

## **Content Analysis of Corporate Risk Disclosures: The Case of Bahraini Capital Market**

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*The topic, corporate risk disclosure, has received considerable attention recently. This study provides insights into the types of risk disclosures in Bahraini capital markets from a sample of company annual reports using content analysis. It investigates the nature of risk disclosures and identifies a number of determinants of these disclosures. Three regression models were employed using three dependent variables (systematic (SRD); unsystematic (USRD) and total risk disclosures) and ten independent variables as the determinants of risk disclosures. One of the main findings in the study is that corporate risk disclosures are very limited in the annual reports of sampled companies. Concerning the types of SRD, the most common type of risk disclosures is interest rate risk (IRR) in financial and non-financial sectors. On the other hand, the highest number of risk disclosures in both sectors for the types of USRD is operational risk (OR). There are significant associations between the quantity of SRD and some independent variables as firm size, Beta of the company and firm listing. In the same line, other significant associations are reported between the quantity of USRD and a number of independent variables (as firm size, issuance of shares, firm profitability and percentage of free float). Firm size is seen as a significant determinant of all types of risk disclosures.*

**Keywords:** Corporate Risk Disclosure, Financial Reporting, Risk Management, Bahraini Capital Market.

### **1. Introduction**

In recent years, the concept of corporate risk disclosures has gained interest in financial reporting practice, regulation and international research. Corporate financial reporting is a unique issue in ensuring mutually beneficial relations between a firm and its stakeholders, a situation which ultimately benefits stockholders. Firms provide disclosure through regulated financial reports, including the financial statements, footnotes, management discussion and analysis and other regulatory filings. In addition, some firms engage in voluntary communication, such as management forecasts, analysts' presentations and conference calls, press releases, internet sites and other corporate reports (Healy and Palepu, 2001). The main aim of financial information is to be of use to users when taking decisions (FASB, 1978). The increasing complexity of business strategies, operations and regulations makes it quite difficult for investors to appreciate financial information on its own without clear, accompanying explanations (Marston and Shrivs, 1991). Every company is faced with different corporate risk reporting is a corner-stone of accounting and investment practice.

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Informative disclosures help investors and creditors understand the company better thereby making the capital allocation process more efficient (ICAEW, 1999; FASB, 2001). Risk reporting will allow outsiders to assess the risks of an entity's future economic performance (Linsley and Shrides, 2006). Corporate disclosure is critical for the functioning of an efficient capital market. Hayes et al. (2001) found a significant market reaction to corporate disclosure on investments in enterprise resource planning systems and concluded that non-financial forward-looking information is important to include in financial reports. Firms can achieve advantages of risk reporting such as helping to manage changes, lower the cost of capital, increase the shareholders' wealth and reduce the probability of financial failure; determine the risk profile of a company and estimate the market value of securities (ICAEW, 1999; Beretta and Bozzolan, 2004). This has motivated accounting bodies to take greater interest in the oversight of risk and in ensuring firms collect and disseminate a greater body of risk information (Abraham and Cox, 2007). For example, in the USA, The American Institute of Certified Public Accountants' (AICPA, 1994) report on improving business reporting (Jenkins' report) suggests that users need information about a firm's activities, processes and events. Further, Sarbanes-Oxley (2002) and Securities and Exchange Commission (SEC) (1997) through its FFR 8, obliges listed companies to disclose the market risk arising from adverse changes in interest and foreign exchange rates and in stock and commodity prices. The International Accounting Standards Board (IASB, 1995, 1999), under rules IAS No. 32 and 39, and the Financial Accounting Standard Board (FASB, 1998) establish the compulsory disclosure of market risks arising from the use of financial assets. In the UK, the Institute of Chartered Accountants in England and Wales (ICAEW) issued a number of studies (such as, 1998; 1999; 2000; and 2002) to address financial reporting of risk and prospective financial information.

