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AN EMPIRICAL ANALYSIS OF AUDIT DELAYS AND TIMELINESS OF CORPORATE FINANCIAL REPORTING IN KUWAIT

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Abstract: This paper analyzes the factors that affect delays in the signing of audit reports. Audit delays are measured by the number of days that elapse from the end of the financial year until the date when the auditor report is signed. Previous studies of audit delays in various countries are reviewed, along with some of the results of the variables that were tested. This study focuses on 149 and 177 companies listed on the Kuwait stock market in 2006 and 2007, respectively. Six explanatory variables are tested to investigate delays in issuing audit reports. The results show that company size is the only variable that negatively correlates with audit delay in the period tested. The variables industry classification, leverage, percentage change in earning per share, type of auditors, and liquidity show no significant correlation with audit delays for listed companies in Kuwait. Liquidity, leverage, and type of auditors are negatively correlated with audit delay in 2006 for the first two variables and in 2007 for the type of auditors. Future research would consider other variables such as other interpretation of company size, ownership concentration, quality of internal control, direction of income or loss, and the mix of audit work

Keywords: Audit delay, financial reporting, company size, liquidity, and earnings per share

1. Introduction

The audit is the prescribed process by which the reliability of company financial information is established for users making various decisions. The timing of corporate financial reporting is an important element in users' decision making. Researchers have found that this timing is likely to affect the stock market and stock prices. For example, firms that announce their earnings late are more likely to have low stockholder returns than those that announce their earnings early (Givoly and Palmon, 1982; Chambers and Penman, 1984; Kross and Schroeder, 1984). Some studies have also found that the completion of an audit task by a date determined by a client or regulatory body may affect the quality of an audit engagement (DeAngelo, 1981; Carcello *et al.* 1992). Auditors are required to complete their work within the filing deadlines identified by the company's management; however, there is always a time gap between the end of the fiscal year and the date the audited information is publicly released. The issue of timely reporting has received attention in U.S. markets, and modifications in reporting deadlines there changed in 2005 from 90 days

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after the financial year-end to only 60 and 75 days (SEC, 2002b and Lambert *et al.* 2010).

Listed entities on the Kuwait stock market must submit audited annual reports to regulatory authorities (i.e., the Ministry of Commerce and Industry, Kuwait Stock Exchange, and Central Bank of Kuwait) no later than 90 days from the company's year-end financial statements. These audited statements are provided to government authorities electronically as well as in hard copy. Quarterly reviewed financial statements must be made available to investors by all companies listed on the Kuwait stock market. The government of Kuwait aims to ensure that information provided to investors in the Kuwait stock market is provided efficiently. In Greece, Leventis *et al.* (2005) found a wide range in the time between the financial year-end and the audit report date, with the shortest time being 30 days and the longest being 158 days (close to the legislative limit of 160 days at that time); the average audit delay was 98 days. This study found that in the Kuwaiti financial market, audited financial information was made available to the public in average 57 and 62 days during 2006 and 2007, respectively. These findings show, in average, a shorter audit delay period compared with Spain 85.5 days (Bonson-Ponte *et al.* 2008), Greece 98 days (Leventis *et al.* 2005), and Hong Kong 109 days (Ng and Tai, 1994).

The objective of this study is to analyze the determinants of audit delay in a developing country and to extend prior research in this area. First, this is the first study to analyze the determinants of audit delay in Kuwait, which is one of the countries in the Middle East with active stock market (other than the study prepared by Al-Ajmi (2008) in Bahrain). A model is developed for this study using independent and dependent variables to test the significance of factors behind audit delays in the Kuwait stock market. Second, this study identifies the determinants of audit delay in order to help regulatory authorities, company management, and auditors reduce the existing gap and improve stock market efficiency (Leventis *et al.* 2005). Third, this study includes the year 2006, in which a change in the International Financial Reporting Standards (IFRS) occurred that affected the preparation of periodic financial statements by listed entities on the Kuwait Stock Exchange. Finally, this study analyzes the time delay of the audit report in a developing country to enhance the body of literature in this respect and explain the main differences determining audit delays in developing countries as opposed to developed countries.

This study tests the relationship between length of audit delay and company traits such as size, industry classification, leverage, percentage change in earning per share, liquidity, and auditor type. The results show that audit delay time is negatively related to company size as measured by total assets. However, no significant relationships are found between audit delay and the remaining variables for both 2006 and 2007. Liquidity, leverage, and type of auditors are negatively correlated with audit delay in 2006 for the first two variables and in 2007 for the type of auditors.

The structure of this paper is as follows. Section 1 reviews prior research on audit timeliness and delay. Section 2 describes accounting and

auditing profession in Kuwait. Section 3 presents the methodology and variables used in this study. Section 4 explains the results of this test, including statistics and regressions for the test sample. Section 5 presents the conclusions, and notes the limitations of this study along with recommendations for future research.

