# UAE corporations-specific characteristics and level of risk disclosure

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## Abstract

**Purpose** – The purpose of this paper is to explore the relationship between the UAE corporations-specific characteristics, mainly – size, level of risk, industry type and reserves – and level of corporate risk disclosure (CRD).

**Design/methodology/approach** – Since the UAE is an emerging capital market, the paper relies on the positive accounting and the institutional theories to generate testable hypotheses and explain the empirical findings. The paper draws results depending on a sample of 41 corporations. A risk disclosure index – based on accounting standards, prior literature, and the UAE regulatory framework – has been crafted and calculated for each corporation in the sample. The relationship between the level of CRD and corporations' characteristics is examined using multiple regression analysis.

**Findings** – The results show that corporate size is not significantly associated with the level of CRD. However, the corporate level of risk and corporate industry type are significant in explaining the variation of CRD. Finally, in contrast with reserves-CRD hypothesized relationship, corporate reserve is insignificant and negatively associated with level of CRD.

**Research limitations/implications** – The risk disclosure index items reflect their existence in annual reports rather than their level of importance.

**Practical implications** – The empirical findings suggest that corporate reserve, as an explanatory variable, needs further investigation as explained in the paper.

**Originality/value** – The crafting process of the CRD index depends on the UAE regulatory framework. The paper seems to add to the extremely limited literature relating to CRD in Arab countries in general and the UAE in particular.

**Keywords** Risk analysis, Disclosure, Accounting standards, United Arab Emirates

**Paper type** Research paper

## Introduction

Although much of the existing research dealing with accounting disclosure investigates the relationship between level of disclosure and country and/or corporations-specific characteristics, recent years witnessed a considerable attention to investigate and improve corporate risk disclosure (CRD). Several scholars argue that CRD has become an integral part of business disclosure because it provides greater transparency and increases investors' confidence (Meier *et al.*, 1995; Solomon *et al.*, 2000; Schrand and Elliott, 1998; Cabedo and Tirado, 2004; Ahmed *et al.*, 2004; Linsley and Shrives, 2006; Abraham and Cox, 2007; Iatridis, 2008; Linsley and Lawrence, 2007; Spira and Page, 2003). They broadly define CRD as the financial statements incorporation of general, specific and potential circumstances that may cause corporations assets and/or liabilities' value fluctuates, decreases or otherwise (Hassan, 2008a, c).

Another key aspect of CRD literature is that most of risk-related disclosure studies have been conducted in countries, broadly known as Western and European, such as the UK (Dhanani, 2003; Solomon *et al.*, 2000; Linsley and Shrives, 2006; Abraham and Cox, 2007; Iatridis, 2008; Linsley and Lawrence, 2007), Italy (Beretta and Bozzolan, 2004), Canada (Lajili and Zéghal, 2005), the USA (Rajgopal, 1999; Linsmeier *et al.*, 2002; Jorion, 2002; Schrand, 1997; Hodder *et al.*, 2001), Australia (Poskitt, 2005) and Portugal (Lopes and Rodrigues, 2007). However, little is known about the CRD in an emerging capital market, such as the UAE, except for Aljifri and Hussainey (2007). Aljifri and Hussainey (2007) investigate the determinates of the forward-looking information contained in the UAE corporations annual reports, yet they do not underscore one of the UAE institutional factors – mainly "accounting reserves" – that may have an effect on corporations disclosure in general and on CRD in particular.

Other key institutional factors that may affect level of CRD by the UAE corporations are the UAE socio-economic context, the UAE accountancy profession activities and the UAE regulatory framework. First, the UAE is an emerging capital market that adopts an economic philosophy based on the market economy and the liberalization of trade (Aljifri and Khasharmeh, 2006). Second, compared to other countries with advanced capital markets, the UAE accountancy profession is lagged behind in terms of offering professional certificates (Hassan, 2008a). Third, the UAE regulatory framework incorporates different legislations that require the disclosure of risk-related information in the corporations' annual reports. These institutional factors make investigating CRD an important issue in the UAE.

The paper is organized in seven sections. After this introduction, section two reviews CRD literature. Section three discusses hypotheses development. Section four presents the UAE institutional context associated with CRD. Section five discusses the paper methodology. Section six discusses and explains the empirical findings. The last section discusses the paper conclusions, limitations and future researches.

## Corporate risk disclosure literature

### Risk disclosure definition

This paper broadly defines CRD as the financial statements inclusion of information about managers' estimates, judgments, reliance on market-based accounting policies such as impairment, derivative hedging, financial instruments, and fair value as well as the disclosure of concentrated operations, non-financial information about corporations' plans, recruiting strategy, and other operational, economic, political and financial risks. This CRD definition not only contributes in pinpointing items potential for risk disclosure index, but also coincides with other scholars' definitions of CRD as the communication of "good" and "bad" information as well as reporting on business "uncertainties" (Schrand and Elliott, 1998; Robb *et al.*, 2001; Spira and Page, 2003; Collier and Berry, 2002, p. 275; Cabedo and Tirado, 2004, p. 184; Linsley and Shrives, 2006; Institute of Chartered Accountants in England and Wales – ICAEW, 1997, 2000; Jorion, 2002; Abraham and Cox, 2007; Aljifri and Hussainey, 2007).

### Motives behind CRD

The accounting disclosure literature suggests that both economic consequences and seeking social legitimacy are motives that exist behind managers' decision to include certain information in the financial reports. On the one hand, different scholars discuss

various economic consequences of CRD (Iatridis, 2008; Linsmeier *et al.*, 2002; Jorion, 2002). Some argue that managers are inclined to disclose risk-related information to improve the corporation's image and inform stakeholders about their managerial skills in managing risks (Iatridis, 2008). Others discuss how high levels of disclosure reduce agency costs, litigation costs, compliance costs and information asymmetry (Lundholm and Winkle, 2006; Bushman and Smith, 2001; Skinner, 1993; Healy and Palepu, 2001). A third group investigates the effect of CRD on stock prices and how managers use such a disclosure to signal information about their corporations' performance, since it favorably affects corporations' stock prices (Linsmeier *et al.*, 2002; Schrand, 1997; Wong, 2000; Rajgopal, 1999).

On the other hand, various studies argue that social legitimacy is one of the underlying forces behind adopting certain disclosure practices (Carpenter and Feroz, 1992, 2001; Mezias, 1990; Touron, 2005; Tsakumis, 2007; Hassan, 2008b). Carpenter and Feroz (1992, p. 613) argue that the State of New York's decision to adopt accrual-based accounting, as opposed to cash-based accounting, was an attempt to retain legitimacy for the state. They add that the New York financial crisis in 1975 led many parties, such as the accounting profession, regulatory agencies and users of accounting reports, to question the adequacy of the state's cash-based accounting practices. Accordingly, government officials elected to enforce and implement accrual-based accounting in order to retain legitimacy for the state's accounting practices. Carpenter and Feroz (1992, p. 637) state:

> The state of New York needed a symbol of legitimacy to demonstrate to the public and the credit market that the state's finances were well managed. GAAP, as an institutionalized legitimated practice, serves this symbolic purpose.

