

An Empirical Investigation of Accounting Restatements by Public Companies: Evidence from Kuwait

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In Kuwait, investors and other related parties (e.g., official observers and market experts) have raised substantial concerns regarding the quality of corporate disclosures of firms restating their prior reported financial statements. In this paper, we examine the market reaction to the announcements of accounting restatements of firms enlisted in Kuwait stock exchange (KSE) for the period 2005-2008. In addition, we explore the characteristics of restating firms. Our results indicate that market participants react downwardly to the stock prices of firms announcing accounting restatements. Moreover, we find that accounting restatements are more likely to be among small firms. Also, we report that the occurrence of accounting restatements is increasing in firm age. Last, our results show partial support on the link between the likelihood of accounting restatements and firm profitability. Our findings should be important to academicians, regulators, investors, companies and audit firms.

Field of Research: Financial Accounting, Accounting Restatements.

1. INTRODUCTION

The frequency of U.S. accounting restatements has increased substantially in recent years.¹ For example, the number of restatement announcements grew from 90 in 1997 to 1,577 in 2006 (Scholz 2008). The General Accounting Office (GAO) estimated a loss of approximately \$100 billion in market value of restating firms in the period between January 1997 and March 2000 (GAO 2002).

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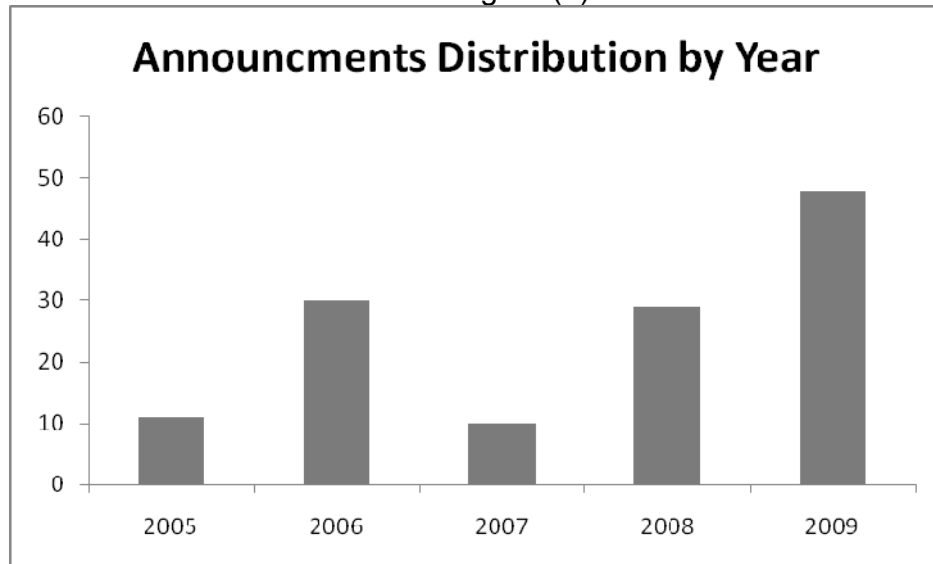
Factors such as managers' financial incentives to inflate their stock option prices (e.g., Erickson et al. 2006, Beneish 1999), managers' incentives to acquire financial funds at favorable interest rate (e.g., Richardson et al. 2002, Carcello and Palmrose 1994), inadequate education and experience by senior executive directors (e.g., Aier et al. 2005), weaknesses in corporate governance (e.g., Ebrahim 2007, Agrawal and Chadha 2005), and low quality of auditing services (e.g., Ebrahim 2007, Francis et al. 1999, Becker et al. 1998) are likely to drive companies to restate financial statements.

There is a growing concern among shareholders, creditors, regulators, and other market participants about the quality of financial reporting of companies announcing accounting restatements. Turner and Weirich (2006) note that "[w]hen so many companies produce inaccurate financial statements, the quality of information that investor rely upon to make capital-allocation decisions is seriously called into question." High-quality disclosures indicate that a company's disclosures are transparent, complete, and reliable. Companies that restate their financial information may signal to the stock market that their originally disclosed financial information lacks transparency, completeness, and reliability, thereby leading financial information users to make incorrect decisions (Flanagan et al. 2008). The financial market imposes substantial penalties on firms that produce inaccurate financial information. Karpoff et al. (2008), for example, report that firms misrepresent financial information, on average, lose 41 percent of their market values. In addition, restating firms are more likely to suffer other costs such as litigation costs (Palmrose and Scholz 2004, Jones and Weingram 1997), and operating and capital costs (Graham et al. 2008). Moreover, accounting restatements lead to higher management turnover (Desai et al. 2006), and impose stiff labor market penalties on former restating-firm CFOs (Collins et al. 2009).²

Although the subject of accounting restatements has been largely discussed by many researchers and practitioners in the U.S., it is relatively recent in Kuwait. In addition, differences in cultural, economic, and financial environments exist from country to another, thereby creating different features of accounting restatements (Chan et. al 2003). Nonetheless, restatement activities in one country may extend to another country due to globalization of many firms. Although some may seem immaterial to a firm's financial standing, accounting restatements announced by public firms listed on Kuwait stock exchange (KSE) increased from 11 in 2005 to 48 in August 2009. Figure 1 shows the trend of accounting restatement announcements from January of 2005 to August of 2009. In response to the frequent accounting restatements and adjustments that may lead to manipulations in stock prices and loss of shareholders' investments, Kuwaiti official observers and market experts have demanded the management of the KSE market to stop accepting annual (interim) financial statements from any listed public firm before being audited (reviewed) (Ramadhan 2008).