2. Literature Review

The effect of audit delay on investors' decisions has motivated numerous researchers to investigate factors affecting that delay. Most studies have focused on markets in large developed countries such as the United States, Canada, Australia, Hong Kong, New Zealand, and China (Courtis, 1976; Gilling, 1977; Davis and Whiltred, 1980; Garsombke, 1981; Ashton *et al.* 1987; Ashton *et al.* 1989; Carslaw and Kaplan, 1991; Ng and Tai, 1994; Simnett *et al.* 1995; Jaggi and Tsui, 1999; Wang and Song, 2006). The issue of the audit delay is important because, as Knechel and Payne (2001) indicate, the informative value of audited financial statements decreases proportionately as the number of days it takes to obtain audit report signatures increases, because users will seek information from alternate resources. Moreover, audit delay adversely affects the timeliness of financial reporting (Ashton *et al.* 1987).

The association between audit delay and factors affecting that delay was studied by researchers including Givoly and Palmon (1982), Imam *et al.* (2001), Leventis *et al.* (2005), and Al-Ajmi (2008). Based on descriptive statistics, Courtis (1976), Gilling (1977), Davis and Whittred (1980), Garsombke (1981), Ashton *et al.* (1987), Ashton *et al.* (1989), Ng and Tai (1994), Jaggi and Tsui (1999), and Al-Ajmi (2008) all found that audit delay is shorter for large companies. Courtis (1976) also found that firms with the shortest audit delays often report higher income levels. He also found that financial firms have shorter audit delays than non-financial firms. Gilling (1977) found a negative relationship between audit delay and the size of the audit firm. Davis and Whittred (1980) found that companies with a June 30 year-end and companies with qualified audit-opinions had longer audit delays. Garsombke (1981) found longer delays for U.S. firms with a January through March year-end. In addition, Givoly and Palmon (1982) examined the multivariate relationship between audit delay and three audit-related variables: company size, operational complexity, and internal control quality. Size was expressed as the logarithm of sales. Two measures of operational complexity were employed: the ratio of inventory to total assets, and the average growth rate of sales over a five-year period. Using regression analysis, only the ratio of inventory to total assets was significant explanatory of audit delay and in only one year, 1973.

In the United States, Ashton *et al.* (1987) investigated multivariate relations between audit delay and 14 variables from 488 U.S. clients of Peat, Marwick, Mitchell & Co. for 1981–1982 from six industries. The variables were total revenue; industry classification; public or nonpublic classification; month of fiscal year-end; quality of internal controls;

operational, reporting, financial, and electronic data-processing complexity; relative of audit work performed at interim and final dates; number of years company had been a client of P. M. Mitchell; current-year net income; ratio of net income or loss to total assets; and type of audit opinion. Ashton *et al.* found five significant variables: revenue, quality of internal controls, operation complexity, relative of audit work performed at interim and final dates, and public or nonpublic classification. The developed model explains 26.5% of cross-sectional audit delay.

In a later study, Ashton *et al.* (1989) examined the relationship between audit delay and eight independent variables for 465 public Canadian companies during 1977–1982, representing 79.1% of the population. The results from cross-sectional multiple regressions showed that four variables (client industry, the type of audit opinion, reporting of extraordinary items, and the sign of net profit for the year) significantly affected the length of audit for at least four of the six years studied. The variables of client industry and existence of extraordinary items on the audit tested as significant in all six years. The loss tested as significant in five years and audit opinion, in four years. The other three variables (total assets, month of fiscal year-end, and audit firm size) tested as significant for three or fewer years but they had consistent signs in every year. The only variable that showed a weak significance and inconsistent signs was disclosure of contingency. No significant relationship was found between percentage change in earnings per share and audit delay.

Furthermore, Carslaw and Kaplan (1991), using seven variables of the model employed by Ashton *et al.* (1989), in addition to company ownership and debt proportion, investigated variables affecting audit delay for 245 firms for 1987 and 206 firms for 1988 in New Zealand. Only company size and income (loss) significantly affected audit delay across both years. The results also showed that four variables (debt proportion, company ownership, extraordinary item, and industry classification) were significant in one year but not in both years. The R^2 level calculated in this study exceeded the level reported by Ashton *et al.* (1989), indicating more association between the variables and audit delay.