Likewise, Hassan (2008b) argues that legitimacy is a process in which certain disclosure practices adhere to international security markets' requirements rather than serving domestic needs. Managers are inclined to align the information contained in their corporations' annual reports with the international and/or demotic requirements. That alignment, Hassan (2008b) argues, enables managers to symbolize that their corporations adopt the state-of-the-art practices and therefore obtain social legitimacy.

Oliver (1991) adds that seeking social legitimacy, eventually, leads to economic gains. Her suggestion, following resource dependency theory, presupposes the analysis of economic consequences of adopting new practices (like CRD). However, social legitimacy is not always guided by economic motives. Social legitimacy is something unique and cannot be simply treated as a tool to secure economic resources and/or gains. Legitimacy is not a commodity to be possessed and exchanged in an economic term, but it is a condition reflecting the cultural alignment and the consonance with relevant social, political, and economic context where accounting operates (Carpenter and Feroz, 2001; Touron, 2005; Tsakumis, 2007; Hassan, 2008b).

### Hypotheses development

Relying on the positive accounting theory notion of "economic consequences" and the institutional theory notion of "social legitimacy", the paper develops a set of hypotheses about the determinants of CRD in the UAE corporations' annual reports. The use of multiple theories strengthen the explanations behind CRD practices in an emerging capital market since a single theory may not fully explain these practices

given the specific social and institutional features of that market (Naser *et al.*, 2006; Lundholm and Winkle, 2006; Lopes and Rodrigues, 2007).

*Size*

Corporation size is a proxy of two interrelated features: political sensitivity and economies of scale. First, the larger the corporation, the more political sensitive it is since it may have a monopolistic ability in the market (Watts and Zimmerman, 1986; Linsley and Shrives, 2006; Abraham and Cox, 2007). Therefore, larger corporations are more likely to show higher level of risk-related information that explains their level of return and therefore improves investors' confidence and reduces political sensitivity. Second, the larger the corporation, the better information systems it has. Therefore, additional disclosure is less costly in larger corporations comparative to smaller ones (Lopes and Rodrigues, 2007, p. 32). Accordingly, the following hypothesis is tested:

*H1.* Larger corporations are expected to have higher levels of CRD than smaller corporations.

*Industry type*

Corporations operating in the same industry are more likely to exhibit the same level of risk disclosure in order to avoid negative appreciation by the market (Lopes and Rodrigues, 2007, p. 32). Both signalling and institutional theories support this hypothesized relationship. Institutional theorists argue that corporations, working in the same socio-political environment, are likely to adopt the same reporting strategy since they are subject to same professional and legal pressures (Carpenter and Feroz, 1992, 2001; Mezias, 1990; Touron, 2005; Hassan, 2008b).

Institutional theorists add that in certain situations corporations adopt certain disclosure practices not necessarily because these practices are effective in communicating information, but to imitate other corporations in the same industry and therefore claim, or signal, to stakeholders that they are adopting the state-of-art disclosure practices similar to other corporations in the same industry. Therefore, one can argue that CRD varies in accordance to the industry type without specifying a direction to such a relationship. Linking this concept to the study, the following hypothesis is tested:

*H2.* CRD level is expected to be related to the industry in which the corporate operates.

*Level of risks*

Corporate leverage, as a proxy of risk, may affect the level of CRD. On the one hand, the corporation managers are more likely to support the disclosure of risk-related information since it may disorient investors and government authorities away from the corporation genuine risks particularly when such a corporation financial situation is unfavorable (Iatridis, 2008). On the other hand, corporations with higher levels of risk will disclose greater amounts of risk-related information because corporations' managers are willing to explain the causes of high risk (Linsley and Shrives, 2006). Managers also have personal inertest to disclose risk-related information in order to signal to wider stakeholders how they efficiently manage these risks (Lopes and Rodrigues, 2007; Abraham and Cox, 2007). Accordingly, the following hypothesis is tested:

*H3.* Highly leveraged corporations are expected to have higher levels of CRD than lower leveraged corporations.

*Reserves: risk management*
Although there is little empirical research that explains the relationship between accounting reserves and financial reporting strategy, investigating such a relationship is inevitable in this paper. In the UAE, the Federal Commercial Companies Act No. 8 of 1984 requires corporations to have different reserves. Article 192 of the commercial law states that that a 10 percent of the net profit for the year has to be transferred to the statutory reserve. Nevertheless, corporations may discontinue such annual transfers when the statutory reserve equals 50 percent of the nominal value of the paid up share capital. In addition, article 193 states that upon the approval of Articles of Association of the Corporation, a certain percentage of the net profit for the year is transferred to a legal reserve. Such a reserve is not available for use except in matters specified in the corporation's article that establishes that reserve. Both the legal and the statutory reserves are not available for distribution.

In addition to the above law-based reserves, corporations may voluntary establish a contingency reserve and/or a general reserve at the recommendation of the board of directors. The contingency reserve stresses on unforeseen future risks or contingencies which may arise from general risks, while the general reserve aims at fulfilling board of directors general objectives. The contingency reserve is used, only, for the purposes recommended by the board of directors after the approval of the shareholders. Based on that regulatory framework, one can argue that managers attempt to increase reserves if their corporations face higher levels of risks. Therefore, it is expected that the higher the amount transferred to law-based reserves (statutory and legal) and other reserves (contingency and general), the more risk information is disclosed. Accordingly, the following hypothesis is tested:

*H4.* The higher the percentage of net income transferred to the corporate reserves, the higher the level of CRD.

## The UAE institutional context and CRD
The UAE has three sets of legislations that govern the financial accounting practices. First, the Corporation Act of 1984 that governs the preparation of financial reports for listed corporations except banks and financial institutions. This Act does not enforce the use of certain accounting standards, yet most corporations seem to adopt the International Accounting Standards (IASs; currently known as International Financial Reporting Standards – IFRS)[1].

Second, the UAE central bank sets regulations, for financial institutions and banks, governing the preparations of financial reports in accordance with IASs (currently IFRS; Islam, 2003; Al-Qahtani, 2005; Hussain *et al.*, 2002). Since the UAE financial and non-financial sectors prepare their financial reports in harmony with the IASs that include IAS 32 and 39 (currently known as IFRS 7: financial instruments disclosure) and other standards such as segment reporting and contingencies (Alfredson *et al.*, 2007), the UAE corporations are pressured to disclose risk information. Nevertheless, the questions of "whether the level of CRD varies among UAE corporations?" and "whether the UAE corporations-specific characteristics determine level of CRD" are yet to be answered in this paper.

Finally, Emirates Securities and Commodities Market Authority (ES&CMA) sets registration conditions that affect CRD (UAE Federal Law No. 4 of 2000 and its amendments of, 2004). The ES&CMA encourages corporations to fully disclose with appropriate level of transparency certain risk-related information. For example, article 35 of Federal Law No. 4 of 2,000 states that capital market registrants have to provide explanatory information which relates to their corporations circumstances and activities in order to raise investors' confidence. Later amendments (decision no. 75 of 2004 and decision 155 of 2005) set more detailed requirements that emphasis risk reporting. These amendments require potential registrants, as a listing condition, to supply financial statements users with a report from the corporation's board of directors that includes the following:

- A statement of the significant events and unexpected circumstances that the company has experienced from its incorporation up to the date of submitting the application for listing.