The purpose of this paper is to test the market reaction to the announcements of accounting restatements and examine the characteristics of restating firms listed on the KSE market. Our paper extends extant research on accounting restatements by public firms.

Figure (1)



Based on a sample of KSE-listed firms restated accounting information between 2005 and 2008, we find that the KSE market participants response negatively to the stock prices of firms announcing accounting restatements to prior reported financial statements. Results are consist using three different event-windows. In addition, our evidence indicates that the occurrence of accounting restatements is higher among smaller firms. Evidence also shows that accounting restatements are declining in firm age. Last, we report partial support on the link between the likelihood of accounting restatements and firm profitability.

This paper proceeds as follows. Section 2 presents prior literature. Section 3 formulates our four hypotheses. In Section 3, we present and discuss the methodology and empirical models. Sample, data and descriptive analysis are presented in Section 4. Section 5 discusses the results, and Section 6 summarizes and concludes the paper.

2. PRIOR LITERATURE

2.1 Kuwait Stock Exchange Market

The KSE market was officially operated in 1984. It is regulated by the government (Ministry of Commerce and Industry, Ministry of Finance, and

Central Bank of Kuwait), and KSE market committee. It is one of the largest stock market in the Middle East in terms of market capitalization. After the year 1991, the KSE went through major reforms including the sale of government owned stock shares in local KSE-listed companies, the emergence of mutual funds, the rise of institutional investors as dominant and key players in the KSE market, and the allowance for foreign investors to own shares in KSE-listed firms³. In addition, all listed companies are required to comply with the International Accounting Standards (IASs) reporting requirements⁴. Although it is classified as an emerging market, the KSE is still restricted by numerous factors, such as lack of market makers, prohibition of derivative trading and short selling.

The KSE market is characterized with a non-random walk behavior (Al-Loughani 1995) and competitive auction stock system (Butler et al. 1992). Few studies have examined the value of corporate disclosures in Kuwait. For example, Shuaib (1995, 184) notes that there is no "comprehensive framework for the development of adequate financial disclosures." In Al-Rashid (2002), the results suggest that annual reports, generally, have little value to decision makers. His results, also, show that the information content of announcements is declining in firm size. However, Naser et al. (2003) report different results. They examine whether the content of annual reports is useful for the decision making of eight different Kuwaiti user groups⁵. Their results show that all groups rely mainly on annual and interim reports supplied directly by the company, not through intermediary sources, to make informative decision. In addition, they show that credibility and timeliness of corporate disclosures are the two most valuable features to these groups. Last, these groups consider the financial statements to be the most important and reliable section of the company's annual report.

2.2 Market Reaction to Earnings Restatements

Prior literature presents evidence that the market has a negative response to accounting restatements, as proxied by the cumulative abnormal return (CAR) around a restatement window. For example, the study of Kinney and McDaniel (1989) is one of the first studies in this area. They examine a sample of 73 firms (178 errors) that restate their earnings between 1976 and 1985 and show an average negative CAR (-0.232). Anderson and Yohn (2002) test the impact of a sample of 161 restatement announcements stock prices for the period 1997-1999 and find an average negative (CAR) over a three-day window. Additionally, Richardson et al. (2003) report a mean negative CAR over a restatement window of 120 days using a sample of 225 restatements from 1971 to 2000. Also, Palmrose et al. (2004) study 403 firm restatements for the period 1995-1999 and report an average CAR of -9.5 percent for a two-day window. Testing a sample of 159 firms restate earnings between January 1, 2000 and December 31, 2001, Agrawal and Chadha (2005) show an average negative CAR of about 6 percent over a three-day window⁶.

Research also shows that the market reaction to accounting restatements varies according to the type of restatements. For example, Callen et al. (2006) compare the market reaction to restatement announcements caused by accounting errors to those caused by changes in accounting principles. Their results indicate that the stock market responds negatively to the announcements of downward-income revisions due to accounting error and neutrally to the announcements of upward-income revisions due to accounting errors and to changes in accounting principles. In Palmrose et al. (2004), restatements involving frauds, core accounts, downward-income, and identified by auditors or management receive negative market return. Hennes et al. (2008) show that the negative market return is, on average, more pronounced for the accounting irregularities (-1.93 percent) than for the accounting errors (-13.64 percent).

