 2009), industry classification (Ashton et al., 1987; Ashton et al., 1989; Carslaw and Kaplan, 1991Ahmed and Kamarudin, 2003; Che-Ahmed and Abidin, 2008; Afify, 2009), debt ratio (Carslaw and Kaplan, 1991; Ahmed and Kamarudin, 2003; Abdullah, 2007; Lee et al., 2008).

Nevertheless, although Internal Audit Function (IAF) is also considers one of the four cornerstones of corporate governance, along with the audit committee of the board of directors, executive management, and the external auditors (IIA 2005). Of these four cornerstones, only management and the IAF typically have day-to-day dealing with the company.

Moreover, IAF provides a variety of services within their organization, including audits of financial records and processes and IAF is also responsible for the day-to-day monitoring of management's actions, including those relating to external financial reporting (Prawitt, Smith and Wood, 2009). It is surprising that there is a lack of previous studies in regarding to the linkage between the characteristics of IAF and audit report lag. Likewise, corporate governance mechanisms (especially audit committee) have a direct responsibility to monitor financial reporting process and to improve the quality of financial reporting.

Timeliness of financial reporting is considered as one of the critical characteristics that reflect the relevancy and reliability of financial information (McGee and Tarangelo, 2008). Therefore, researchers (Abdulla, 2007; Afify, 2009; Mohamad-Nor et al., 2010; Hashim and Abdul Rahman, 2011) have begun to examine the relationship between corporate governance mechanisms (board of directors and audit committee) and the timeliness of financial reporting due to direct responsibilities of these mechanisms in financial reporting process. Therefore, the current study examines the association between audit committee and internal audit function and audit report lag among Jordanian listed firms in Amman Stock Exchange (ASE).

Jordan is used as a setting to address the research objectivities due to several reasons. Firstly, the Jordanian code of corporate of governance of 2005 indicated to the important role of AC and IAF. The code indicated that IAF should be adequately resourced, trained, remunerated, and provided full access

to company's records, and given sufficient standing and authority within the company to adequately carry out its task. Secondly, researchers (e.g., Khrisat, 1993; Shaggor, 2000) revealed that the Jordanian internal auditors have implemented, to some extent, internal audit standards. Further, the internal auditors of listed companies in Jordan achieve their internal auditing goals by determining their objectives and information needs before conducting their work (Al-Oroud and Shakar, 2009). Furthermore, among its responsibilities; Audit Committees (AC) in Jordan have to ensure that the external auditors are independent; to review auditor's plan; to review the procedures of internal control; to monitor the compliance of firms with laws and regulations and to prevent conflicts of interest of related parties (ROSC, 2005). It is surprising that none of the previous studies linked between the IAF and AC's characteristics and audit report lag in Jordan.

Finally, ARL has greater importance especially for emerging economies since other non-financial statements such as news conferences, media releases and financial analysts' forecasts are not well developed. In addition, the regulatory bodies in these markets are not as effective as in western developed countries (Wallace and Briston, 1993; Chahine and Tohme, 2009). Therefore, these markets have a longer time lag (Khasharmeh and Aljifri, Nevertheless, none of previous studies (as far as the researchers are aware) empirically examined the determinants of audit report lag in Jordan since ARL still represent an issue especially for the listed companies in Jordan (ROSC, 2005). Importantly, this study contributes to the audit literature by examining association of IAF and AC and ARL. The findings of the current study would have implications for many parties in Jordan. It provides supporting evidence for the managements of the companies in Jordan on whether AC and IAF could significantly decrease ARL. Furthermore, this study could assist regulators in Jordan to focus on the important role of AC and IAF in reducing timeliness of financial reporting.

The rest of this paper is structured as follow. The next section reviews the literature on internal audit function and audit committee and its expected impact on audit report lag, and develops the testable hypotheses. This is followed by the design of the research. It further provides the results of the analysis and discussion. The final section concludes and discuses limitations and suggestion for future research.

## I. Internal Audit Function Quality and Audit Report Lag

In 1999 the Institute of Internal Auditors developed a new definition of internal audit function which states it as:

"An independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes". (IIA, 1999).