At the same time, in Hong Kong, Ng and Tai (1994), using multivariate regression analysis, examined the relationship between ten variables and length of audit delay in 292 companies for 1991 and 260 companies for 1990. Seven variables were taken from the Ashton *et al.* study (1989), and three variables—degree of diversification, change of auditor, and principal subsidiaries/joint ventures located in China—were added. Two variables—company size and degree of diversification—tested as significant over a period of two years. Two more variables—extraordinary items and month of year-end—tested as significant in one year. These results suggest that audit delay may depend on factors that have yet to be identified in the model tested. Simnett *et al.* (1995) employed a multivariate analysis examining the relationship between audit delay and ten explanatory variables on Australian companies listed on the Australian Stock Exchange during 1981–1989. Three variables (profit, audit opinion,

and timing of the year-end) were found to be significant for from 3 to 6 years. Hossain and Taylor (1998) examined the relationship between audit delay and seven explanatory variables in 103 non-financial companies listed on the Karachi Stock Exchange in Pakistan for the year 1993. Regression results indicated that only variable—subsidiaries of multinational companies—had a significant negative effect on audit delay.

Jaggi and Tsui (1999) examined the relationship between audit delay and auditor business risk and audit-firm technology in 393 Hong Kong companies during 1991–1993.They used financial condition and family-owned and controlled companies as measures for auditor business risk. They also used the structured audit approach as a measure for audit-firm technology. Regression results found a positive relationship between audit delay and financial risk index. The results also suggested that family-owned and controlled companies have shorter audit delays and companies audited by audit firms using the structured audit approach have longer audit delays. This is due to the longer audit process associated with the structured audit approach and the need to ensure the reliability of audit opinion as well as the proper documentation of audit results.

At the same time, Iman *et al.* (2001) conducted a study on 115 companies listed on the Bangladesh Stock Exchange for the year 1998. They examined the association between audit delay and an audit firm's association with international firms. The results found that audit firms associated with international firms have longer audit delays. This is likely due to the requirements placed on CPA firms by the Institute of Chartered Accountants of Bangladesh and the Security Exchange Commission; these firms audit most of the listed companies to ensure full compliance with statutory requirements and local accounting practices (Iman *et al.* 2001). Ahmad and Kamarudin (2003) examined determinants of audit delay in Malaysia using a sample of 100 companies listed on the Kuala Lumpur Stock Exchange for the years 1996–2000. Regression results showed that six out of eight variables were significantly associated with longer audit delays. These variables were non-financial industry, receive other than unqualified audit opinion, financial year-end other than December 31, audited by a non–Big Five firm, negative earnings, and have higher risk. Also, Leventis *et al.* (2005) examined the relationship between audit delay and 13 explanatory variables from a sample of 171 companies that were listed on the Athens Stock Exchange as of December 31, 2000. They found that the following variables were all significantly associated with audit delay: type of auditor, audit fees, number of qualifications in audit report, presence of extraordinary items in the profit and loss account, and expression of uncertainty in the audit report. Also, Bonson-Ponte *et al.* (2008) found that during their four periods of study from 2002 to 2005, the regulatory pressures and company size influenced when the auditor report was signed. Finally, Al-Ajmi (2008) studied the effect of seven variables on audit delay in a sample of 231 financial and non-financial firms listed on the Bahrain Stock Exchange over the period 1992–2006. Using multivariate analysis, he found that three variables—company size, profitability and

leverage—had significant effects on audit delay. No evidence was found about the relationship between audit delay and accountancy complexity or audit type:

Because of the resources that are available to large companies and political pressure exercised on them by different stakeholders, big firms tend to have shorter audit delay periods, which leads to early release of annual reports to the public. Additionally, good and bad news are factors that determine the audit delay period. As a result, this information probably adds value to investors, who can incorporate it in their investment decision process, so investors demand early announcements of financial results. Early publication will signal positive news about companies' performance, and vice versa. Furthermore, it is found that highly leveraged firms tend to delay publication of their annual reports. (Al-Ajmi, 2008, p.9) Al-Ajmi indicated that strong regulations in Bahrain affects audit delay; for example, companies that fail to report within the legal period are usually suspended from trading.

While these studies on audit delay share many similarities, they also present peculiarities that differentiate them. While a number of studies concentrated on the connection between company characteristics and audit delays (e.g., Courtis, 1976; Givoly and Palmon, 1982; Davis and Whittred, 1980; Garsombke, 1981), others examined audit delays in relation to characteristics and opinions issued by local or international audit firms (e.g., Ashton *et al.* 1987 and 1989; Carslaw and Kaplan, 1991; Ng and Tai, 1994; Leventis *et al.* 2005; Al-Ajmi, 2008). Studies in various countries showed differences with respect to time-period tested, methodology, variables chosen, and findings obtained from samples tested. Table 1 summarizes the findings of prior research studies.