Gleason et al. (2008) attribute the decline in stock prices to two factors. First, because they were misled by prior period financial statements of restating firms, market participants tend to revise their perception about the quality of the financial statements of these firms. Second, restatements are likely to convey unfavorable news with respect to the economic growth of restating firms.

2.3 Characteristics of Restating Firms

Kinney and McDaniel (1989) examine characteristics of companies that correct prior issued quarterly earnings. Their results indicate that restating firms tend to be smaller, less profitable, slower growing, and highly levered. Their results also show that restating firms face more serious financial risks, and receive more qualified audit opinions than non-restating firms. Ahmed and Goodwin (2007) show that restating firms are smaller, have higher growth prospects, have a higher profitability and lower liquidity, using a sample of 141 Australian firms that restate earnings between 1970 and 2003. DeFond and Jiambalvo (1991) study a sample of 41 firms that made error corrections of earnings overstatements between 1976 and 1987. They document that restating firms have more diffuse ownership, fewer income-increasing GAAP, and lower growth in earnings alternatives than non-restating firms. In Hribar and Jenkins (2004), restating firms are likely to experience a decline in their expected future earnings and an increase in their cost of capital. Additionally, Callen et al. (2006) investigate a sample of firms that manipulate earnings through revenue restatements. The results suggest that firms with a significant number of years of losses (or negative cash flows) and have high accounts receivable to sales ratio tend to have revenue-related restatements. Myers et al. (2009) show that restating firms are associated with high institutional ownership and more analysts following.

3. HYPOTHESES DEVELOPMENT

3.1 Market Response

Corporate disclosures are means through which financial and economic information is communicated to investors. The quality of corporate disclosures is one of many elements that investors use to assess the value of a company and make their economic decisions. Prior research suggests that investors value firms with high disclosure quality over firms with poor disclosure quality. Companies disclosing poor information quality tend to have poor capital allocation and growth prospects, thereby prompting investors to demand higher premiums for bearing higher risk (Leus and Verrecchia 2004). For example, results of prior studies (e.g., Botosan and Plumlee 2004, Sengupta 1998, Botosan 1997, Welker 1995) show that firms with low-quality information disclosure are subject to higher cost of capital.

Accounting restatements occur when companies tend to correct its prior reported accounting numbers and financial information. The quality of financial statements and the efficiency of corporate governance over financial reporting system of restating firms raise substantial concerns among investors and other market participants. Firms restating their accounting numbers and financial information are likely to signal to the market that their prior disclosed financial statements are incomplete, unreliable, and less transparent, as noted by Flanagan et al. (2008). Existing research reporting a negative market reaction to the stock prices of firms restating previously issued financial statements (e.g., Hennes et al. 2008, Palmrose et al. 2004, Anderson and Yohn 2002) suggest that investors have less confidence in these firms. In the presence of incomplete, less transparent, and less credible information, investors tend to revise their prior beliefs downwardly about the economic and financial outlook of restating firms (Palmrose et al. 2004).

If restating firms, on average, signal a lower quality and less credible accounting and reporting system than non-restating firms, as prior literature suggests, then it is expected that the KSE market will response downwardly to the stock prices of listed firms that have announced accounting restatements. The following hypothesis is therefore presented (in alternative form):

Hypothesis 1: The KSE market will react negatively to the stock prices of firms announcing accounting restatements.

3.2 Firm Size

Size captures the amount of information available on a firm. Larger firms have richer information environment that can increase transparency about the firm and lower information asymmetry among market participants (Roulstone 2003). Also, larger firms, compared to smaller firms, are more likely to have stronger internal controls (Kinney and McDaniel 1989) that can detect and correct material errors and enhance the accounting and reporting system⁷. For example, Bierstaker et al. (2006) find that larger firms tend to invest more in anti-fraud technology than smaller firms. Furthermore, the financial statements of larger firms, in general, are audited by larger auditors, who supply higher quality of audit service. Larger auditors have greater economic incentives in detecting and correcting material misstatements in their client's financial statements before publicly disclosed. Finally, larger firms receive more coverage from news media and financial analyst community (Vermaelen 1981), an indication of more information transparency.

If larger firms, on average, signal a higher quality of financial information and more reliable accounting and reporting system than smaller firms, then it is reasonably to argue that larger firms are less likely to restate accounting errors than smaller firms. An inverse relationship is anticipated between firm size and the likelihood of accounting restatements. The following hypothesis is therefore presented (in alternative form):

Hypothesis 2: There is a negative relationship between firm size and the occurrence of accounting restatements.

3.3 Firm Age

The SEC uses firm age to decide whether to scrutinize the financial reports of a firm (Beneish 1999, Beasley 1996). Due to their lengthy history of public information, the quality of older firms' disclosures tend to be higher than that of younger firms' disclosures. Accordingly, older firms' performance and future prospects are likely to be certain, as opposed to younger firms. In Lang (1991), firms' earnings uncertainty declines over time as firms become older⁸. The link between firm age and information asymmetry and how this association affect interest rates have been addressed in prior literature. For instance, Datta et al (1999) and Diamond (1989) show that firms lower their costs of capital borrowing as they develop their reputation and become better known in the financial market. This suggests that the level of information asymmetry is declining in firm age, leading to lower interest rates.