As noted from the new definition, the activities of IAF must contribute to improve the effectiveness of three processes: risk management processes; control processes; and governance processes (Standard 2100, IIA 2009). In addition, the new definition implied that the role of IAF has shifted from assurance service to the improvement of risk control, providing consulting services, analyzing risks and reducing the cost of external audit (Nagy and Cenker, 2002; Chapman and Anderson, 2002; Burnaby, Hass and Abdolmohammadi, 2006; Selim, Woodward and Allegrini, 2009). The new role of the IAF also includes activities such as operational control and corporate governance (Spira and Page, 2003; Arena and Azzone, 2009) which will add value to the organization (Ahlawat and Lowe, 2004).

On the other hand, the collapse of companies in recent years in USA (for example, Enron in 2001 and WorldCom in 2002) have increased the responsibilities of internal control and therefore, led the companies to focus on the importance of IAF by increasing the budgets and staff levels and activities of IAF (Carcello, Hermanson and Raghunandan, 2005) and also to mandate the listed companies requirement of IAF (SEC, 2003).

As a result of IAF role expansion, it has been described as the window into the whole company (Gramling Maletta, Shneider and Church, 2004) and representing an important resource to management in day to day operations (Guner, 2008). Thus, the Institute of Internal Auditors regarded IAF as one of the most prominent mechanisms of corporate governance besides audit committee, executive management, and external auditor which are founded on the model of corporate governance established by the Institute in 2005.

Moreover, IAF's role also includes development and maintenance of firm's system (Walker, 1996), review of the efficiency and effectiveness of internal controls (Fadzil, Haron and Jantan, 2005; Goodwin- Stewart and Kent, 2006), deterring the manipulation of earning by management (Prawitt et al., 2009), fraud investigations (Beasley, Carcello, Hermanson and Lapides, 2000), and assessing compliance with policies, procedures, and legal requirements of the company (Fadzil et al., 2005).

Indeed, there is evidence from prior studies that the existence of the IAF plays a vital role in corporate governance by helping ensure the reliability of

financial reporting. For example, various researchers (e.g., Schneider and Wilner, 1990; Beasley et al., 2000) reported that the existence of the IAF deters fraudulent financial reporting. Additionally, internal auditors are more likely to detect fraud than external auditors (KPMG Peat Marwick, 1999). Likewise, Hansen (1997) found a negative relationship between the existence of the IAF and asset misappropriation. Others, such as Gordon and Smith (1992) and Prawitt et al. (2009) linked IAF with firm performance and earning quality respectively.

Furthermore, researchers (e.g., Wallace, 1984; Felix, Gramling and Maletta, 2001; Ho and Hutchinson, 2010) showed that the work of IAF reduced the cost of external auditor when the external auditors used this work.

To the awareness of the researchers, none of previous studies linked directly between the quality of IAF and audit report lag but some of prior studies examined the relation between the strength of internal control system of the firm and ARL. For example, Ashton et al. (1987) found that the strength of internal control system had negative relationship with audit report lag for the US companies. Likewise, Kinney and McDaniel (1993) found that internal control quality of the firm was one of the factors that influenced ARL.

In addition, Ettredge, Li and Sun (2006) found that firms with material weaknesses (as a proxy of weak internal control system) have longer audit lag than those without material weaknesses (as a proxy of effective control system). To examine the impact of IAF quality on earning management, Prawitt et al., (2009) developed a composite measure of internal audit quality based on external auditing standards. According to external auditing standards (SAS 65, ISA 610), external auditors should take into consideration several factors in assessing IAF competence including professional experience, professional certifications, and training. They use three variables to proxy for these factors (Experience, Certification, and Training). Experience is the average number of years of auditing experience of the internal auditors in the IAF. Certification is the percentage of internal auditors in the IAF who have CIA or CPA or ACPA certification. Training is the average number of hours of training the internal auditors completed during the year.

Additionally, auditing standards require the auditors to evaluate the objectivity of client's IAF due to the importance of IAF objectivity especially in the reliance decision. To proxy for objectivity, they use a dummy variable indicating whether the head of IAF reports to the audit committee (IAF Objectivity = 1) or to management (IAF Objectivity = 0). Likewise, auditing standards require the external auditors to evaluate the nature of work performed by IAF in relation to the financial reporting as it concerns the work of auditors.

To proxy for the degree of IAF focus on financial work, Prawitt et al., (2009) include IAF Time, which is the percentage of internal audit time spent performing financial audits.

Finally, they include IAF Size as an overall measure of the firm's investment in the IAF. IAF Size is computed by dividing the natural log of the number of IAF employees over the natural log of total assets.