3. The Accounting and Auditing Profession in Kuwait

This study contributes to the body of research on audit delay and its determinant factors. Companies listed with the Kuwait Stock Exchange are selected for the test sample. Kuwait is a developing Arab country with an Islamic culture. Before 1960, auditing services in Kuwait were provided by foreign auditing firms, and joint stock companies voluntarily prepared their financial reports (Al-Hajeri, 1992; Malallah, 1984). The first attempt to regulate the auditing profession in Kuwait occurred when the Ministry of Commerce and Industry issued Law No. 6 in 1962, which was amended by Law No. 5 in 1981.The amended law identifies the conditions for auditor registration with the Ministry, as well as auditor responsibilities and penalties for violating the law (Al-Shammari *et al.* 2008). Among the qualifications required for auditor registration are; a bachelor's degree in accounting, at least seven years of experience auditing banks or insurance or investment companies and at least five years of experience auditing other industries, Kuwaiti citizenship, at least 25 years of age, and successful passage of the Ministry of Commerce and Industry auditing exam.

Table 1. Analysis of previous studies

Author (year)	Sample	Variables	Conclusions
Courtis (1976)	New Zealand (204 listed companies; 1974)	Corporate size; Age (number of annual general meetings held by the entity as a public company); Number of shareholders; Pagination length of the annual report	-Time employed in auditing causes loss of timeliness.
Gilling (1977)	New Zealand (187 listed companies; 1976)	Activities and attributes of the auditor	-Leading auditing firms work faster for larger client companies.
Ashton *et al.* (1987)	USA (488 companies; 1982)	Total revenue for current year; Industry classification; Public/nonpublic company; Month of financial year-end; Quality of internal controls; Complexity of operations; Financial complexity; Complexity of electronic data processing; Reporting complexity; Mix of audit work; Number of years company has been client; Sign of net income; Current year net income or loss/total assets; Type of audit opinion	-Audit delay is positively related to total revenues and operational complexity, and is negatively related to public/nonpublic company, quality of internal controls, and relative mix of audit work. -The average audit delay was 62.5 days.
Ashton *et al.* (1989)	Toronto (465 listed companies; 1977–1982)	Company size; Industry; Month of year-end; Sign of net income; Type of audit opinion; Extraordinary items; Contingencies; Audit firm	-Industry and extraordinary items are significant for 6 of 8 years studied. -The average audit delay was 55 days in each year.
Carslaw and Kaplan (1991)	New Zealand (263 and 239 public companies; 1987 and 1988)	Company size; Industry; Income (LOSS); Extraordinary Item; Audit opinion; Auditor; Company year-end; Company ownership; Debt proportion	-Audit delay is inversely related to size and losses were related significantly to audit delay. -The average audit delay was approximately 88 days for 1987 and 95 days for 1988.
Ng and Tai (1994)	Hong Kong (292 and 260 listed companies; 1990 and 1991)	Company size; Industry; Income (LOSS); Extraordinary item; Audit opinion; Auditor; Company year-end; Company ownership	-Audit delay is inversely related to size and directly related to degree of diversification. -The average audit delay was 109.6 days for 1990 and 109.4 days for 1991.
Simnett *et al.* (1995)	Australia (2243 observation; 1981–1989)	Profit; Audit opinion; Long of year end; Company size; Industry	-The average audit delay range was approximately 79 to 94 days for the period 1981-1989.
Hossain and Taylor (1998)	Pakistan (103 listed companies; 1993)	Company size; Debt-equity ratio; Profitability; Subsidiaries of multinational companies; Audit firm size	-Audit delay is inversely related to multi-national connections (subsidiaries of multinational companies). -The average audit delay was 4.77 months.
Jaggi and Tsui (1999)	Hong-Kong (393 listed companies; 1991–1993)	Audit firm business risk; Financial condition; Family ownership controlled; Audit firm technology company; structured audit approach	-Positive relationship between audit delay and audit firm business risk and audit firm technology and family-owned and controlled companies have shorter audit delays. -Average audit delay 105.88 days.

Table 1. (continued)