- The board of directors' assessment, supported by figures, of the company's performance and achievements compared to the board expectations.

- Any significant developments affecting the prices of the company's securities such as catastrophes, fires, mergers, the issue of new securities, the discontinuance of a production line, voluntary liquidation or lawsuits filed by or unexpected events against the company will.

In addition to the above listing conditions, the ES&CM passed the UAE corporate governance code (Law 23 of 2007) that stresses on corporations' risks, risk management and risk control. The code encourages corporations to have regular procedures allowing the determination, measurement, and disclosure of their risks as a part of best practices. However, the code does not define the scope, function or objectives of CRD.

Another key institutional factor, that may influence CRD in the UAE, is the accountancy profession activities. The UAE accountancy professional associations (Al-Qahtani, 2005; Aljifri and Khasharmeh, 2006), similar to those in emerging economies countries, are immature (Samuels and Oliga, 1982; Chamisa, 2000). However, the last few years have witnessed an increase in the UAE accountancy associations' activities. The UAE formed the UAE Institute of Internal Auditor (IIA). That institute organized conferences, seminars as well as published newsletter in order to prompt the importance of corporate governance, risk disclosure and risk management (IIA-UAE newsletter, 2007). At the same time, the UAE Accountants and Auditors Association recommends the use of IASs (currently known as IFRS) in order to enhance the quality of annual reports and encourage foreign investments (Aljifri and Khasharmeh, 2006).

Despite the abovementioned recommendations and activities, these associations do not offer educational programs or professional certificates. Accordingly, the accounting profession in the UAE has become dominated by the big international auditing firms, namely Ernst & Young, Arthur Andersen, Price WaterhouseCoopers, Touche Ross and Co., and KPMG Peat Marwick (Hussain *et al.*, 2002; Islam, 2003). Hussain *et al.*(2002, p. 358) argue that these big audit firms audit most of the local commercial banks and big corporations listed in Abu Dhabi and Dubai Financial Markets. Islam (2003) adds that all Abu Dhabi banks are audited by Ernst & Young. These audit firms may legitimate their UAE client corporations to the publication of risk-related information.

## Methodology
### Sample

The paper draws a sample of 49 corporations listed in either Dubai Financial Market or Abu Dubai Security Market. This sample does not represent all corporations listed in the UAE financial markets, yet it incorporates those corporations that had their annual reports published at the time of carrying out this paper. The study started to craft the CRD index by mid of 2006. To carry out the empirical analysis, annual reports of the sample corporations for year 2005 are examined. The annual reports of year 2005 are chosen because of two reasons. First, the choice of any subsequent fiscal year would lead to a significant reduction in the sample size. Second, at the time of crafting the CRD index, annual reports of year 2005 are considered as more recent. Financial reports of December 31, 2005 are obtained through accessing corporations' web sites. To prevent undue disturbances caused by fiscal year differences, corporations that publish their interim reports only ($n = 5$) are removed. Likewise, to maintain homogeneity of the sample corporations, non-UAE corporations ($n = 3$) are removed.

Accordingly, the potential population becomes 41 corporations spanning over banks ($n = 12$), insurance ($n = 5$), finance/investment ($n = 7$), hotels ($n = 2$), construction ($n = 5$), cement ($n = 2$), telecommunication ($n = 2$), and others ($n = 6$) industries. The population of 41 corporations is divided into two sub-samples: the first includes 24 corporations in banking, financing, investing, and insurance corporations (i.e. financial sector) and, the second incorporates 17 industrial and service corporations (i.e. non-financial sector; Appendix 1). The examination of the annual reports reveals two interesting points. First, these reports were audited by one of the big audit firms. Second, the reports were prepared in accordance with IFRS and requirements of the UAE laws. Some of these reports state that that they are "restated" in accordance with IFRS.

### Research design and variables measurement

Different studies adopt different approaches to analyze annual reports in order to measure the quality and quantity of CRD. Some of these studies use the content analysis (Beretta and Bozzolan, 2004; Lajili and Zéghal, 2005; Linsley and Shrives, 2006; Abraham and Cox, 2007; Lopes and Rodrigues, 2007). Others aim at developing a CRD index (Robb *et al.*, 2001; Cabedo and Tirado, 2004; Barako *et al.*, 2006; Aljifri and Hussainey, 2007). Some seek to assess the readability of risk-related sentences (Linsley and Lawrence, 2007), while others use case study to explain accounting and risk management processes (Dhanani, 2003). Since the paper aims at exploring the association between UAE corporations-specific characteristics and level of CRD, the disclosure index methodology seems an appropriate approach to proceed.

*The dependent variable: CRD index*. For the purpose of developing the CRD index, CRD is defined as the release of financial (quantitative) and non-financial (qualitative) information about the corporation liquidity, risks, and expected events that may face the corporation in the future. The paper undertakes an extensive review of financial reporting standards, accounting literature, and the UAE regulatory requirements to craft a risk disclosure index and to develop a list of CRD items (ICAEW, 1997, 2000; Alfredson *et al.*, 2007, p. 212; Beretta and Bozzolan, 2004; Lajili and Zéghal, 2005; Linsley and Shrives, 2006; Abraham and Cox, 2007; Lopes and Rodrigues, 2007; Robb *et al.*, 2001; Cabedo and Tirado, 2004; Linsley and Lawrence, 2007; Ahmed *et al.*, 2004; the UAE Federal Law of 1984; the UAE ES&CMA Federal Laws of 2000, 2004).

The risk disclosure index items and sources, outlined in Appendix 2, are grouped into the following categories: general risk information, accounting policies, financial instruments, derivative hedging, reserves, segment information and financial, and other risks. The scoring process of that index is based on the risk information that corporations present in their annual financial reports. Although financial reports are not conclusive since corporations have other channels such as TV and newspapers, the paper primarily relies on annual reports because other means of disclosure are not only incoherent and possess practical problems but also they are unavailable (Oliveira *et al.*, 2006). Lang and Lundholm (1993) argue that annually financial reports are assumed to be one of the most important devices to supply information to stakeholders.

The risk disclosure index is crafted solely for the purpose of measuring the variation in CRD among the UAE corporations. At the start, 72 risk items expected to be published in the annual reports were examined. These items include financial, operational, regulatory, empowerment, information integrity, accounting estimates, derivatives, and hedging. However, scoring the annual reports reveals that some of risk items are either not disclosed by all corporations or by the majority of corporations. Accordingly, the maximum score of risk items was reduced to 45 items. The inclusion of the items in the maximum expected score is based on the grounds that the item is disclosed by at least three corporations in the sample. In other words, an item that is not disclosed by all corporations, or only two corporations or less disclose it, is excluded from the expected score.