However, few references deal with this critical title "corporate risk disclosure"; accounting literature has documented poor voluntary risk reporting on average (Beretta and Bozzolan, 2004). Abraham and Cox (2007) reported that the information on risks as it currently stands through financial reporting is too brief and not wholly adequate for decision-making purposes. In the same line, Cabedo and Tirado (2004) pointed out that accounting information currently issued by firms is not sufficient when used for decision-making purposes and, within that process, for forecasting for which additional information on risks is required. The main weakness in corporate disclosure is its lack of information on risks that face companies (ICAEW, 2002). Although there is consensus about the importance of providing information on corporate risks from several angles; there is a dearth of research on this topic, especially in the Arab region and the Middle East, which constitutes the main motivation for this study. Thus, the focus of the current study is The Kingdom of Bahrain which is a member of the Gulf Co-operation Council (GCC).

The aim of this study is to investigate the nature of risk disclosures within the annual reports for a sample of 46 listed companies on the Bahrain Bourse (BHB) using a content analysis approach. The study focuses on all narrative sections in the annual reports, including the notes of the accounts, and considers only the quantity of risk disclosure rather than the quality of this disclosure. It also investigates the relationship between a number of determinants of corporate risk disclosures (firm size, type of industry, profitability, leverage, liquidity, beta risk, firm listing, issuance of shares and percentage of free float and percentage of foreign ownership) and the amount of corporate risk disclosures.

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The study is justified on the following grounds. (1) it provides a starting point for research involving corporate risk disclosures in a Bahraini environment. It is one of the first empirical studies that use the content analysis approach to investigate corporate risk disclosures in annual reports of listed companies in BHB. (2) Relatively little is known about risk disclosures which may make a general contribution in this area. (3) The empirical investigation of this study could help in providing benefits to investors and regulators. (4) It may help in studying other capital markets in the area especially the GCC which may also contribute to the accounting literature on emerging markets (EM).

The current study is structured as follows. Section 2 discusses the demand for corporate risk disclosures. A profile of Kingdom of Bahrain is provided in Section 3. Section 4 presents types of corporate risks. Literature review and hypotheses development are provided in Section 5. The sample selection and methodology are outlined in Section 6. Results and statistical analysis are presented in Section 7. The conclusions and future research are reported in Section 8.

### **2. The Demand for Corporate Risk Disclosures**

Major companies have complex operations and face multiple risks from within their own businesses as well as from their external environment. Consequently, investors face various kinds of risks. They need information on risks so that they can perform their own risk assessments. This issue leads to the growing demand for better reporting of business risks that has emerged in recent decades. This is based on the belief that improved understanding of business risks by investors and other users of corporate reporting should lead to better stewardship of companies and to a more efficient allocation of resources (ICAEW, 2011). It is generally accepted that there was a widely shared under-estimation of risk before the financial crisis of 2007 and beyond. This has reinforced calls for improved risk reporting by companies in all sectors.

Several studies (Solomon et al., 2000; Linsley and Shrivs, 2006; Beretta and Bozzolan, 2004; Abraham and Cox, 2007) have provided evidence on the importance of corporate risk disclosures to help investors in taking investment decisions and reduce the level of investor uncertainty. On the other hand, the most important potential benefit arising from improved risk disclosures by firms is a reduction in the cost of capital (Linsley and Shrivs, 2000). That is, if risks are disclosed providers of capital may remove a part of the premium that is incorporated in the cost of capital to cover for uncertainty concerning the firm's risk position. Moreover, several accounting bodies provide many discussions on corporate risks and disclosure related to them. For example, the AICPA (1987) "Report of the Task Force on Risk and Uncertainties" recognized that users, faced with the uncertain environment in which firms are operating, are demanding information to help them to evaluate company risks related to future cash flows and results and, consequently, to improve their decision-making processes. The AICPA (1994-Jenkins'report) recommends that the company must provide users more information with a forward-looking perspective including management's plans, opportunities, risks and measurement uncertainties. The US Sarbanes-Oxley Act of 2002 contains a requirement in section No. 404 for the SEC to require public companies to include an assessment of the effectiveness of internal control structures and procedures in their annual reports. These disclosures are potentially useful for assessing a firm's risks and/or its risk mitigation procedures.