Iman *et al.* (2001)	Bangladesh (115 companies; 1998)	CPA firm association with individual CPA firms	-Audit delay is positively related to CPA firm with internal CPA firm (5.86 months)
Ahmad and Kamarudin (2003)	Malaysia (100 listed companies; 1996–2000)	Company size, Industry; Sign of income; Extraordinary item; Audit opinion; Auditor; Company year-end; Debt proportion	-Audit delay is positively related to sign of income, audit opinion, and debt proportion, and negatively related to industry, auditor, and company year-end. -The average audit delay was more than 100 days for the period 1996-2000.
Leventis *et al.* (2005)	Athens (171 listed companies; 2000)	Type of auditor; Number of remarks; Audit fee per hour; Company size; Ownership concentration; Profitability; Gearing; Number of subsidiaries; Industry; Uncertainty in audit report; Other auditor; Auditor change	-Audit report lag is positively related to extraordinary items, number of remarks, and uncertainty in audit report, and negatively related to type of auditor and audit fee per hour. -The average audit delay was 98 days.
Bonson-Ponte *et al.* (2008)	Spain (all Spain-listed companies; 2002–2005)	Company size (Base 10log), Auditor qualifications, Relative size to total sector, Change in regulations	-Audit delay is inversely related to regulatory pressures and relative size. -The average audit delay was 85.5 days
Al-Ajmi (2008)	Bahrain (231 listed companies; 1992–2006)	Company size, Profitability, Leverage , Political Pressure , Good and bad news, Accountancy complexity & Audit type	-Audit delay is affected by three variables: Company size, profitability, and leverage.

The Kuwait Accountants and Auditors Association (KAAA) was formed in 1973 to develop a culture of expertise in the field of accounting by conducting research studies, providing consulting and exchange experiences in accounting and auditing, and advancing professional specialization. In 2006, the KAAA was authorized by the Ministry of Commerce and Industry to monitor auditor compliance with 24 revised articles of the code of professional conduct, issued by the International Federation of Accountants (IFAC), and to report any violations to the undersecretary of the Ministry of Commerce and Industry. There is no formal court cases involving auditors and shareholders charged with negligence or other wrongdoing in Kuwait (Al-Shammari *et al.* 2007). In Kuwait, auditors are not allowed to assume positions that may conflict with their auditing responsibilities. Prohibited positions include consulting in a field other than accounting, promoting new business enterprises, bookkeeping or preparing final accounts and balance sheets, advertising, or attempting to obtain a job by any means that would breach the dignity of the profession (Article 20 of the Law No. 5 for 1981).

In addition, the KAAA organizes seminars and provides review courses for the independent auditor's exam. However, the KAAA does not have regulatory power to set accounting and auditing standards (Al-Shammari *et al.* 2008). In 2008, Law No. 5 (1981) was amended to require

that all company financial statements be audited according to the International Standards on Auditing (ISA).

4. Methodology

4.1. Audit Delay Model

This study analyzes the relationship between audit delay and six variables among all companies listed on the Kuwait Stock Exchange in the years 2006 and 2007. The six variables are company size, percentage change in earnings, industry classification, audit firm size, debt proportion to total assets, and liquidity. Five variables taken from previous studies of audit delay (i.e., Ashton *et al.* 1987 and 1989; Carslaw and Kaplan, 1991; Ng and Tai, 1994; Hossain and Taylor, 1998; and Ahmad and Kamarundin, 2003) are tested. On additional variable (liquidity) is introduced for possible explanation of audit delay. Table 2 presents the variables tested in this study for their effect on audit delays.

Table 2. Definitions of explanatory variables and expected signs

ASST (-)	Company size measured by total assets of company.
∆EPS (-)	Percentage change in earning per share from last year.
IND (+)	Industry classification: non-financial industries are assigned a 1; financial industries are assigned a 0.
AUD (-)	Big 4 auditing firms are assigned a 1; other auditing firms are assigned a 0.
QUICK (-)	Liquidity is measured by the ratio of the company's current assets (less inventories) to current liabilities.
LEV (+)	Debt proportion is measured by the ratio of total debts to total assets.

4.1.1. Company Size (ASST)

Numerous researchers (Courtis, 1976; Gilling, 1977; Davis and Whittred, 1980; Garsombke, 1981; Ashton *et al.* 1987; Ashton *et al.* 1989; Carslaw and Kaplan, 1991; Ng and Tai, 1994; Jaggi and Tsui, 1999; Al-Ajmi, 2008) found a negative relationship between company size and audit delay. Total assets are used in this study to measure the relationship between company size and audit delay. It is hypothesized that a negative relationship between company size and audit delay will be found, as large companies may not require longer audit delays. Large companies have strong internal control systems and better qualified personnel that enable auditors to rely more on interim testing of transactions rather than on substantive tests of year-end balances. Moreover, large companies may be under greater external pressure to publish their reports, requiring intensive negotiation with auditors to complete their job as early as possible.

4.1.2. Percentage Change in Earning Per Share (∆ EPS)

The ∆EPS can be used as a sign that determines whether the interim announcements made by listed Kuwait entities contain bad or good news. Prior studies have found that companies with good news release their information earlier than companies with bad news (Courtis, 1976; Givoly and Palmon, 1982; Carslaw and Kaplan, 1991; Ng and Tai, 1994; Simnett *et al.* 1995; Al-Ajmi, 2008). Management might choose to delay an audit report containing bad news by starting the audit later than usual and responding more slowly to auditor inquiries about accounting modifications, especially if auditors believe that losses reflect financial failure or management fraud. Those firms with a decrease in ∆EPS in the current year are expected to have longer audit delays.