Additionally, older firms are likely to be subject to closer scrutiny by investors, news media, and financial analysts, prompting for better performance and more economic growth opportunities. This scrutiny imposes a pressure on these firms to maintain adequate accounting records and efficient internal control systems, creating lower chance of accounting errors. Moreover, the tendency for restating accounting numbers may diminish through learning and experience as firms get older. We expect a negative association between firm age and the likelihood of accounting restatements. The following hypothesis is hence presented (in alternative form):

Hypothesis 3: There is a negative relationship between firm age and the occurrence of accounting restatements.

3.4 Firm Profitability

Investors response favorably to firms with better earnings by maintaining or increasing their investments in such firms. Attracting investors motivate these firms to avoid or reduce unfavorable disclosures. In addition, competition intensity may reduce a firm's desire to disclose unfavorable (or favorable) news⁹. Since accounting restatements, in general, tend to be bad news to investors (Callen et al. 2006) and a signal of competitive disadvantage, firms with higher returns are less likely to disclose accounting restatements.

Evidence on the link between firm profitability and the possibility of accounting restatements is mixed. For example, Kinney and McDaniel (1989) show that restating firms tend to be less profitable. Results of Ahmed and Goodwin (2007), however, indicate a positive association between firm profitability and the likelihood of restating accounting numbers. The findings of Kinney and McDaniel (1989) and Ahmed and Goodwin (2007) may suggest that restating firms with either lower profitability or higher profitability are under pressure to boost earnings, thereby meeting (or beating) the forecasts of financial analysts and expectations of investors. Although we expect a relationship between firm profitability and the occurrence of accounting restatements, we do not state the direction of this relationship. The following hypothesis is therefore stated (in alternative form):

Hypothesis 4: There is a relationship between firm profitability and the occurrence of accounting restatements.

4. RESEARCH METHODOLOGY

4.1 Measuring Market Reaction

To test the hypothesis one (H1), market response to accounting restatements, the event study methodology is utilized. The event study methodology aims to measure the response of stock market participants to accounting restatements announcements made by public firms that contain new information of a value.

Three different event windows $[(-1,+1), (-3,+3), \text{ and } (-7,+7)]$ utilized in this study to calculate the average CAR of a stock. The period of estimating the normal return, (i.e. estimation interval), is 200 days. To estimate the rate of return, we use the following market model:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (1)$$

where

R_{it} is the rate of return for firm i on day t .

R_{mt} is the rate of return on market portfolio on day t .

α_i, β_i are the market model intercept and slope parameter for firm i .

ε_{it} is the error term for OLS.

The abnormal return for stock of firm i on event day t is computed as follows:

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt}) \quad (2)$$

The three event window CAR for the days preceding the announcement, the event day 0, and the days following the announcement is computed as

$$CAR_{it} = \sum_{t=-1}^0 AR_{it} \quad (3)$$

For statistical significance, a t-test conducted to determine whether the CAR for the three event windows is different from the return in the estimating period (200 days).

4.2 Measuring Firm Characteristics

The dependent variable (hereafter, Restate) is categorical which is equal to one if firm i is a restating firm and zero otherwise. Firm size (hereafter, Log TA) is measured as the log of the total assets of firm i one year prior to the restatement announcement year. Firm age (hereafter, Age) is defined as the difference between the restatement date and the listing date of the firm¹⁰. Finally, firm profitability measured by two proxies, return on assets for firm i one year prior to the restatement announcement year (hereafter, ROA), where

$$ROA = \frac{Net\ Profit}{Total\ Assets} \quad (4)$$

and return on equity for firm i one year prior to the restatement announcement year (hereafter, ROE), where

$$ROE = \frac{Net\ Profit}{Total\ Equity} \quad (5)$$

To examine the impact of firm characteristics on the occurrence of accounting restatements, the following logistic regression model is developed:

$$Re\ state_i = \alpha + b_1 LogTA_{it-1} + Age_i + ROA_{it-1} + ROE_{it-1} + e^{11} \quad (6)$$

Where:

i: Restating (non-restating) KSE-listed firm.

t-1: Year preceding the year of accounting restatement announcement.

Restate: A categorical variable that is equal to one if the firm i announced accounting restatement, and zero otherwise.

Log TA: A proxy for firm size, measured as the log of the total assets.

Age: Firm age, measured as the difference between the accounting restatement date and the listing date of the firm.

ROA: Return on Assets. See equation (4) for precise definition.

ROE: Return on Equity. See equation (5) for precise definition.