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In the UK, the Cadbury Report (1992) has recommended that the main risks facing the company be identified, evaluated and managed and that they be made public as one of the items on the agenda for the reform of the operative supervision and control process in UK companies. Subsequently, the Combined Code (1998) modified the initial requirements set out by the Cadbury and Greenbury reports on the governance of corporations and pointed to the need for a review of their internal control systems and for the reporting of company risks to shareholders. In response to the Combined Code, the ICAEW published the Turnbull Report (1999) which contributed tremendously to an improvement in the overall standard of risk management and internal control of UK listed companies. In 2005, the Financial Reporting Council (FRC) established the Turnbull Review Group to revise the Turnbull Report to consider further the guidance and related disclosure requirements. The Turnbull guidance reflects good business practice in the areas of risk management and internal control. It emphasizes that a company's internal control system has a key role to play in the management of risks that are significant to the fulfillment of its business objectives.

In the same vein, the Canadian Institute of Chartered Accountants (CICA) in 2004 recommends that a company disclose its Management Discussion and Analysis (MD&A) section of the annual report, its principal risks and describe related risk management systems to enable readers to understand and evaluate the company's risks. Securities regulators in Canada require that the MD&A section discusses important trends and risks that have affected the financial statements and risks that are reasonably likely to affect them in the future.

The current state of the International Accounting Standard (IAS) on risk reporting focused predominantly on market risk associated with the use of derivatives (e.g., IAS 32, and IAS 39). In the United States, Financial Reporting Release No. 48 (FRR 48), issued in 1997, requires SEC registrants to disclose both qualitative and quantitative information about market risks (potential losses arising from adverse changes in interest rates, foreign exchange rates and in stock and commodity prices). Further, the FASB (1998) (through the FAS No. 133) and the IAS 39 tackle the reporting of risks associated with financial assets within the financial statements. Similarly, in the UK the Accounting Standards Board (ASB) issued in 2004 Financial Reporting Standard (FRS) 25 and also issued FRS 26 in 2005 focusing on the disclosure and measurement of financial instruments. Also, German Accounting Standard (GAS) No.5 requires German companies to report on risk for financial years commencing after 31 December, 2000.

In Bahrain, CBB Capital Market Regulations (2003) include a number of Articles describing information that the company should disclose. For example, Article 5 summarizes key information about the issuer's financial condition, capitalization and risk factors. Such factors may include: the nature of the business in which it is engaged or proposes to engage; factors relating to the countries in which it operates; the absence of profitable operations in recent periods; the financial position of the issuer; the possible absence of a liquid trading market for the issuer's securities; reliance on the expertise of management; potential dilution; unusual competitive conditions pending expiration of material patents, trademarks or contracts; or dependence on a limited number of customers or suppliers. Article 7 requires the company to provide information on operating and financial reviews and prospects. This may include management's assessment of factors and trends that are anticipated to

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have a material effect on the issuer's financial conditions and results of operations in the same future period.

### **3. A Profile of the Kingdom of Bahrain**

The Kingdom of Bahrain has a geographical and time-zone location mid-way between the Asian and European markets. Bahrain Bourse (BHB) is the focus of capital market activities in Bahrain. BHB was established as a shareholding company according to Law No. 60 for the year 2010 to replace Bahrain Stock Exchange (BSE). The Exchange officially commenced operations in June 1989 according to Amiri Decree No. 4 with 29 Bahraini shareholding companies listed. The only instruments traded at that time were common shares. In 1999, BHB implemented the Automated Trading System (ATS) to carry out the entire bourse's transactions electronically replacing the old manual system. In 2002, the legislative and regulatory authority and supervision of BHB was transferred from the Ministry of Commerce to the Central Bank of Bahrain (CBB). It is the sole regulator of Bahrain's financial sector, covering the full range of banking, insurance, investment business and capital markets activities.

According to the Annual Trading Bulletin of BHB (2011), at the end of the year 2011, market capitalization of the Bahrain Bourse stood at BD 6.25 billion (bn) decreasing from BD 7.56 bn in 2010 by 17.30%. The value of shares traded in 2011 was on the downside in comparison to the previous year, decreasing to BD 104.97 in 2011 from BD 108.41 millions (mn) in 2010, hence, declining by 3.18%. Similarly, the volume of shares traded decreased in comparison to last year by 15.02%, reaching 520.22 mn shares in 2011 compared to 612.19 mn shares in 2010. Moreover, the number of transactions decreased by 39.85%. Bahraini investors accounted for 56.08% of the total value of traded shares in 2011 while the Non-Bahraini investors accounted for 43.92%. This decline in the performance of the BHB in 2011 perhaps is related to the global financial crisis and political events witnessed by the Kingdom of Bahrain, which have adversely affected economic activities. Table (1) presents the performance of BHB in the years of 2010 and 2011.