4.1.3. Industry Classification (IND)

Companies listed on the Kuwait Stock Exchange are classified in seven categories that have been divided into two groups in this study: financial and non-financial companies. Based on prior studies, audit delays for financial companies are shorter than audit delays for non-financial companies (Courtis, 1976; Ashton *et al.* 1987 and 1989; Carslaw and Kaplan, 1991; Ng and Tai, 1994). One of the causes of longer delay for non-financial companies was the existence of non-financial assets in the non-financial companies that take more auditing time than financial assets. Thus, industries are classified in two groups, financial companies, which are assigned a 0, and non-financial companies, which are assigned a 1.

4.1.4. Audit Firm Size (AUD)

It is hypothesized that the length of audit will be affected by the size of the audit firm. Big audit firms are expected to complete audits more efficiently and in less time and than non-big audit firms. Some studies found no difference in audit delay between big and non-big audit firms (Garsombke, 1981; Carslaw and Kaplan, 1991; Ng and Tai, 1994; Al-Ajmi, 2008). Other studies found differences in audit delay between big and non-big firms (Gilling, 1977; Davis and Whittred, 1980; Ashton *et al.* 1987; Ashton *et al.* 1989). The Kuwait Stock Exchange requires listed companies to publish audit reports signed by two auditing firms. This study classifies audit firms into Big Four (the international auditing firms: KPMG, Ernst and Young, Deloitte, and Price Waterhouse) and non-Big Four auditors (non-Big Four international auditing firms). The Big 4 audit firms are assigned a 1 and the non-Big 4 audit firms are assigned a 0.

4.1.5. Liquidity (QUICK)

A liquidity ratio has been used frequently as an explanatory variable for audit pricing (Al-Harshani, 2008; Naser and Nuseibeh, 2007), but it has not

been used for audit delay. Liquidity is viewed as an indicator of company ability to pay current liabilities. Creditors, financial institutions, and other lending parties depend on this ratio to make credit decisions. Since there is a risk involved in performing an audit of accounts related to liquidity, it is hypothesized that there will be a negative relation between audit delay and this ratio. A high-liquidity ratio means a greater ability to pay current liabilities on time and indicates a strong, healthy financial condition. Less auditing time is needed for these accounts, which results in shorter audit delays. Liquidity is measured by the ratio of current assets (less inventories) to current liabilities.

4.1.6. Debt to Total Assets (LEV)

The debt/total assets ratio is a signal of a company's ability to meet maturing obligations; thus, like liquidity, it is an indicator of a company's financial health. Prior studies have found a positive relationship between audit delay and the debt to total assets ratio (Carslaw and Kaplan, 1991; Owusu–Ansah, 2000; Boonlert-U–Thai *et al.* 2002; Conover *et al.* 2008; Al-Ajmi, 2008). It is hypothesized that audit delay will be associated positively with debt to total assets ratio. A high ratio means a high possibility of risk of bankruptcy or management fraud, resulting in an increase in the time auditors need to complete their substantive tests of transactions.

5. Results and Discussion

5.1. Descriptive statistics

Audited annual reports for companies listed on the Kuwait Stock Exchange during 2006–2007 are used to test variables for audit delays. Annual reports are obtained from the Kuwait Stock Exchange and the Institute of Banking Studies. The sample of companies consists of 162 and 179 companies for 2006 and 2007, respectively. Complete data is collected for 149 companies for 2006 and 177 companies for 2007. Some companies are excluded from the sample if the complete financial data or audit reports are not available. The sample represents 92% and 99% of the population in 2006 and 2007.

Tables 3 and 4 show the descriptive statistics for the sample of companies tested. The mean audit delay is approximately 57 days for 2006 and 62 days for 2007. These levels of audit delay are longer than those reported by Al-Ajmi (2008) for Bahrain companies. Al-Ajmi reported an average audit delay of 48 days with a minimum delay of 7 days and maximum of 154 days. The mean for the audit delays in the current study increased by 5 days over the two years study period. The increase in audit delay could be attributed to several factors. First, there is an increase in the complexity of the operations of listed companies and their related financing environment; the increase in the size and number of companies listed on the Kuwait Stock Exchange resulted in management and auditors requiring more time to prepare and audit annual financial statements. Second, the

audit of many listed companies by the same audit firms resulted in significant delay in the time required to complete audits for these companies at the same time. Third, the modifications of the International Financial Reporting Standards in 2006 may have required more time by management and auditors to understand and apply in preparing and verifying audited financial statements. The average for audit delays for banks is only 9 and 12 days for 2006 and 2007. The sophisticated accounting systems and strong internal controls in the banking sector help management file their audited financial statements within few days from the end of the financial year. Banks need such information to carry out their business with other local and foreign corresponding banks.