One of the important issues during crafting the disclosure index is whether some items should be weighted more heavily (i.e. important) than others. In accounting research, both weighted and un-weighted disclosure indices are utilized (Cooke, 1989; Marston and Shrives, 1991; Owusu-Ansah, 1998; Raffournier, 1995). For the purpose of this paper, the un-weighted disclosure index was chosen because the study does not focus on a particular user group (Alsaeed, 2006; Naser *et al.*, 2006). Instead the study addresses all users of annual reports and therefore there is no need to confer different importance levels to the disclosed risk items (Oliveira *et al.*, 2006).

The contents of each corporation's annual reports were compared to the items listed in Appendix 2 and coded as 1 if disclosed or 0 if not disclosed. This index coincides with other studies that quantify the extent of compliance with a single, or a group, of standard(s) (Chalmers and Godfrey, 2004; Lopes and Rodrigues, 2007). It also coincides with other studies that quantify the extent of voluntary disclosure (Naser *et al.*, 2006; Barako *et al.*, 2006; Al-Razeen and Karbhari, 2004; Alsaeed, 2006; Owusu-Ansah, 1998; Raffournier, 1995; Oliveira *et al.*, 2006).

*The statistical model and independent variables.* The relationship between corporations-specific characteristics (independent variables[2]) and the level of CRD is tested through the following model:

$$\text{CRD index} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5,$$

where $X_1$, corporation size is measured by logarithm of the total assets; $X_2$, corporation level of risk 1: debt to total assets ratio (total liabilities divided by total assets); $X_3$, corporation level of risk 2: debt to equity ratio (total liabilities divided by total equity); $X_4$, industry membership (dummy variable whereby 1 for financial and 0 otherwise); $X_5$, corporation reserves: percentage of net income transferred to the corporation reserves.

## Results and discussion

### Descriptive statistics

Table I presents descriptive statistics of the model variables[3]. Some variables' scores varied largely as indicated by the minimum and maximum values. Both CRD index and debt to equity (risk level measure) have considerable dispersion in the scores, as represented by the minimum, maximum, and the standard deviation. Difference in means of CRD index (dependent variable) and other independent variables (log of total of assets, debt to equity, debt to assets, and reserves) related to industry type (the dummy variable representing financial sector and non-financial sector) is tested by using Mann-Whitney $U$ (two-tailed at 5 percent). This test, known as a non-parametric test, is used since each of the two sub-samples incorporates less than 30 observations. The financial sector (dummy variable 1 and ($n = 24$)) and non-financial sector (dummy variable 0 and ($n = 17$))[4].

The results, presented in Table II, show significant difference of all variables means except for log of total assets (size measure). The initial conclusion is that industry type may explain the variation of CRD disclosure index. However, which variables that significantly explain the variation in the level of CRD need further analysis as will be presented later.

### Assessing the validity of the model

Since the model uses more than one explanatory independent variable, it is of importance to check the existence of multicollinearity (Naser *et al.*, 2006; Alsaeed, 2006; Barako *et al.*, 2006; Oliveira *et al.*, 2006). Multicollinearity is a situation where two or more of the independent variables are highly correlated; therefore, it has damaging effects on the regression analysis results. Two different approaches are used to test the

|  | $N$ | Minimum | Maximum | Mean | SD |
|---|---|---|---|---|---|
| CRD index | 41 | 5.00 | 33.00 | 19.6098 | 6.24451 |
| Log of total asset | 41 | 6.61 | 11.36 | 9.3558 | 1.04878 |
| Debt to assets | 41 | 0.06 | 0.91 | 0.4841 | 0.26673 |
| Debt to equity | 41 | 0.06 | 10.60 | 2.0191 | 2.59956 |
| Industry type | 41 | 0.00 | 1.00 | 0.5854 | 0.49878 |
| Reserves | 41 | 0.00 | 0.39 | 0.1332 | 0.09817 |

**Table I.**
Descriptive statistics of all variables

|  | CRD index | Log of total assets | Debt to assets | Debt to equity | Reserves |
|---|---|---|---|---|---|
| Mann-Whitney $U$ | 98.000 | 151.000 | 58.000 | 58.000 | 129.000 |
| $Z$ | −2.811 | −1.403 | −3.864 | −3.864 | −2.042 |
| Sig. (two-tailed) | 0.005 | 0.161 | 0.000 | 0.000 | 0.041 |

**Table II.**
Mann-Whitney $U$ test statistics

**Notes:** Difference in means of all variables related to the industry type; 1, grouping variable: industry type; 2, if computed $Z$: $-1.96 \leq Z \leq 1.96$ then there is no difference in means, otherwise there is a difference in the mean

existence of the multicollinearity problem: first, the correlation matrix; second, the variance inflation factor (VIF).

The correlation matrix provides an idea of the relationship between explanatory variables. Although, there is no agreement among researchers regarding the cut-off correlation percentage, scholars suggest that correlation greater than 70 percent may create the multicollinearity problem (Alsaeed, 2006). Table III presents Pearson correlation coefficients among the independent variables. The table also suggests which variable that may pose the multicollinearity problem.

Table III shows the existence of a multicollinearity problem between the two measures of risk (debt to equity and debt to assets). The correlation coefficient $R$ is almost 82 percent at a significant level 0.01. Accordingly, one of these variables has to be omitted in order to perform the regression analysis. Since the correlation coefficient between CRD index and debt to equity is higher than that one between CRD index and debt to assets (Table III). One can initially suggest omitting debt to assets measure. Alternatively, the VIF can be used in order to determine which variable that should be omitted.

There is no hard rule on a hat VIF value at which the multicollinearity causes a problem, however some scholars suggest a VIF of 10 is a good value at which multicollinearity problem arises (Naser *et al.*, 2006; Alsaeed, 2006; Myers, 1990). Others recommend that if the average VIF – of variables included in the regression analysis – is substantially greater than 1 then the regression may be biased (Bowerman and O'Connell, 1990). This paper takes more cautious approach and therefore depends on the second recommendation that the average VIF should not substantially be greater than "1". The average VIF is calculated via summing all VIF values in the last column located in Table IV and then divided by the number of independent explanatory variables.

Table V shows that the debt to assets VIF (4.084) is higher than the debt to equity VIF (3.695). Although both variables absolute VIF values are lower than 10, the average VIF (2.37) is relatively greater than 1. However, if one of the concerned variables is omitted the average VIF will be close to "1". The omission of debt to equity yields an average VIF of (1.39) while the exclusion of debt to assets makes the average VIF equal to (1.29) which is closer to "1". This result not only confirms the existence of the multicollinearity problem but also encourages the exclusion of the debt to assets measure.