To create an overall composite measure of IAF, they dichotomize each variable by assigning a value of 1 to the variable if it is above the median of the sample for the variable, and 0 if it is below the sample median and then summed up the scores of the individual quality components to create IAFQUAL, a composite measure of IAF potentially ranging from 0 to 6. Large IAFQUAL scores indicate IAFs that are of higher quality.

Using Prawitt et al. (2009) composite measurement of internal audit function quality, the current study examines the direct relationship between the overall quality of internal audit function and audit report lag for Jordanian context since there is evidence that the internal auditors in Jordan have implemented, to some extent, internal audit standards (Khrisat, 1993; Shaggor, 2000). In addition, the internal auditors of listed companies in Jordan achieve their internal auditing goals by determining their objectives and information needs before conducting their work (Al-Oroud and Shakar, 2009).

As mentioned previously, the internal audit function is often the party primarily responsible for the day-to-day monitoring of management's action, including those relating to external financial reporting (Prawitt et al., 2009). Therefore, it is expected that the firms with high IAF' quality has less audit report lag than those with low IAF' quality. Thus, the first of the study is as follows:

 $H_1$ : There is a negative relationship between the quality of internal audit function and audit report lag.

# II. Audit Committee and Audit Report Lag

Audit committee plays an important role in relation to monitoring financial reporting (POB 1993). Smith Report states that one of the responsibilities of AC is to "review the significant financial reporting issues and judgments made in connection with the preparation of the company's financial statement" (Smith Report, 2003, p.10). In USA, the Sarbanes Oxley Act (SOX 2002) determines the function of AC as: (1) to supervise the process of financial reporting of the firm, (2) to oversee the financial statement audit of the firm, (3) to ensure the effective internal control system of the firm, and (4) to oversee external auditor's work. Thus, audit committee is seen as a vital part of the

overall corporate governance of the firm and the ultimate monitor of financial reporting (BRC 1999; Klein, 2002).

More importantly, Bedard and Gendron (2010) conclude that AC can enhance information quality directly by overseeing the financial reporting process and indirectly, through their supervision of internal control and external auditing. Moreover, it is argued that the issue of timeliness of financial reporting is important because it is associated with corporate transparency (Abdulla, 2007). However, there are few studies linked between the characteristics of AC and ARL.

Abdulla (2007) is one of the first researchers who examined the effect of the independency of audit committee on ARL for the non-financial companies listed in the main board of Bursa Malaysia for the financial year of 1998 and 2000. The results reported insignificant effect of audit committee independence on ARL. Afify (2009) on the other hand, examined the impact of the existence of audit committee on ARL for the Egyptian listed companies for year 2007. The results reported a significant negative association between the existence of an audit committee and ARL.

Likewise, Mohamad-Nor *et al.* (2010) investigated the impact of audit committee characteristics and ARL in Malaysia for the non-financial companies on the main and second boards of Bursa Malaysia in 2002. They found that two of audit committee's characteristics, namely audit committee size, and audit committee meetings have a significant negative relationship with ARL. The other audit committee's characteristics (audit committee independence, audit committee expertise) have insignificant impact on ARL.

More recently, Hashim and Abdul Rahman (2011) examined the relationship between audit committee's characteristics (independence, meetings, and expertise) and ARL among 288 listed companies at Bursa Malaysia for a three year period from 2007 to 2009. The findings showed that audit committee independence and audit committee expertise had a negative association with ARL in Malaysia. Audit committee meetings on the other hand had no association with ARL.

O'Sullivan et al. (2008) argue that an overall measurement of corporate governance gives strong impact compared to individual effect. Likewise, Nunnaly and Bernstein (1994) state that, "Because constructs concern domains of observables, a better measure of any construct is obtained by combining the results from a number of measures than by taking any one of them individually... similarly, combining several observables provides greater construct validity and scientific generalizability in the domain as a whole relative to a single measure."

Based on the above arguments and the results of previous studies, it is expected that the effectiveness of audit committee (all the members are non-executive, expertise, more meetings) would reduce the ARL. Therefore, the second hypothesi is as follows:

 $H_2$ : There is a negative relationship between the effectiveness of audit committee and audit report lag.

## III. Research Design and Model Specification

Data for this study came from two sources of data; primary and secondary data. Primary data were obtained from the response of internal auditors of listed companies in ASE for the year 2009. Secondary data on the other hand were collected by analysing the audited financial statements of companies from internal auditors that participated in the survey for the year 2009. This data is used to determine the audit report lag and the control variables that affect ARL. Out of 272 companies listed in ASE, a sample of 256 companies is selected, as described in Table 1. 10 companies are excluded due to the absence of IAF while 2 companies disclosed that they fully outsource their IAF and 4 companies do not establish audit committees at year end 2009. Therefore, only 87 auditors questionnaires from the internal were used which represent approximately 34 % of a sample.