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**Table 1: The performance of BHB in the year of 2010 and 2011**

.Market Capitalization (BD)*				Trading Value (BD)		
Sectors	2011	2010	Change %	2011	2010	Change %
Commercial Banks	2,393,210,243	2,567,870,918	(6.80)	50,003,570	44,125,606	13.32
Investment	1,679,550,059	2,240,966,826	(25.05)	20,346,887	25,990,910	(21.72)
Insurance	164,480,545	170,767,112	(3.68)	1,164,081	10,140,860	(88.52)
Services	871,781,382	1,066,167,618	(18.23)	20,008,379	25,279,551	(20.85)
Industrial	953,842,995	1,301,742,995	(26.73)	9,236,238	1,558,388	492.68
Hotels & Tourism	191,545,495	215,001,576	(10.91)	1,186,604	1,314,591	(9.74)
<b>Total Market</b>	<b>6,254,410,719</b>	<b>7,562,517,045</b>	<b>(17.30)</b>	<b>104,966,160</b>	<b>108,410,906</b>	<b>(3.18)</b>

(\*)The currency of Bahrain is the Bahraini Dinar (BD).  
Source: Bahrain Bourse, Annual Trading Bulletin, (2011).www.bahrainbourse.com.bh.

### 4. Types of Corporate Risk

The term “risk” is ambiguous and has different meanings for different people in the context of risk reporting. For example, many managers use the term “loss exposure” to identify potential losses. A loss exposure is any situation or circumstance in which a loss is possible, regardless of whether a loss occurs (George, 2008). Risk here is seen by the negative sense of a possibility of incurring losses or reduced profits or disadvantages. In contrast, others may see risks as opportunities or rewards together, so it is clear that the negative risks are being linked with the positive opportunities or rewards. Therefore, different definitions and classifications of type of risks are established in the literature by researchers and accounting bodies. Risk is defined as “the possibility that an event, action or circumstance will adversely affect an organization’s ability to achieve its business objectives”. This encompasses exposure to negative consequences (“downside”) and the possibility that positive consequences (“opportunities”) will be missed (CICA, 2004, para.360.2.2). Solomon et al. (2000) used the term ‘risk’ in its broadest sense to refer to all types of risk faced by UK companies. Risk may be defined as the uncertainty associated with both a potential gain and loss.

Concerning risk disclosure categories, there are no general guidelines but a number of attempts has been provided by professional bodies and researchers. For example, the AICPA (1994) identified the types of information that users need, suggesting five categories of such information as: financial and non-financial data, management’s analysis of financial and non-financial data, forward-looking information, information about management and shareholders, background about a company. FASB (2001) added the intangible asset dimension to these existing five categories. The ICAEW provided a number of unique discussion papers on corporate disclosure, for example, in 1998 its paper titled “Financial Reporting of Risk: Proposals for a Statement of Business Risk” not only reveals the lack of risk information in financial statements but also formally proposes that risks should be reported. The ICAEW proposes the set of

risks to be reported on and a set of techniques that can be used for quantifying these risks. This discussion paper proposes a separate statement of business risk that would identify and prioritise key risks, describe the actions taken to manage each risk and identify how each risk is measured. Importantly, all types of business risk, rather than only financial risks, would be included. Thus, the statement of business risk would encompass external, environmental risks as well as internal risks, the latter of which could arise from operational, financial or other sources (ICAEW, 2011). Jorion (1997) argued that companies are exposed to three types of risk: business risks are related to the product market in which the company operates and include technological innovations, product design and marketing. Strategic risks, in turn, are those related to basic changes in the economy or the political environment. Finally, financial risks are related to possible losses in the financial markets. While, Linsley and Shrivies (2006) categorized the risk disclosures into six risk categories consisting of financial risks, operations risks, empowerment risks, information processing and technology risks, integrity risks and strategic risks. Cabedo and Tirado (2004) categorized risks into two types of risks: non-financial risks, (as business risk and strategic risk) and financial risks (as market risk, credit risk, liquidity risk and operational and legal risks).