Finally, in order to test the non-existence of autocorrelation (i.e. the assumption of independent errors), the Durbin-Watson statistic was utilized. Alsaeed (2006) suggests that values less than 1 or greater than 3 should pose a problem (Field, 2000). He adds that the closer to 2 the value is the better the model. Since the paper relies on a small

| $n = 41$ | CRD index | Log of total assets | Debt to assets | Debt to equity | Industry type | Reserves |
|---|---|---|---|---|---|---|
| CRD index | 1 | | | | | |
| Log of total assets | 0.193 | 1 | | | | |
| Debt to assets | 0.448** | 0.172 | 1 | | | |
| Debt to equity | 0.485** | 0.359* | 0.819** | 1 | | |
| Industry type | 0.428** | 0.109 | 0.613** | 0.459** | 1 | |
| Reserves | 0.170 | 0.205 | 0.328* | 0.349* | 0.324* | 1 |

**Notes:** Correlation is significant at the levels (two-tailed): *0.05, **0.01, respectively

Table III.
Pearson correlations

| R | $R^2$ | F | Sig. | Durbin-Watson | |
|---|---|---|---|---|---|
| *Model summary* [a] | | | | | |
| 0.541[b] | 0.293 | 3.729 | 0.012 | 1.797 | |
| β | SE | T | *Sig.* | | *VIF* |
| *Model coefficients* | | | | | |
| Constant | 13.851 | 8.287 | 1.671 | 0.103 | |
| Log of total assets | 0.262 | 0.901 | 0.291 | 0.773 | 1.166 |
| Deb to equity[*] | 0.871 | 0.412 | 2.115 | 0.041 | 1.498 |
| Industry type[**] | 3.442 | 2.022 | 1.702 | 0.097 | 1.328 |
| Reserves | − 3.502 | 9.758 | − 0.359 | 0.722 | 1.198 |

**Table IV.**

**Notes:** [a]Dependent variable: CRD index; [b]predictors: (constant), log of total assets, debt to equity, industry type; [*]the variable is important at significant level of 0.95; [**]the variable is significant at level of 0.90

| Variables | VIF 1 | VIF 2 | VIF 3 |
|---|---|---|---|
| Log of total assets | 1.226 | 1.058 | 1.166 |
| Debt to assets | 4.084 | 1.761 | NA |
| Debt to equity | 3.659 | NA | 1.498 |
| Industry type | 1.674 | 1.648 | 1.328 |
| Reserves | 1.198 | 1.182 | 1.198 |
| Total | 11.841 | 5.559 | 5.19 |
| Average VIF | 2.37 | 1.39 | 1.29 |

**Table V.**
VIF coefficients

**Notes:** NA means not applicable; VIF l is based on all variables; VIF 2 excludes debt to equity; VIF 3 excludes debt to assets

sample (41 corporations), the value of 1.797 (Table IV) is not an excellent one yet it is acceptable. One of the possible solutions, to the relatively lower Durbin-Watson statistic, is to increase the sample size. However, that was not possible in this paper since the sample size, 41 corporations, almost represent all UAE corporations. What mitigates this problem is that the data, utilized in the analysis, is not prepared on daily basis such as daily trading volume and stock price change. Accordingly, one can argue that the problem of autocorrelation is not significant in this paper.

*Multiple regression results*
The multiple regression results are presented in Table IV. The results show that the F-ratio is 3.729 at significant level 0.01. The model $R^2 = 0.293$ implies that independent variables explain almost 30 percent of the variation the CRD index. Below is a discussion and comments on the regression results.

Although the corporation size coefficient is positively correlated to the risk disclosure index, the variable is insignificant. Accordingly, the empirical findings do not support *H1*. Although this result disagrees with prior literature that suggests that a size-risk disclosure significant relationship (Beretta and Bozzolan, 2004; Linsley and Shrives, 2006; Lopes and Rodrigues, 2007), there are several reasons to explain that disagreement. First, the previously mentioned literature was carried out for corporations operating in the

European business environment where the social, regulatory and institutional contexts are different. Second, the political sensitivity is not applicable to the UAE environment since the country has no history of anti trust governmental actions. The UAE has an open business environment whereby corporations operate freely but within the government regulatory framework.

Debt to equity ratio is positively and significantly linked to CRD level. Accordingly, the empirical findings supports *H2*. This result agrees with prior literature (Linsley and Shrives, 2006). The higher the corporation leverage the more risk-related information is disclosed in the annual reports. Industry membership is also found to be significantly associated with CRD levels. This result disagrees with Aljifri and Hussainey (2007) study that shows insignificant relationship between sector type and level of forward-looking information of UAE corporations. There are three possible explanations for that disagreement. First, this paper stresses on risk disclosure, while Aljifri and Hussainey (2007) focus on forward-looking information. Second, this paper crafts a CRD index based on the UAE regulatory requirements that are not underscored by Aljifri and Hussainey (2007). Finally, the paper combines insurance companies, finance institutions and banks in one pool representing the financial sector.

The empirical findings present a negative and insignificant relationship between CRD and reserves. The result is in contrast to the hypothesized reserves-CRD relationship. There are two possible explanations for that unexpected result. First, lower transfer to reserves could mean one of two situations: first, the corporation statutory reserve approaches the 50 percent paid in capital; second, the statutory reserve is already more than 50 percent paid in capital. Therefore, the transfer to remaining reserves (legal, contingency, and general) is to signal that corporations' managers effectively manage risks. Accordingly, even in situations whereby managers transfer lower percentage of net income to reserves (legal, contingency, and general), they are willing to disclose more risk information in order to signal to stakeholders how stable their corporations through managing risks.

Second, managers do not disclose high level of risk-related information, when they transfer high percentage of net income to reserves, since level of risk maybe assumed (i.e. contained) in the corporation reserves. Given the paucity of empirical studies that investigate CRD-reserves relationship, the paper highlights the need for further investigation, particularly, the relationship between law-based reserves and voluntary-based reserves and their association to level of CRD.

In the light of the empirical findings and the UAE institutional context, one can agree that seeking social legitimacy drives risk disclosure in the UAE. To recall, examining financial reports reveals that the sample corporations' annual financial reports were audited by one of the big audit firms. Since different studies confirm a relationship between high profile auditing firms and high levels of disclosures (Chalmers and Godfrey, 2004; Dumontier and Raffournier, 1998; Lopes and Rodrigues, 2007), the empirical finding suggest that high profile audit firms require their clients to comply with state-of-art disclosure practices such as CRD, which in turn, enhances the quality of financial reports.

Examining the annual reports reveals that almost all listed corporations, included in the sample, had their reports audited by one of big audit firms. Accordingly, these international audit firms exert pressures on corporations to disclose risk-related information. This augments the audit firm profile since the firm can claim that it audits state-of-art disclosure practices applied by corporations operating in a country

classified as an emerging economy country. At the same time, corporations' managers are willing to disclose risk-related information to obtain legitimacy in international capital markets. The UAE corporations' managers seem to introduce measures to facilitate foreign investment and earn the international investors trust. Part of these measures is risk disclosure since such a disclosure is a fundamental part of disclosure requirements in international capital markets.

### Conclusion, limitations and future research

The paper attempts to extend empirical knowledge and, at the same time, to add to current literature of CRD. It draws results based on a sample consisting of financial and non-financial UAE corporations listed in either Dubai Financial Market or Abu Dhabi Security Market. The paper investigates the relationship between the level of CRD and the UAE corporations-specific characteristics. An un-weighted disclosure index, containing 45 items, was calculated for each corporation. The empirical findings support debt to equity and industry membership hypotheses, while refute other hypotheses. One of the paper contributions is the development of a risk disclosure index in the light of accounting standards, professional requirements, prior research and the UAE regulatory framework. The paper also highlights reserves as one of the institutional factors affecting level of CRD.