Description **Results** Total number of the listed companies in ASE at year end 2009 272 Less: Companies without IAF 10 Companies that fully outsourcing their IAF 2 Companies without AC at the year end 2009 4 Potential respondents for the study 256 Answered questionnaires from internal auditors 87 33.98% Response rate (87/260)

Table 1: Summary of Response Rate

The ARL model used in this study is adapted from prior studies to accommodate the internal auditing and Jordanian environment. We include several control variables which have been found to be associated with audit report lag. These variables are company size (SIZE), auditor type (AUDTYPE), extraordinary items in financial reporting (EXT), type of audit opinion (OPINION), sign of income (LOSS), industry classification (INDUS), and debt ratio (DEBT).

The control variables are based on prior researchers regarding ARL. Researchers (e.g., Henderson and Kaplan, 2000; Ahmed and Kamarudin, 2003; Che-Ahmed and Abidin, 2008; El-Bannany, 2008; Lee et al., 2008; Afify, 2009; Mohamad-Nor et al., 2010; Hashim and Abdul Rahman, 2011) found a negative

association between firm size and ARL. In addition, researchers disputed that the audit delay for firms audited by big audit firms is shorter than for firms which are audited by not big audit firms for various reasons: First, big audit firms utilize additional qualified staff, possess superior technology to complete their audit job earlier compared to smaller firms (Chan, Ezzamel and Gwilliam, 1993; Crasewell, Francis and Taylor, 1995; Hossain and Taylor, 1998; Leventis et al., 2005). Second, big audit firms have specialized experience in auditing listed firms compared to smaller ones, which leads to achieving proficient audit work in less time (Ashton et al., 1989). Third, big audit firms possess strong incentive to enhance the market share in the audit market and sustain their reputation. This will guide them to achieve their work earlier compared to smaller firms (Krishnan, 2005; Leventis et al., 2005; Afify, 2009).

Moreover, Extraordinary items represent material events that are not part of a company's normal operations and therefore, auditors spend more time clarifying these items with the management of the firm which in turn might lead to a longer audit report lag (Jaggi and Tsui, 1999; Owusu-Ansah, 2000). Indeed, studies (e.g., Newton and Ashton, 1989; Bamber et al., 1993; Jaggi and Tsui, 1999; Leventis et al., 2005; El-Bannany, 2008; Lee et al., 2008) examined the relationship between the presence of extraordinary items in financial reporting and ARL. Hence, we expect a positive relationship between the existence of extraordinary items in financial reporting and ARL.

To control the effect of auditor opinion on ARL, we extend prior studies (Ahmed and Kamarudin, 2003; Leventis et al., 2005; Abdullah, 2007; Che-Ahmed and Abidin, 2008; Lee et al., 2008; Mohamad-Nor et al., 2010) who found a positive relationship between qualified auditor opinion and ARL. Likewise, It is argued that when loss is incurred, companies may choose to delay the bad news and may appeal to the auditor to initiate the audit at a later time, thereby allowing the auditor to continue more diligently during the audit process to handle company loss if he conceives that the loss increases the likelihood of financial deficiency or management fraud (Carslaw and Kaplan, 1991). Furthermore, when loss occurs, auditors have to obtain additional substantive evidence which alters the time factor of issuing their report (Afify, 2009).

Accordingly, prior studies (e.g., Ashton et al., 1987; Carslaw and Kaplan, 1991; Bamber *et al.*, 1993; Henderson and Kaplan, 2000; Ahmed and Kamarudin, 2003; Lee et al., 2008; Afify, 2009) found a positive relationship between firm's losses and ARL. Therefore, we expect that when the loss occurs in companies, the audit report will take more time to prepare.

Furthermore, studies (e.g., Ahmed and Kamarudin, 2003; Che-Ahmed and Abidin, 2008; Afify, 2009) found that financial firms have shorter ARL than

firms in other industry classifications. Carslaw and Kaplan (1991) argued that the reason behind the short audit delay for financial firms is due to the financial firms' little or no inventory. Inventory is difficult to audit and represent an area where there is frequent material error. In addition, Ashton et al., (1987) suggest that dollar for dollar, financial assets are easier to audit than non-financial assets. Accordingly, we assume a negative relationship between the financial firms and audit report lag.