5. SAMPLE, DATA AND DESCRIPTIVE ANALYSIS

5.1 Sample Selection and Data Sources

Data on restating firms is obtained from Aljoman Center for Economic Consultancy website. The data is sorted by the restatement announcement date¹². Eighty restatement announcements are found covering the years 2005 through 2008¹³. Out of the eighty announcements, twenty observations are omitted due to overlapping with another announcement within the period of the study. Another ten announcements are excluded because of lack of price return data, resulting in total of fifty usable observations to test H1. Data on company return and market return, used to calculate the average CAR, is obtained from the KSE website. Table 1 panel (A) summarizes the data sample selection for the event study.

Financial data such as total assets, age of the firm, ROA, and ROE is collected from the KSE, Gulfinvest International (K.S.C.C) Directory for the Company Listed on the Kuwait Stock Exchange, and Institute of Banking Studies (IBS) website. To test H2 through H4, our sample of restating firms is matched with a sample of non-restating firms based on industry and total assets¹⁴. Panel (B) of Table 1 summarizes the data sample selection for the regression model.

5.2 Descriptive Analysis

To validate the matching procedure, a t-test of differences in total assets between the restating and non-restating samples is conducted. As shown in Table 2, the average value of total assets one year before the restatement announcement for restating firms is K.D 191546.5 thousands while it is K.D

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118662.6 thousands for non-restating firms. The difference, however, is not significant at the conventional level (10% or lower), indicating that the restating and non-restating firms in our sample are relatively similar in size.

Table (1): Sample Selection Summary

Panel (A) sample for the event study

Initial sample from Aljoman Center of Economic Consultancy website.	80
Less: Overlapping announcements	(20)
Less: Firms with no market return data	(10)
Total data used for the event study.	50

Panel (B) sample for the regression model

Initial sample from Aljoman Center of Economic Consultancy website.	80
Less: Overlapping announcements	(20)
Less: Firms with no financial data	(14)
Total Restating firms.	46
Add: Non restating firms matched on size and industry	45
Total Firms data used in the logistic regression	91

Table (2): Matching Comparison Announcing and Control Group Firms

	Sample	Mean	Standard Deviation	Paired t-test (n)	Mean Difference	t-value	Prob.
Total Assets (t-1)	Restating Firms	191546.5	618006.7	46			
	None Restating Firms	118662.6	130483.2	45	-72883.9	0.77	0.18

Panel (A) and Panel (B) of Table 3 show the distribution of announcement across industries and years, respectively. In Panel (A), the largest sector in the sample is the investment sector (Industry No. 2) which constitutes 34 percent of the total announcements. The smallest sector in the sample is the food sector, which constitutes 4 percent. A total of six different sectors are represented in the sample. In Panel (B) of Table 3, which shows the distribution of our firm observations by year, more than one fourth of the restating firms can be found in the year 2008¹⁵.

Table 4 provides descriptive statistics for both restating and non-restating firms¹⁶. The mean (median) ROA for the restating firms is 13.56 (11) and 10.48 (10.34) for the non-restating firms. As for ROA, the mean (median) for restating firm is 23.43 (21.11) and 17.95 (21.14) for non-restating firms.

For both variables, these figures are close to the figures of the median and the mean of the total sample. As for the distribution of the Age variable, the median appears to be almost the same for both restating and non-restating firms. Finally, firm size, in terms of thousands of Dinars, the mean (median) for the total sample is 155505.03 (5695). The difference between the mean and the median, justifies the use of log of assets (Log TA) as a proxy for the size of the firm in equation (6).

Table (3): Announcements Distribution

Panel (A) Distribution by Industry

Industry	Industry No.	total	Percentage (%)
Investment	2	17	34
Real Estate	4	8	16
Industrial	5	5	10
Service	6	13	26
Food	7	3	6
Non Kuwaitis	8	4	8
Total		50	100

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Panel (B) Distribution by Year

Year	Frequency	Percentage
2005	7	14
2006	22	44
2007	8	16
2008	13	26
Total	50	100

Table (4)
Descriptive Statistics for the Variables of Interest, Classified by Sub-sample and as a Total Sample

Sample		Total Assets*	Age	ROA	ROE
Non Restating Firm	N	45	46	45	45
	Mean	118662.60	5.00	10.48	17.95
	Median	77267	3	10.34	21.14
	Minimum	4228.00	0.00	-48.87	-61.72
	Maximum	557549.00	23.00	37.26	46.74
	Std. Deviation	130483.20	6.00	12.01	16.53
Restating Firms	N	46	46	46	46
	Mean	191546.50	8.00	13.56	23.43
	Median	54898	4	11.005	21.105
	Minimum	5460.00	0.00	-7.04	-10.76
	Maximum	4204391.00	24.00	55.40	78.64
	Std. Deviation	618006.70	8.00	12.66	18.66
Total					

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N	91	92	91	91
Mean	155505.03	6.47	12.04	20.72
Median	56596.00	3.00	10.35	21.14
Minimum	4228.00	0.00	-48.87	-61.72
Maximum	4204391.00	24.00	55.40	78.64
Std. Deviation	447920.23	7.27	12.37	17.75

* Amounts in 1000 KD (Kuwaiti Dinar)

Age: Firm age, measured as the difference between the restatement date and the listing date of the firm.