Nevertheless, the paper has some limitations. First, although the paper extensively reviews prior research, professional requirements and the UAE regulatory framework to craft the risk disclosure index, the index items were subjectively assembled depending on their existence in the sample corporations' annual reports. Second, the choice of items does not reflect their level of importance as perceived by annual reports users, instead, it reflects their existence or nonexistence in the annual reports. Therefore, results could have changed if number and/or importance of the disclosure items are changed. Despite these limitations, the paper offers insights about corporations operating in Gulf area in general and the UAE in particular.

Future research could address several issues. First, there is a need for additional risk reporting research to close the gap in the literature whereby cross-country studies could help in understanding managers' motivations behind risk disclosure. Second, introduce new CRD items not addressed by the current study. Third, construct a risk disclosure index based on the financial reports users' weight to every disclosure item. Fourth, incorporating other independent variables, such as corporate governance and ownership structure, that may affect the behavior of management towards CRD. Finally, match the study results against a sample of unlisted UAE companies.

### Notes

1. See doing business in UAE: www.hlbi.com/dbifiles/UAE.asp, February 10, 2007.
2. Expect for reserves, the paper measures other variables through measurements similar to those ones used in CRD studies (Abraham and Cox, 2007; Lopes and Rodrigues, 2007; Linsley and Shrives, 2006; Lajili and Zéghal, 2005; Rodríguez, 2007; Robb *et al.*, 2001; Cabedo and Tirado, 2004; Linsley and Lawrence, 2007).
3. The paper uses SPSS software in order to perform the statistical analysis.
4. In order to confirm non-paramedic tests' results, the paper runs *t*-test and one-way analysis of variance test, known as parametric tests, for the difference in means in the two sub-samples. The parametric tests are more robust, yet they require a sample size of 30 observations or more. Nevertheless, they have presented similar results to non-parametric tests.

## References

Abraham, S. and Cox, P. (2007), "Analyzing the determinants of narrative risk information in UK *FTSE* 100 annual reports", *The British Accounting Review*, Vol. 39, pp. 227-48.

Ahmed, A.S., Beatty, A. and Bettinghus, B. (2004), "Evidence on the efficiency of interest rate risk disclosures by commercial banks", *The International Journal of Accounting*, Vol. 39, pp. 223-51.

Alfredson, K., Leo, K., Picker, R., Pacter, P., Radford, J. and Wise, V. (2007), *Applying International Financial Reporting Standards*, enhanced edition, Wiley, Milton.

Aljifri, K. and Hussainey, K. (2007), "The determinants of forward-looking information in annual reports of UAE companies", *Managerial Auditing Journal*, Vol. 15 No. 9, pp. 881-94.

Aljifri, K. and Khasharmeh, H. (2006), "An investigation into the suitability of international accounting standards to the United Arab Emirates environment", *International Business Review*, Vol. 15, pp. 505-26.

Al-Qahtani, A. (2005), "The development of accounting regulation in the GCC: western hegemony or regulation of peculiarity?", *Managerial Auditing Journal*, Vol. 20 No. 3, pp. 217-26.

Al-Razeen, A. and Karbhari, Y. (2004), "Interaction between compulsory and voluntary disclosure in Saudi Arabian corporate annual reports", *Managerial Auditing Journal*, Vol. 19 No. 3, pp. 351-60.

Alsaeed, K. (2006), "The association between firm-specific characteristics and disclosure: the case of Saudi Arabia", *Managerial Auditing Journal*, Vol. 21 No. 5, pp. 476-96.

Barako, D., Hancock, P. and Izan, H. (2006), "Factors influencing voluntary corporate disclosure by Kenyan companies", *Corporate Governance*, Vol. 14 No. 2, pp. 107-25.

Beretta, S. and Bozzolan, S. (2004), "A framework for the analysis of firm risk communication", *The International Journal of Accounting*, Vol. 39, pp. 265-88.

Bowerman, B.L. and O'Connell, R.T. (1990), *Linear Statistical Models: An Applied Approach*, 2nd ed., Duxbury, Belmont, CA.

Bushman, R.M. and Smith, A.J. (2001), "Financial accounting information and corporate governance", *Journal of Accounting and Economics*, Vol. 32, pp. 237-334.

Cabedo, J.D. and Tirado, J.M. (2004), "The disclosure of risk in financial statements", *Accounting Forum*, Vol. 28, pp. 181-200.

Carpenter, V.L. and Feroz, E.H. (1992), "Generally accepted accounting principles as a symbol of legitimacy: New York state's decision to adopt GAAP", *Accounting, Organizations and Society*, Vol. 17 No. 7, pp. 613-43.

Carpenter, V.L. and Feroz, E.H. (2001), "Institutional theory and accounting rule choice: an analysis of four US state governments' decisions to adopt GAAP", *Accounting, Organizations and Society*, Vol. 26, pp. 565-96.

Chalmers, K. and Godfrey, J. (2004), "Reputation costs: the impetus for voluntary derivative financial instrument reporting", *Accounting, Organizations and Society*, Vol. 29 No. 2, pp. 95-125.

Chamisa, E.E. (2000), "The relevance and observance of the IASC standards in developing countries and the particular case of Zimbabwe", *The International Journal of Accounting*, Vol. 35 No. 2, pp. 267-86.

Collier, P. and Berry, A. (2002), "Risk in the process of budgeting", *Management Accounting Research*, Vol. 13, pp. 273-97.

Cooke, T. (1989), "Disclosure in the corporate annual reports of Swedish companies", *Accounting & Business Research*, Vol. 19 No. 74, pp. 113-24.

Dhanani, A. (2003), "Foreign currency exchange risk management: a case of the mining industry", *The British Accounting Review*, Vol. 35, pp. 35-63.

Dumontier, P. and Raffournier, B. (1998), "Why firms comply voluntarily with IAS: an empirical analysis with Swiss data", *Journal of International Financial Management and Accounting*, Vol. 9, October, pp. 216-45.

Field, A. (2000), *Discovering Statistics: Using SPSS for Windows*, 1st ed., Sage, London.

Hassan, M.K. (2008a), "Risk management and reporting practices in the UAE: a comparative analysis", paper presented at the Asian Academic Accounting Association Conference (AAAA) 2008, University of Wollongong, Dubai, November 29-December 1.

Hassan, M.K. (2008b), "The development of accounting regulations in Egypt: legitimating the international accounting standards", *Managerial Auditing Journal*, Vol. 23 No. 5, pp. 467-84.

Hassan, M.K. (2008c), "The level of corporate risk disclosure in UAE", paper presented at the British Accounting Association Conference, Blackpool, April 1-3.

Healy, P. and Palepu, K. (2001), "Information asymmetry, corporate disclosure, and the capital markets: a review of the empirical disclosure literature", *Journal of Accounting and Economics*, Vol. 31 Nos 1/3, pp. 405-40.

Hodder, L., Koonce, L. and McAnally, M.L. (2001), "SEC market risk disclosures: implications for judgment and decision making", *Accounting Horizons*, March, pp. 49-70.