Finally, It is a matter of dispute whether the relative proportion of debt to total assets could be indicative of financial health of the company (Carslaw and Kaplan, 1991) and a prominent proportion of debt could result in liquidity or going-concern problems which necessitate more tentative audit (Ahmed and Kamarudin, 2003). Moreover, Che-Ahmed and Abidin (2008) indicated that the amount of long-term debt may also raise the agency cost as suggested by Jensen and Meckling (1976) which leads to the increase of audit efforts and hence, increase in the length of audit engagement. Furthermore, studies (Carslaw and Kaplan, 1991; Ahmed and Kamarudin, 2003; Abdullah, 2007; Lee et al., 2008) showed that firms with a high proportion of debt have longer ARL. Hence, this study adopts the positive effect of debt ratio on ARL. The following is the hypothesize ARL model:

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ARL = \beta0 + \beta1 IAFQUAL + \beta2 ACEFFEC + \beta3 SIZE + \beta4 AUDTYPE + \beta5 EXT + \beta6 OPINION + \beta7 LOSS + \beta8 DEBT + \beta9 INDUS + \varepsilon
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Where:

**ARL**: Audit Report Lag: a number of calendar days from fiscal year- end to the date of the auditor's report

## **Experimental Variables**

**IAFQUAL:** The quality of internal audit function as developed by Prawitt et al. (2009) (obtained from survey questionnaire)

**ACEFFEC:** The overall effectiveness of audit committee that include three (3)characteristics (independence, expertise, meetings), 3 means all the three characteristics more than median of the sample while 0 means all the three characteristics of audit committee lower than themedian

#### **Control Variables**

SIZE: Firm size, natural Logarithm of total assets of the company

**AUDTYPE:** Auditor type, a dummy variable of 1 is assigned to the national audit firm which is affiliated to one of the international big f audit firms and to national audit firms, 0 is assigned.

**EXT:** Extraordinary items in financial reporting, 1 is assigned if the company reports extraordinary items; 0 otherwise.

**OPINION:** Type of audit opinion, a dummy variable of 0 is assigned to th standard or unqualified audit opinion while the rest is assigned 1.

**LOSS**: Sign of income, the companies reporting a loss for year 2009 are assigned 1 and 0 otherwise.

**INDUS:** Client's industry classification, a dummy variable of 1 is assigned where banks, insurance, financial services, and mutual fund's sectors (financial companies) are concerned, while in the industrial and the service sectors (non-financial companies), 0 is assigned.

**DEBT:** Debt Ratio, total liabilities to total assets. Total liabilities refer to the sum of current liabilities and long-term liabilities.

#### IV. Results

### 1. Descriptive Statistics and Correlation Analysis

Table 2 reports the descriptive statistics of all variables investigated in this study. The mean of the number of calendar days from fiscal-year end to date of external auditor's report (ARL) is 51.96 days (standard deviation of 23.44 days) with actual minimum of 13 days and maximum of 97 days. This means that the Jordanian listed companies take approximately 52 days on average beyond their annual reports date before they are finally ready for the presentation of the audited financial reports to the shareholders. Actually, the instructions of JSC require all the listed companies in ASE to provide their annual reports within 90 days from the fiscal year end. This evidence suggests that the ARL may be an important concern for Jordanian listed companies in financial reporting policy.

Comparing to other Arab countries, It is important to mention that the average audit lag of Jordanian companies is shorter than average lag of Egyptian companies (67 days) as reported by Afify (2009) and similar to audit lag in Bahrain (51 days) but longer than average of audit lag in United Arab Emirates (43 days) as reported by Khasharmeh and Aljifri (2010).

Table 2:Descriptive Statistics

Variable	Minimum	Maximum	Mean	Std.Deviation
Audit Report Lag	13	97	51.9655	23.44883
IAF Quality	0	5	2.8046	1.42925
AC Effectiveness	0	3	1.8391	.79055
Firm Size	490704JD	23099491000JD	548685971JD	JD2578906439
Auditor Type	0	1	.3333	.47414
Extraordinary Items	0	1	.1609	.36959
Auditor Opinion	0	1	.0920	.29064
Sign of Income	0	1	.3678	.48501
Debt Ratio	.22	95.75	42.2891	28.05635
Industry Type	0	1	.3448	.47807

For the experimental variables (IAF quality and AC effectiveness), Table 2 showed that the actual maximum value of IAFQUAL is five (5) with an average of 2.80 (standard deviation 1.42) that means the level of quality of IAF

is medium for the entire sample. Likewise, the mean of the overall effectiveness of audit committee (ACEFFEC) is 1.83 from scale spans from zero (0) to three (3). Three (3) means that the three characteristics of audit committee (independence, expertise, meetings) are more than median which reflect high effectiveness, while zero (0) means that all the three characteristics of audit committee is lower than the median of the sample.