ROA: Return on Assets.

ROE: Return on Equity.

6. EMPIRICAL RESULTS

6.1 Empirical Results for H1

As discussed in the methodology section, we use the mean CAR to test the market reaction to accounting restatement. Panels (A), (B) and (C) of Table 5 present the results for the event windows (-1,+1), (-3,+3), and (-7,+7), respectively.

Table (5)
Event Study Results

Panel (A) Window (-1,+1) covering 3 days

Predicted Sign (H1)	CAR	t-Value	Prob.
(-)	-0.10*	-1.79	0.0801
	N = 43		

Panel (B) Window (-3,+3) covering 7 days

Predicted Sign (H1)	CAR	t-Value	Prob.
(-)	-0.19**	-2.82	0.0073
	N = 43		

Panel (C) Window (-7,+7) covering 15 days

Predicted Sign (H1)	CAR	t-Value	Prob.
(-)	-0.28**	-2.71	0.0098
	N = 43		

*Significant at the (0.10) level.

**Significant at the (0.01) level.

Results reported in Table 5 indicate that KSE participants perceive accounting restatement as bad news and react negatively to it. The negative reaction is noticed up to seven days before the announcement is made. More interestingly, the negative effect is more pronounced in the wider windows (i.e. -3,+3 and -7,+7) than it is in the shorter window (-1,+1). This indicates that by the time the restatement announcement is made to public, its negative impact is diminished due the investors' prior knowledge of the restatement news. The results in Table 6 panels (A), (B) and (C), provide strong support for H1.

6.2 Empirical Results for H2 through H4

Logistic regression model captured by equation 6 is used to test simultaneously the three hypotheses (H2, H3 and H4) developed earlier. However, first we use Pearson two-tailed correlation to test for any correlation among the variables of interest. The correlation matrix is presented in Table 6.

Table (6)
Pearson Correlation

Variable	Restate	Log TA	Age	ROA	ROE
Restate					
Log TA	-0.012 (0.910)				
Age	0.191* (0.068)	0.368** (0.000)			
ROA	0.125 (0.238)	0.064 (0.544)	-0.031 (0.770)		
ROE	0.155 (0.142)	0.419** (0.000)	0.036 (0.737)	.817** (0.000)	
Shariah	-0.024 (0.821)	0.016 (0.879)	0.368** (0.000)	-0.154 (0.146)	-0.055 (0.602)

a Two-tailed p-values are presented in parentheses.

*Significant at the (0.10) level.

**Significant at the (0.01) level.

Restate: A categorical variable that is equal to one if the firm announced restatement of earnings, and zero otherwise.

Log TA: A proxy for firm size, measured as the log of the total assets of the firm.

Age: Firm age, measured as the difference between the restatement date and listing date of the firm.

ROA: Return on Assets.

ROE: Return on Equity.

Shariah: A categorical variable that is equal to one if the firm conducts its financial transactions according to the Islamic Shariah law, and zero otherwise.

On the contrary to our prediction, there is a positive relationship between Restate and Age. No other variable found to be significantly associated with the variable

Restatement. The shariah (hereafter, Shariah) variable is equal to one if the firm conducts its financial transaction according to the Islamic Shariah laws and zero otherwise. Shariah law is included in the matrix to capture its affect on the likelihood of accounting restatement if any. Therefore, regression equation 6 is adjusted to include Shariahi as a control variable:

$$Re\ state_i = a + b_1 LogTA_{it-1} + Age_i + ROA_{it-1} + ROE_{it-1} + Shareia_i + e \quad (6a)$$

Finally, Table 6 indicates that multicollinearity exists between the two profitability variables, ROE and ROA (0.82), thus we re-estimate regression equation (6) without the ROA using the following model:

$$Re\ state_i = a + b_1 LogTA_{it-1} + Age_i + ROE_{it-1} + e \quad (6b)$$

Table 7 panel A reports the results of regression model 6. Consistent with our prediction, Log TA is negatively associated with the likelihood of accounting restatement. More specifically, the larger the firm is, the less likely it will restate its accounting figures. The finding is significant at the 0.10 level. Therefore, H2 is supported. The transformed variable Log TA makes it difficult to interpret the odds ratio. Since the transformation is made to the 10th factor, thus it would be easier to interpret the result for the odds ratio by providing an example. Assuming two firms X with total assets of 1000, and Y with total assets of 10000. With an odds ratio for the size (i.e. LogTA) of 38 percent, the likelihood of firm Y restating is less by 38 percent than the likelihood of firm X restating.

Unlike our prediction for H3, Age is positively related to the likelihood of accounting restatement. The odds ratio for the age variable suggests that the likelihood of a firm to restate increases by 8.5 percent with each additional year of age. The difference in the results from our prediction and the previous literature could be attributed to the differences in the KSE environment discussed earlier.