Table 3. Statistics by sectors for audit delay

	Year = 2006				Year = 2007			
Industry	Mean	Min.	Max.	N	Mean	Min.	Max.	N
Banks	9.8	6	16		12.9	7	20	
Investment	62.3	15	99		65.5	31	92	
Insurance	52	22	80		50.6	24	87	
Real estate	60.7	17	90		64.2	20	91	
Industrial	54.9	30	87		57.2	15	90	
Services	60.4	23	88		68.9	24	119	
Food	57.7	34	70		67.2	48	79	
Total	56.7	6	99	149	61.6	7	119	177

Table 4. Descriptive statistics for the dependent and explanatory variables by year

	2006 (Sample=149)			2007 (Sample=177)		
	Mean	Std. Dev.	%*	Mean	Std. Dev.	% *
Delay (days)	56.7	23.4		61.6	23.4	
ASST	353825.1	995508.1		431498.6	1301478.6	
EPS	-23.90%	78.70%		161.10%	604.90%	
QUICK	3.3	8.7		40.6	496.1	
LEV	41.10%	23.10%		40.60%	22.60%	
IND			61.70%			66.10%
AUD=0			37.60%			35%
AUD=1			62.40%			65%

* Percentage of companies for a dummy variable coded 1

Table 4 also shows significant differences for audit delay variables; namely, ASST and QUICK. For example, the mean of ASST is approximately KWD 353,825 thousands and KWD 431,499 thousands in 2006 and 2007, with the standard deviations of more than KWD 995,508 thousands and KWD 1,301 million approximately for 2006 and 2007, respectively. The results from the Kolmogorov-Smirnov statistics indicate that the distributions for audit delay, ASST, and QUICK are not normal. Therefore, the logarithm of each of these variables is used in the regression

model. This approach was also used by Ashton *et al.* (1987 and 1989), Carslaw and Kaplan (1991), Ng and Tai (1994), and Simnett *et al.* (1995) to deal with non-normal distribution status. This study's analysis for both years shows one significant difference: Non tabulated t-test results indicate a significant difference over both years for Δ EPS.

Table 5 presents the correlation among the explanatory variables tested for audit delay to investigate the possible effects of multicollinearity. The levels of correlation are relatively medium, with no correlation exceeding 0.462. The correlation between ASST and LEV were 0.462 in 2006 and 0.406 in 2007. Kaplan (1982) suggests that the multicollinearity problem might cause misinterpretation of the result if the correlation is 0.90 or above. For more analysis and better investigation, two additional regressions are performed for both years; first deleting LEV, and then deleting ASST. No change in the signs, relative sizes, or significance levels of the regression coefficients of the remaining variables was observed. This suggests no effects in interpreting the results caused by multicollinearity.

Table 5. Correlation matrix explanatory variables by year

	IND	ASST	EPS	AUD	QUICK	LEV
			2006			
IND	1	-0.258**	0.027	-0.267**	0.076	-0.313**
ASST		1	0.132	0.395**	-0.1	0.462**
EPS			1	0.142	0.003	0.184*
AUD				1	-0.153	0.334**
QUICK					1	-0.291**
LEV						1
			2007			
IND	1	-0.268**	0.039	-0.286**	-0.103	-0.296**
ASST		1	-0.007	0.355**	-0.024	0.405**
EPS			1	-0.160*	-0.006	-0.115
AUD				1	0.032	0.331**
QUICK					1	-0.139
LEV						1

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

5.2. Multivariate Regression Results

A multiple regression analysis is used to investigate the multivariate relationship between audit delay and the six explanatory variables. The dependent variable is the natural log of audit delay (in the audit delay model). As shown in Table 6, three of the six explanatory variables are significant for 2006. Audit delay in 2006 is negatively associated with ASST, QUICK, and LEV. The coefficient for ASST and QUICK are in the expected direction. The LEV variable is not within the expected direction. The average audit delay increases for companies with less debt proportion;

thus, a debt proportion is significant but it might reflect the impact of the general economy rather than signal the poor financial health of companies. For the other insignificant variable, the coefficients of IND, ΔEPS, and AUD are all in the expected direction. The adjusted R^2 for 2006 is 0.392.