For this study, 30 companies (34.5%) are classified as financial companies, while 57 companies (65.5%) are consider as non-financial companies. The average size of the participated companies in the study is 548685971 Jordanian Dinar (with standard deviation of 2,578,906,439 JD). In general, the participated companies are large economically significant entities. Regarding to auditors type, 58 (represent 66.7% of the sample) of the external auditors reports that they do not affiliated to any of the big-four. 29 (33.3%) audit firms of the external auditors on the other hand is affiliated to big-four audit firms.

For the extraordinary items in financial reporting, only 14 companies (represent 16.1% of sample) reports extraordinary items in their financial reports at the year end 2009 while 73 (83.9%) companies reports that they do not have any type of extraordinary items at year end. 78 company (represent 89.6% of the sample) on the other hand have unqualified opinion and just 9 companies (10.3%) with other audit opinion. Further, Table 3 shows the Pearson Correlation among the independent variables in this study. The highest correlation is between the two control variables, firm size and auditor type at .653, which suggests that multicollinearity is not a problem for the regression results.

	(1)	(2)	(3)	(4)	(5)	(6)	<b>(7</b> )	(8)	(9)
IAF Quality (1)	1.000	.497	0.432**	0.355**	-0.138	-0.040	-0.398**	0.235*	0.355**
AC Effectiveness (2)		1.000	0.375	0.300	-0.189	-0.087	-0.359	0.187	0.210
Firm Size (3)			1.000	0.653**	-0.203	-0.041	-0.411**	0.603**	0.569**
Auditor Type (4)				1.000	-0.111	0.028	-0.287**	0.297**	0.513**
Extraordinary Items (5)					1.000	0.402**	0.185	-0.165	-0.318**
Auditor Opinion (6)						1.000	0.170	-0.084	-0.063
Sign of Income (7)							1.000	-0.133	-0.202
Debt Ratio (8)								1.000	0.414**
Industry Type (9)									1.000

Table 3: Pearson Correlation Matrix

#### 2. Multivariate Analysis

Table 4 shows the multiple regression results. As seen from Table 4, the model explains 44.3 % of the variation in ARL. In general, the model is significant (F = 8.590) (Sig F = 0.000). For the relationship between the overall

<sup>\*</sup>correlation is significant at the 0.05 level

<sup>\*\*</sup> Correlation is significant at the 0.01 level

quality of IAF and ARL, the direction of this relationship is negative and significant at 1 % ( $\beta$  = -.423, t = -4.183, P = .000). This result indicates to the strength of the relationship between IAF Quality and ARL. This means that companies with high IAF' quality have less ARL than those with low quality of IAF. This result supports the first hypotheses of the study.

For the relationship between AC effectiveness and ARL, the result suggests negative and significant association at 5% ( $\beta = -.228$ , t = -2.352, P = .021). This suggests that companies with an effective audit committee have a lower audit lag.

Table 4: OLS Regression Results: The Impact of IAF Quality and AC on ARL

Variable	Expected	В	Std.	T	P	Tolerance	VIF
	Sign		Error	Value	value		
Constant			25.590	3.828	0.000		
IAF Quality	-	423	1.658	-4.183	0.000	0.634	1.577
AC Effectiveness	-	228	2.875	-2.352	0.021	0.864	1.450
Control variables							
Firm Size	-	118	3.756	829	0.409	0.319	3.135
Auditor Type	-	.116	5.548	1.483	0.142	0.515	1.942
Extraordinary Items	+	103	5.950	-1.096	0.276	0.737	1.357
Auditor Opinion	+	.224	7.211	2.505	0.014	0.811	1.233
Sign of Income	+	.148	4.621	1.551	0.125	0.709	1.410
Debt Ratio	+	.166	.088	1.581	0.118	0.588	1.700
Industry Type	-	149	5.256	-1.391	0.168	0.564	1.772

DV= ARL  $R^2 = .501$  Adjusted  $R^2 = .443$  F-Ratio = 8.590 Sig F = .000

In regards to the effect of control variables on audit report lag, Table 4 exhibits that only auditor opinion (OPINION) has significant positive associations with ARL, while sign of income (LOSS), debt ratio (DEBT), and industry classification (INDUS), company size (SIZE), auditor type (AUDTYPE), and extraordinary items in financial reporting (EXT) have no significant effect on ARL.