Hussain, M., Islam, M., Gunasekaran, A. and Maskooki, K. (2002), "Accounting standards and practices of financial institutions in GCC countries", *Managerial Auditing Journal*, Vol. 17 No. 7, pp. 350-62.

Iatridis, G. (2008), "Accounting disclosure and firms' financial attributes: evidence from the UK stock market", *International Review of Financial Analysis*, Vol. 17 No. 2, pp. 219-41.

Institute of Chartered Accountants in England and Wales (1997), *Financial Reporting of Risks: Proposal for a Statement of Business Risk*, Financial Reporting Committee, Institute of Chartered Accountants in England and Wales, London.

Institute of Chartered Accountants in England and Wales (2000), *No Surprise: The Case for Better Risk Reporting*, Financial Reporting Committee, Institute of Chartered Accountants in England and Wales, London.

Islam, M. (2003), "Development and performance of domestic and foreign banks in GCC countries", *Managerial Finance*, Vol. 29 Nos 2/3, pp. 42-72.

Jorion, P. (2002), "How informative are value at risk disclosures?", *The Accounting Review*, Vol. 77 No. 4, pp. 911-31.

Lajili, K. and Zéghal, D. (2005), "A content analysis of risk management disclosures in Canadian annual reports", *Canadian Journal of Administrative Sciences*, Vol. 22 No. 2, pp. 125-42.

Lang, M. and Lundholm, R. (1993), "Cross-sectional determinants of analyst ratings of corporate disclosures", *Journal of Accounting Research*, Vol. 31 No. 2, pp. 246-71.

Linsley, P.M. and Lawrence, M.J. (2007), "Risk reporting by largest UK companies: readability and lack of obfuscation", *Accounting, Auditing & Accountability Journal*, Vol. 20 No. 4, pp. 620-7.

Linsley, P.M. and Shrives, P.J. (2006), "Risk reporting: a study of risk disclosure in the annual reports of UK companies", *The British Accounting Review*, Vol. 38 No. 1, pp. 387-404.

Linsmeier, T.J., Thornton, D.B., Venkatachalam, M. and Welker, M. (2002), "The effect of mandated risk disclosure on trading volume sensitivity to interest rate, exchange rate and commodity price movements", *The Accounting Review*, Vol. 77 No. 2, pp. 277-343.

Lopes, P.T. and Rodrigues, L.L. (2007), "Accounting for financial instruments: an analysis of the determinants of disclosure in the Portuguese Stock Exchange", *The International Journal of Accounting*, Vol. 42, pp. 25-56.

Lundholm, R. and Winkle, M.V. (2006), "Motives of disclosure and non-disclosure: a framework and review of the evidence", *Accounting and Business Research*, Vol. 36, special issue, pp. 43-8.

Marston, C. and Shrives, P. (1991), "The use of disclosure indices in accounting research: a review article", *The British Accounting Review*, Vol. 25, pp. 195-210.

Meier, H.H., Tomaszewski, S.G. and Tobing, R. (1995), "Political risk assessment and disclosure in annual financial reports: the case of Persian Gulf War", *Journal of International Accounting, Auditing and Taxation*, Vol. 4 No. 1, pp. 49-68.

Mezias, S.J. (1990), "An institutional model of organizational practice: financial reporting at *Fortune* 200", *Administrative Science Quarterly*, Vol. 33 No. 3, pp. 431-57.

Myers, R. (1990), *Classical and Modern Regression with Applications*, 2nd ed., Duxbury, Boston, MA.

Naser, K., Al-Hussaini, A., Al-Kwari, D. and Nuseibeh, R. (2006), "Determinants of corporate social disclosure in developing countries: the case of Qatar", *Advances in International Accounting*, Vol. 19, pp. 1-23.

Oliveira, L., Rodrigues, L.L. and Craig, R. (2006), "Firm-specific determinants of intangibles reporting: evidence from the Portuguese stock market", *Journal of Human Resources Costing*, Vol. 10 No. 1, pp. 11-33.

Oliver, C. (1991), "Strategic responses to institutional processes", *The Academy of Management Review*, Vol. 16 No. 1, pp. 145-79.

Owusu-Ansah, S. (1998), "The impact of corporate attributes on the extent of mandatory disclosure and reporting by listed companies: Zimbabwe", *The International Journal of Accounting*, Vol. 33, pp. 605-31.

Poskitt, R. (2005), "Disclosure regulation and information risk", *Accounting and Finance*, Vol. 45 No. 3, pp. 457-77.

Raffournier, B. (1995), "The determinants of voluntary financial disclosure by Swiss listed companies", *European Accounting Review*, Vol. 4 No. 2, pp. 261-80.

Rajgopal, S. (1999), "Early evidence on the informativeness of the SEC's market risk disclosures: the case of commodity price risk exposure of oil and gas producers", *The Accounting Review*, Vol. 74, July, pp. 251-80.

Robb, S.W.G., Single, L.E. and Zazeeski, M.T. (2001), "Non-financial disclosure across Anglo-American countries", *Journal of International Accounting*, Vol. 10, pp. 71-83.

Rodríguez, L.C. (2007), "Corporate social responsibility: rhizomatic stakeholder influence on CSR", working paper, The University of Texas-Pan American, Edinburg, TX.

Samuels, J. and Oliga, J. (1982), "Accounting standards in developing countries", *The International Journal of Accounting Education and Research*, Vol. 18 No. 1, pp. 69-88.

Schrand, C. (1997), "The association between stock prices, interest rates sensitivity and disclosure about derivatives investments", *The Accounting Review*, Vol. 72 No. 1, pp. 87-109.

Schrand, C. and Elliott, J. (1998), "Risk and financial reporting: a summary of the discussion at the 1997 AAA/FASB Conference", *Accounting Horizons*, Vol. 12 No. 3, pp. 271-82.

Skinner, D. (1993), "The investment opportunity set and accounting procedure choice: preliminary evidence", *Journal of Accounting and Economics*, Vol. 17, pp. 407-46.

Solomon, J., Solomon, A., Norton, S.D. and Joseph, N.L. (2000), "A conceptual framework for corporate risk disclosure emerging from corporate governance reform", *The British Accounting Review*, Vol. 32 No. 4, pp. 337-478.

Spira, L.F. and Page, M. (2003), "Risk management: the reinvention of internal control and the changing role of internal audit", *Accounting, Auditing & Accountability Journal*, Vol. 16 No. 4, pp. 640-61.

Touron, P. (2005), "The adoption of US GAAP by French firms before the creation of the International Accounting Standards Committee: an institutional explanation", *Critical Perspectives on Accounting*, Vol. 16 No. 6, pp. 851-73.

Tsakumis, G.T. (2007), "The influence of culture on accountants application of financial reporting rules", *ABACUS: A Journal of Business, Finance and Business Studies*, Vol. 43 No. 1, pp. 27-49.

Watts, L.R. and Zimmerman, J.L. (1986), *Positive Accounting Theory*, Prentice-Hall, New York, NY.

Wong, M. (2000), "The association between SFAS No. 119 derivatives disclosures and foreign exchange risk exposure of manufacturing firms", *Journal of Accounting Research*, Vol. 119, Autumn, pp. 387-418.