As for the firm profitability hypothesis (H4), the results reported in Table 7, Panel (A), show a partial support. The likelihood of accounting restating is positively associated with ROE. Similar results cannot be found for the variable ROA. This result could be attributed to the multicollinearity problem discussed earlier.

Panel (B) of Table 7 reports the results for regression (6a). The impact of Shariah tends to be insignificant, suggesting that the likelihood of a firm to restate its accounting figures is not affected if the firm follows the Shariah laws.

Finally, the results reported in Panel (C) of Table 7 indicate that a slight multicollinearity exists¹⁷. The Wald value for ROE increased from 2.826 in Panel (A) to 3.642 in Panel (C). However, for the other variables of interest, the results, in general, are not affected. In Panel (C), the odds ratio for the ROE variable suggests that the likelihood of a firm to restate increases by 3.1 percent with each additional 1 percent increase in the value of ROE. The odds ratio is higher in Panels (A) and (B). Our results in this study regarding the profitability are in

line with prior studies suggesting that profitable firms are under pressure to continue announcing good news.

7. SUMMARY AND CONCLUSION

The quality of financial statements of companies announcing accounting restatements is a serious concern to many market participants (e.g., investors, creditors, regulators...etc.). Market participants perceive the financial information of companies restating their originally disclosed financial information as incomplete, unreliable, and lacks transparency (Flanagan et al. 2008). Restating

Table (7)
Logistic Regression Results

Panel (A) $Re\ state_i = a + b_1LogTA_{it-1} + Age_i + ROA_{it-1} + ROE_{it-1} + e(6)$						
	Intercept	$LogTA_{it-1}$	Age_i	ROA_{it-1}	ROE_{it-1}	N
Predicted Sign		(-)	(-)	(?)	(?)	
Coefficient	3.333	-.959*	0.082**	-0.038	0.056*	
Wald	2.232	3.388	5.127	0.817	2.826	
p-value	0.135	0.066	0.024	0.366	0.093	91
Odds Ratio		0.383	1.085	0.963	1.058	

Panel (B) $Re\ state_i = a + b_1LogTA_{it-1} + Age_i + ROA_{it-1} + ROE_{it-1} + Shareia + e(6a)$							
	Intercept	$LogTA_{it-1}$	Age_i	ROA_{it-1}	ROE_{it-1}	$Shareia$	n
Predicted Sign		(-)	(-)	(?)	(?)	(?)	
Coefficient	3.620	-0.987*	0.090**	-0.034	0.054*	-0.309	
Wald	2.507	3.553	5.361	0.642	2.654	0.345	91
p-value	0.113	0.059	0.021	0.423	0.10	0.557	
Odds Ratio		0.373	1.094	0.966	1.056	0.734	

Panel (C) $Re\ state_i = a + b_1LogTA_{it-1} + Age_i + ROE_{it-1} + e(6b)$					
	Intercept	$LogTA_{it-1}$	Age_i	ROE_{it-1}	N
Predicted Sign		(-)	(-)	(?)	91
Coefficient	2.252	-0.707*	0.075**	0.030*	
Wald	1.433	2.598	4.690	3.642	
p-value	0.231	0.10	0.030	0.056	
Odds Ratio		0.493	1.078	1.031	

*Significant at the (0.10) level.

**Significant at the (0.01) level.

Restate: A categorical variable that is equal to one if the firm announced restatement of earnings, and zero otherwise.

Log TA: A proxy for firm size, measured as the log of the total assets of the firm.

Age: Firm age, measured as the difference between the restatement date and listing date of the firm.

ROA: Return on Assets.

ROE: Return on Equity.

Shariah: A categorical variable that is equal to one if the firm conducts its financial transactions according to the Islamic Shariah law, and zero otherwise.

firms are subject to substantial costs, such as on as litigation costs (Palmrose and Scholz 2004, Jones and Weingram 1997), operating and capital costs (Graham et al. 2008), and reputation costs (Karpoff et al. 2008). In addition, accounting restatements are associated with higher CFOs turnover (Desai et al. 2006) and impose sever labor market penalties on former restating-firm CFOs (Collins et al. 2009).

In Kuwait, the increased frequency in accounting restatements have created major concerns among investors, official observers, and market experts regarding the quality of corporate earnings and manipulations in stock prices (Ramadhan 2008). In this paper, we examine the market response to the announcements of accounting restatements of the KSE-listed firms for the period 2005-2008. In addition, we investigate the characteristics of the KSE-listed firms announcing accounting restatements. Our results indicate that market participants react downwardly to the stock prices of firms announcing accounting restatements. Moreover, we find that accounting restatements are more likely to be among small firms. Also, we report that the occurrence of accounting restatements is increasing in firm age. This finding may help settling the debate regarding the association between the likelihood of accounting restatements and firm age. Last, the results show partial support the profitability hypothesis. Possibly, profitable firms are under pressure to continue announcing good news.