This study confirms that firms that did not receive unqualified audit opinions took longer time to issue their audited financial statement compared to the others who received standardized audit opinion (unqualified). The positive relationship between auditor opinion (qualified opinion) and ARL is consistent with the results of most previous studies (Ahmed and Kamarudin, 2003; Leventis et al., 2005; Abdullah, 2007; Che-Ahmed and Abidin, 2008; Lee et al., 2008; Mohamad-Nor et al., 2010).

The multivariate analysis also suggests that audit report lag is not different among all sizes that measured by natural logarithm of the total assets of the firms. In other words, the size of audit client's firm does not contribute on the reduction of audit report lag. The result of our study is consistent with the

findings of other studies (e.g., Givoly and Palman, 1982; Khasharmeh and Aljifri, 2010) who reported insignificant effect of firm's size on ARL. Similarly, the classification of auditor type to big or non-big four has no significant impact on ARL in Jordan. However, Nasser and Al-Khatib (2000) argued that firms audited by big audit firms in Jordan are likely to publish high quality information. The result of this study did not support arguments related to the timeliness of financial reporting. Nevertheless, this result is in line with the results of other studies that were conducted in the Arab world. For example, Afify (2009) and Khasharmeh and Aljifri (2010) found that the auditor type did not affect ARL in Egypt, Emirates and Bahrain respectively.

Further, ARL did not differ for companies with extraordinary items in their financial statements and those without. This result is consistent with the findings of previous studies (e.g., Ahmed &Kamarudin, 2003; Henderson and Kaplan, 2000) that reported insignificant effect of the existence of extraordinary items in financial statement on ARL.

In relation to the debt ratio, the results showed that the proportion of total liabilities to total assets has positive but insignificant association with ARL. Finally, although studies (e.g., Ahmed and Kamarudin, 2003; Che-Ahmed and Abidin, 2008; Afify, 2009) revealed that ARL for financial companies is shorter than non-financial companies. The classification of companies to financial and non-financial has insignificant effect on the timeliness of financial reporting for the Jodanian context. The plausible explanation for insignificant effect of industry classification on ARL that most of companies (65.5% of a sample) that participated in the study are classified as non-financial companies, while only 30 companies (34.5% of a sample) are classified as financial companies.

## V. Additional Analyses

In this section, we conduct two additional analyses to explore the effect of individual characteristics of internal audit function and audit committee on ARL. In the first additional analysis, we run the results for Table 4 using the individual components of IAF quality in place of a composite IAF Quality measure as developed by Prawitt et al. (2009). As mentioned previously, the individual components of internal audit function quality are IAF experience (IAFEXP), certification (IAFCERT), training (IAFTRAIN), objectivity of IAF (IAFOBJ), time (IAFTIME) and size (IAFSIZE).

Table 5 displays that the model is still significant (F= 6.331 Sig F = 000) and adjusted  $R^2$  increased to 46.5% comparing to the original model and the association between overall AC Effectiveness and ARL is still significant and negative (t= -2.865, P= .006). For the individual impact of IAF Quality on ARL,

Table 5 shows that IAF certification has a negative and significant association at 5 % with ARL. This result indicates that companies with high percentage of internal auditors with professional certifications such as CIA, CPA, and ACPA have shorter ARL. Nevertheless, this result is in line with the findings of Prawitt et al. (2009) who reported a negative association between IAF Certification and financial reporting quality as measured by earning management. Furthermore, internal audit training (IAF Training) also has a negative and significant association at 5 % with ARL. The other four IAF characteristics do not contribute to the reduction of companies' ARL among listed companies in ASE.

For the effect of control variables on ARL, auditor opinion (OPINION) has significant and negative association with ARL as in original model. Furthermore, the percentage of total assets to total liabilities (Debt Ratio) has a significant and positive impact on ARL at 10 % (t = 1.853, P = .068). This result indicates that the companies with a high debt ratio have longer audit lag. As in original model, the size of firms, auditor type, extraordinary items, sign of income, and industry type have insignificant relationship with ARL.