*UAE legislations/bulletins*

Federal Law No. 8 (1984), amended by federal laws: 13 of 1988 and 3 of 1990, concerning Commercial Corporations operating in the UAE.

Federal Law No. 4 (2000), Concerning the Emirates Securities & Commodities Authority and Market, amended by Decision No. (75) in Year 2004 and Decision No. (155) in Year 2005.

(The) Institute of Internal Auditors – UAE Chapter (2007), "Message from the President", No. 6, Dubai, September.

Securities and Commodities Authority Chairperson (2007), Decision No. (R/23) on Corporate Governance Code for Joint-Stock Companies and Institutional Discipline Criteria.

(The Appendices follow overleaf.)

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**Appendix 1**

| Financial sector | Non-financial sector |
|---|---|
| Arab Emirates Investment | Abu Dhabi National Energy |
| Amalak Finance | National Tourism & Hotels |
| United Arab Bank | Emirates Food Stuff |
| UAE Finance House | Abu Dhabi National Hotel |
| Commercial Bank of Dubai | Aldar Properties |
| Dubai Islamic Bank | Union Properties |
| Dubai Investment | Etisalat |
| Tamweel | Abu Dhabi Shipping |
| Umm Alqun Bank | Ras Al-Khaimah Cement |
| Emirates Bank International | Abar Petrolem Company |
| Gulf Finance House | Gulf Cement Company |
| Gulf General Investment | Tabreed |
| Sharjah Islamic Bank | Arab International logistics ARAMEX |
| Investment Bank | Emirates Arab Technical Construction |
| Mashreq Bank | Emirates Integrated Telecommunication |
| National Bank of Abu Dhabi | EMAAR |
| National Bank of Ras Al-Khaimah | Arab Heavy Industries |
| Bank of Sharjah | |
| Abu Dhabi Commercial Bank | |
| Alsagr National Insurance | |
| Emirates Insurance Company | |
| Islamic Arab Insurance | |
| Oman Insurance | |
| Abu Dhabi Insurance | |

**Table AI.**

## Appendix 2

| | Alfredson et al. (2007) | Beretta and Bozzolan (2004) | Lajili and Zéghal (2005) | Linsley and Shrives (2006) | Abraham and Cox (2007) | Lopes and Rodrigues (2007) | Robb et al. (2001) | Cabedo and Tirado (2004) | Barako et al. (2006) | Ahmed et al. (2004) | Meier et al. (1995) | ICAEW 1997 (2000) | UAE laws | Dhanani (2003) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *General risks information* | | | | | | | | | | | | | | |
| 1. Competition in product market | | X | X | X | X | | X | X | X | | | X | | |
| 2. Brand name erosion/change/ addition | | X | X | X | X | | X | X | X | | | X | X | |
| 3. New alliances and joint ventures | | X | X | | X | | X | X | X | | | X | | |
| 4. Relationship to government developments plans | | X | X | | X | | X | X | X | | | X | | |
| 5. Customer acquisition processes | | X | X | X | X | | X | X | X | | | X | | |
| 6. Recruiting of qualified and skilled professional | | X | X | X | | | X | X | X | | | X | | |
| 7. Change in regulations/overseas tax law | | X | X | X | | | X | X | X | | | X | | |
| 8. Events beyond balance sheet | | X | X | | | | X | X | X | | | X | | |
| 9. Political environment | | X | X | X | X | | X | X | X | | | X | X | |
| 10. Natural disasters | | X | X | X | X | | X | X | X | | | X | | |
| *Accounting policies* | | | | | | | | | | | | | | |
| 11. Use of estimates/judgments | X | | | | | | | | | | | | | |
| 12. Collateral assets against loans | X | | | | | | | | | | | | | |
| 13. Objectives of provisions/legal constructive | X | | | | | X | | | | | | | | |
| 14. Financial assets impairment | X | | | | | X | | | | | | X | | |
| 15. Other assets impairment | X | | | | | X | | | | | | X | | |
| 16. De-recognition of financial assets | X | X | X | | | X | | | | | | | | |
| 17. Risk management | X | X | X | | | | | | | | | X | | X |
| 18. Detailed risk management | X | | | | | | | | | | | X | | X |
| 19. Objective of holding derivatives/ instruments | X | | | | | X | | | | | | | | |
| 20. Contingent liabilities | X | | | | X | | | | | | | X | | |
| 21. Contingent assets | X | | | | X | | | | | | | X | | |
| 22. Inventory lower of cost or market | X | | | | | | | | | | | X | | |
| 23. Key sources of estimation uncertainty | X | | X | | | | | | | | | X | | |
| *Financial instruments* | | | | | | | | | | | | | | |
| 24. Classifying instruments by risks | X | | | | | X | | | | | | | | |
| 25. Principal, stated value, face value | X | | | | | X | | | | | | | | |

(continued)

**Table AII.**

| | Alfredson et al. (2007) | Beretta and Bozzolan (2004) | Lajili and Zéghal (2005) | Linsley and Shrives (2006) | Abraham and Cox (2007) | Lopes and Rodrigues (2007) | Robb et al. (2001) | Cabedo and Tirado (2004) | Barako et al. (2006) | Ahmed et al. (2004) | Meier et al. (1995) | ICAEW 1997 (2000) | UAE laws | Dhanani (2003) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26. Reclassification of instruments | × | | | | | × | | | | | | | | |
| 27. Cumulative change in fair value | × | | | | | × | | | | | | × | | |
| *Derivatives hedging* | | | | | | | | | | | | | | |
| 28. Hedging description | × | | | | | × | | | | | | | | |
| 29. Change in fair value of assets or liability | × | | | | | × | | | | | | | | |
| 30. Cash flow hedge | × | | | | | × | | | | | | | | |
| *Reserves* | | | | | | | | | | | | | | |
| 31. Statutory | | | | | | | | | | | | | × | |
| 32. Legal | | | | | | | | | | | | | × | |
| 33. Contingency/general | | | | | | | | | | | | | × | |
| *Segment information* | | | | | | | | | | | | | | |
| 34. Business major segments | × | | × | | | | × | × | | | | × | | |
| 35. Geographical concentration | × | | × | | | | × | × | | | | × | | |
| 36. Customer/(asset/liabilities) concentration | × | | × | | | | × | × | | | | × | | |
| *Financial and other risks* | | | | | | | | | | | | | | |
| 37. Operational risk/insurance risk | | | × | × | | | × | × | | | | × | | |
| 38. Market risk | × | | × | | × | | | × | × | × | | × | | |
| 39. Interest rate | × | | × | × | × | | | × | × | × | | × | | |
| 40. Exchange rate | × | | × | × | × | | | × | × | | | × | | × |
| 41. Liquidity | × | | × | × | × | | | × | × | | | × | | |
| 42. Credit | × | | × | × | × | × | | × | | | | × | | |
| 43. Pricing risk | | | | | | | | | | | | | × | |
| 44. Tabular presentation | | × | | | | | | | | × | | | | |
| 45. Sensitivity analysis | | × | | | | | | | | × | | | | |

**Table AII.**

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