The findings of this study have implications for academicians, regulators, companies, investors and auditors. First, future researchers examining disclosure quality of public firms should be cognizant of the effect of accounting restatements on the reliability of financial statements. Second, regulators (e.g., KSE market management) should protect investors' interests by imposing stiff penalties on public companies that restate prior reported financial statements due to irregularities or recklessness. Third, KSE-listed companies must have effective corporate governance that can produce complete, accurate, and reliable financial and accounting information to market participants. Furthermore, investors should be aware of the characteristics of firms that are likely to restate accounting figures and financial information when making economic decisions. Last, auditors should be a valuable monitoring device that enhance the reliability of the reported accounting numbers and protect the rights of shareholders and other related parties.

Although this study attempts to investigate an issue that to our knowledge has not been investigated in the KSE environment, it may still have some limitations. First, similar to the limitation of other archival studies, the problem of some unknown omitted variables might exist. To overcome this limitation, matching samples used to control for economic factors that might have impact on the market or the industry. Other potential limitations relate to the sample size tested in this study. To mitigate such a problem, three different logistic regression models used to test the H2, H3 and H4. As for H1, we use three different

windows to test the market reaction to accounting restatement announcements. Finally, other firm characteristics, board structure characteristics, and corporate governance variables which might have some impact on the results of the research, are not considered. They should be considered and addressed in future research.

End-Notes

¹ Accounting restatements occur when a company revises its prior disclosed public information due to irregularities or errors.

² In Desai et al. (2006), for example, a minimum of one top manager (e.g., Chairman, CEO, or President) in 60 percent of the restating firms loses his/her job within the 24 months of earnings announcement. In addition, Cheng and Farber (2008) report a significant decline in CEOs' options in the two years following the restatements of earnings.

³ Ministerial Resolution no. 2005 for year 2000 allows foreign investors to own shares in companies enlisted in KSE effective September 5th, 2000. Before this Resolution, foreign investors were allowed to buy and sell shares through mutual funds.

⁴ In April 1990, the Ministry of Trade and Industry issued directive No. 18 requiring all KSE listed companies to comply with the IASs reporting rules effective January 1st, 1991. As of August 6th, 2009, there are 204 public companies enlisted in the KSE.

⁵ These groups are individual investors, institutional investors, government officials, academics, bank credit officers, financial analysts, KSE market brokers, and auditors.

⁶ In addition, Hennes et al. (2008) examine a sample of 361 unintentional (errors) restatements and 132 intentional (irregularities) restatements from January 1, 2002 to June 15, 2006. They report mean (median) seven-day CARs of -4.9 percent (-3.1 percent). In Wilson (2008), the mean three-day CAR for a sample of 215 restatements issued between January 1, 1997 and June 30, 2002 is -8.79 percent. Furthermore, Plumlee and Yohn (2008) use a sample of 1,303 firm-year observations for the period 2003-2006 to test the market reaction to annual restatement announcements. They show an average CAR of -8.0 percent over a three-day window and an average abnormal trading volume of 4.0 percent over a five-day window.

⁷ In Iccerman and Hillison (1990), the magnitude of errors decreases as the size of a company increases, suggesting that larger companies have stronger internal control systems than can detect and correct errors.

⁸ In addition, uncertainty about young firms' financial statements can be mitigated or reduced through engaging high quality auditors or underwriters. For example, firms with severe information problems employ Big Four auditors to increase the reliability of their financial reporting (See, e.g., Francis et al. 1999, Becker et al. 1998, Titman and Trueman 1986).

⁹ See Arya and Mittendorf (2007) for more details on the link between competition and disclosure.

¹⁰ Because there is no substantial difference between the mean and median, we do not use the log of the difference between the restatement date and the listing date of the firm.

¹¹ Because 97 percent of the firms in our sample were audited by the Big Four auditors, we dropped auditor type from the equation (6).

¹² Neither Aljoman Center website nor any other database (e.g., KSE market website) identifies the prompter (e.g., company, auditor, KSE management, other) of accounting restatements. Also, although announcements do not indicate whether the reason for restatements is intentional (i.e., fraud) or unintentional (errors) misuse of facts applied to prior disclosed financial information, they identify the type of the announcement, which includes computational errors, security related, and earnings (losses) revisions.

¹³ Data on accounting restatements announcements is available on Aljoman Center website for the period 2005-2009. We do not include the 2009 year accounting restatements in our sample.

¹⁴ KSE assign 3 digit numbers to each firm, the first digit represent the industry, and the other two are assigned to the firm. The industry matching is based on the first digit.

¹⁵ In 2008, many firms were affected by the worldwide economic crisis.

¹⁶ In Table 4, values of *ROA*, *ROA*, *Age* and *Log TA* are reported in Dinar.

¹⁷ We drop *Shariah* from the model (6b) because it has no significant effect in the prior model (6a).

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