In the second additional analysis, we run the results for Table 4 with AC independence, AC expertise, and AC meetings instead of AC effectiveness. As seen from Table 6, the Model is significant (F = 8.037, Sig F = 0.000) and adjusted  $R^2$  slightly increased to 47.4%. In relation to the impact of AC characteristics on ARL, the results reported a significant negative association between only the number of AC meetings held during the year and ARL (t = 3.324, P = .001). While the independence of AC and proportion of expertise members in AC has insignificant impact on ARL among listed companies in ASE.

In regards to the control variables, only auditor opinion (OPINION) has significant positive impact on ARL. While the remaining variables have insignificant association with ARL

Table 5:OLS Regression Results: The Impact of Individual Characteristics of IAF Quality on ARL

Variable	Expected B		Std.	T	P
	Sign		Error	Value	Value

Constant			26.692	3.324	0.001
IAF Experience	-	120	4.069	-1.381	0.172
IAF Certification	-	276	5.225	-2.539	0.013
IAF Training	-	199	4.057	-2.296	0.025
IAF Objectivity	-	.080	4.153	0.912	0.365
IAF Time	-	143	4.382	-1.542	0.127
IAF Size	-	146	4.814	-1.420	0.160
AC Effectiveness	_	276	2.872	-2.856	0.006
Control					
Firm Size		076	3.905	-0.510	0.612
Auditor Type		.160	5.691	1.395	0.167
Extraordinary Iter	ms	088	5.905	-0.948	0.346
Auditor Opinion		.218	7.178	2.451	0.017
Sign of Income		.085	4.911	0.834	0.407
Debt Ratio		.169	.089	1.853	0.068
Industry Type		145	5.451	-1.304	0.196
DV= ARL R <sup>2</sup> =	$4.552  \text{Adjusted } R^2 = .4$	465 F-Ratio	= 6.331	Sig F =.000	

Table 6:OLS Regression Results: The Impact of Individual Characteristics of AC Effectiveness on ARL

Variable	Expected B Sign		Std. Error	T value	P Value	
	Sign					
Constant			39.704	3.365	.001	
IAF Quality	-	409	1.679	-3.993	.000	
AC Independence	-	095	.321	-1.136	.260	
AC Expertise	-	081	.128	-0.831	.408	
AC Meetings	-	285	.657	-3.324	.001	
Control						
Firm Size	-	091	3.661	-0.653	.516	
Auditor Type	-	.135	5.429	1.231	.222	
Extraordinary Items	+	125	6.000	-1.318	.192	
Auditor Opinion	+	.239	7.129	2.699	.009	
Sign of Income	+	.148	4.526	1.582	.118	
Debt Ratio	+	.146	.087	1.401	.165	
Industry Type	-	104	5.203	985	.328	

DV= ARL Adjusted  $R^2 = .474$ F-Ratio = 8.037Sig F = .000

#### VI. Conclusion

This paper investigates the effect of internal audit function quality and the effectiveness of audit committee on audit report lag. We use a composite measurement of audit committee and internal audit function. The results are consistent with our expectation that IAF quality is associated with reduction of audit report lag of the listed companies in Jordan. Likewise, the effectiveness of audit committee contributes to the reduction of audit report lag among listed companies in Jordan. These results provide evidence about the importance of internal audit function and audit committee in reducing audit lag among listed companies in Jordan. Hence, companies have to explore ways to improve the function of internal auditing and audit committee and to support these mechanisms with the necessary resources to improve its work. Furthermore, regulators of the companies in Jordan such as Amman Stock Exchange (ASE), Jordan Securities Commission (JSC) have to mandate all the listed companies to

have an effective internal audit function, particularly because there is no clear law mandating the listed companies to have internal audit function.

This study subjects to several limitations. Since this study relies on the response of internal auditors and the annual reports of the participated companies, this leads to sample size problem. Although 87 observations are enough for the statistical analysis such as multiple regression, a larger sample size would have been favorable for the generalization of the results of the study. Secondly, the present study's inclusion of only the listed companies that fully in-house the function of internal auditing and thus, excluding those companies outsourcing or co-sourcing their IAF. Finally, this study used primary and secondary data; it covered only one year because it is difficult to obtain information relating to previous years through questionnaire. For future research avenues, a possibility is to examine a relationship between internal audit function and audit report lag for companies which fully in-house their IAF and companies that outsourcing or co-sourcing their IAF. Future research can also investigate the impact of other corporate governance mechanisms (such as board of directors and audit committee) on audit report lag for a longer period such as five or ten years.

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