Table 6. Regression of Ln audit delay on the six explanatory variables

	2006 (Sample=149)			2007 (Sample=177)		
Variables	Coefficient	t	Sig. t	Coefficient	t	Sig. t
IND	0.0498	0.593	0.554	0.0408	0.533	0.595
ASST	$-2.8x10^{-7}$	-6.156*	0.000	$-2.0x10^{-7}$	-7.211*	0.000
EPS	-0.0008	-1.652	0.101	$-1.7x10^{-5}$	-0.314	0.754
AUD	-0.1020	-1.496	0.137	-0.1487	-2.346**	0.020
QUICK	-0.0103	-2.269**	0.025	$3.1x10^{-5}$	0.464	0.643
LEV	-0.0038	-1.882***	0.062	0.0001	0.051	0.959
Intercept	4.2208	33.541	0.000	4.1758	38.734	0.000
F	16.67			15.91		
Sig. F	0.000			0.000		
Adj. R^2	0.392			0.347		

* Significant at the 1%, ** Significant at the 5%, *** Significant at the 10%

Table 6 also shows the results of 2007. Two of the six explanatory variables are found to be significant; namely, ASST and AUD. A significant variable in 2007 is not significant in 2006 or in the other direction, except for ASST, which is significant in both years in the expected direction. Audit delay is negatively associated with ASST and AUD. The coefficients for those two variables are in the expected direction. For the remaining four insignificant variables, the coefficients for IND, ΔEPS, and LEV are in the expected direction. The coefficients of QUICK are not in the expected direction. For IND, the results of the current study are consistent with those of Ashton *et al.* (1987 and 1989), as shorter audit delays are found for financial companies. Moreover, the results of the current study indicate that firms with a decrease in ΔEPS have longer audit delays compared with the results of Ashton *et al.* (1987).

The results of this study are consistent with those calculated by Ashton *et al.* (1989). Audit delay is found to be shorter for large firms than for small firms. However, this is not in line with the results of Ashton *et al.* (1987), which reported that audit delay is longer for large firms than small ones. A possible explanation for this difference in results is that Ashton *et al.* (1987) defined company size as total revenues whereas Ashton *et al.* (1989) and the current study defined company size as total assets.

6. Conclusions

This study examines potential explanatory variables influencing audit delay for companies listed on the Kuwait Stock Exchange during the years 2006 and 2007. The test sample is 149 listed companies for 2006 and 179 listed companies for 2007. The developed audit delay model used is an

expanded version of that used by Ashton *et al.* (1989) in their study of the variables affecting audit delays. Five explanatory variables are taken from the study of Ashton *et al.* (1989). One new variable, liquidity is added to further analyze audit delay in Kuwait stock market. This study finds that one variable—company size—significantly affects audit delay for both years tested. Liquidity and debt proportion significantly affect audit delay for 2006 only. Audit type significantly affects audit delay for 2007 only. The descriptive statistics corroborate the results of the regression. The findings show a negative association between audit delay and company size as measured by total assets. This result is similar to that obtained by several audit delay studies conducted in different countries (i.e., Gilling, 1997; Carslaw and Kaplan, 1991; Ng and Tai, 1994). Large companies that have a strong control system need less time to audit. The accounts of such companies are usually subject to discretionary revisions more frequently, with the effect that these companies audit their accounts more rapidly than smaller, lower-profile companies. Hence, a significant negative relationship with audit delay is found.

Such findings regarding the factors influencing audit delay within the Kuwaiti context have numerous repercussions for various parties. Knowing where action should be taken to reduce audit delays will allow Kuwaiti regulators to establish terms that should shorten the lag that currently exists. A reduction in audit delay would directly impact the auditing profession, because auditors would have to comply with these terms. The accounting profession in Kuwait would also be indirectly affected, because accountants would have to provide auditors with the required information in a timely manner.

The findings of this research are subject to several limitations. First, only a two-year period is covered because the researchers focused on all companies listed on the Kuwait Stock Exchange during this period. Second, numerous qualitative variables tested in prior research are not included in this study, which further restricted the development and detailed interpretation of the results obtained. Third, modifications made to the International Financial Reporting Standards (IFRS) may have affected the study results for 2007. In relation to this issue, a similar study could be conducted for subsequent years, to check whether audit delays are consistent with those presented in the current study.

To identify more causes of audit delay, future research could consider other variables, such as the number of years a company has been an audit client, ownership concentration, number of subsidiaries, reliance on another auditor for an opinion, electronic data processing, quality of internal controls, direction of income or loss, mix of audit work and its effect on audit delays, as well as alternate definitions of company size, such as revenue or owner equity. Alternatively, future research could analyze only variables specific to auditors, or variables specific to the company, or variables related to the political and regulatory environment. Future research might also investigate the possibility that signing auditors' reports prematurely might result in shorter audit delays than expected. Moreover,

the presence of auditors who have been employed by clients for numerous years might be an important factor in decreasing audit delays. The objective of such analyses would be to further understand the factors that affect audit delays, and therefore identify ways to minimize their impact on audit delays.

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