In the absence of specific regulations for corporate risk disclosures in Bahrain, the current study used a broad definition of risk to encapsulate all types of risk that were faced by listed companies in BHB and it also considers the above studies on the classification of risks to suggest two categories of risk. The study has categorized risks into systematic and unsystematic. Systematic risk affects all the stocks in the market in general. It is the possibility that the financial markets will drop in value. Systematic risk categories consist of interest rate risk (IRR), exchange rate risk (ERR), inflationary risk (IR), political risk (PR) and recession risk (RR). Unsystematic risk is specific to an individual stock, firm or industry. It is inherent to the nature of business in the particular industry. Unsystematic risk categories consist of business risk (BR), liquidity risk (LR), operational risk (OR), credit risk (CR), internal control risk (ICR) and strategic risk (SR). Appendix A presents the definitions of the types of risk that fall within each of the two categories.

## 5. Literature Review and Hypothesis Development

Corporate risk disclosure is becoming a serious topic for research. A number of studies has analyzed the utility of risk information for investors, such as those by Linsmeier et al. (2002) and Jorion (2002), which reveal that the disclosure of information about market risks is useful in taking investment decisions as it reduces the level of investor uncertainty. In this vein, Solomon et.al (2000) conducted a questionnaire survey using a sample of 552 institutional investors to investigate the attitudes of UK institutional investors towards risk disclosure in relation to their portfolio investment decisions. The sample comprised the four main types of investment institutions: pension funds; investment trusts; unit trusts; and insurance companies. The questionnaire was distributed between January and April 1999. The empirical findings indicate that almost a third of the institutional investors agree that increased corporate risk disclosure would help their portfolio investment decision-making. There is also a strong indication that risk disclosure is an important and relevant issue within the agenda for corporate governance reform. The same conclusion is provided by Cabedo and Tirado (2004) who applied a different approach, value at risk, as a fundamental tool to quantify the risks affecting firms by using data from a multi-national

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company listed in the Spanish Stock Exchange from 1991 to 2001. The study used the variance–covariance method with applying bootstrap techniques to quantify risks.

Studies on corporate risk disclosures revealed that the nature and quality of such disclosures are different among companies and through different countries. For example, Carlon et al. (2000) examined the annual reports of 54 Australian companies operating in the mining sector and reported relevant variations in the extent and detail of voluntary risk disclosures. Similar results have been reported by Lajili and Ze'ghal (2003) who analyzed the MD&A section of the annual report of 300 Canadian listed companies and found that voluntary risk disclosures in annual reports are almost entirely qualitative in nature and lacking in specificity and depth. Marshall and Weetman (2002) examined the annual reports of 30 US and 30 UK companies in 1998. For the US companies, SFAS 119 and SEC Release 48 were applicable. For the UK companies at 31 December 1998, FRS 13 was not obligatory but early adoption was encouraged. The findings reflect differences in the emphasis of the respective national regulatory frameworks, showing stronger disclosure of the nature of derivatives risk by US companies but more information on corporate governance control aspects and non-derivatives risk by UK companies. In Germany, Kajuter and Winkler (2003) examined risk disclosures of 83 non-financial publicly listed German companies for the years (1999- 2001). The study reported that companies increased the number of risk categories reported over the study period but their risk disclosures are not systematic in their reports and have relatively low conformance to GAS 5. Similar results are reported by Woods and Reber (2003) who investigated risk disclosures of six German companies and six UK companies for the years 2000 and 2001 and reported an increase in risk disclosures by German companies after GAS 5.

In UK, Abraham and Cox (2007) examined the relationship between the quantity of narrative risk information in corporate annual reports and ownership, governance and US listing characteristics using a sample of 71 listed companies. The study employed three estimates of risk reporting as business risk reporting, financial risk reporting and internal control risk reporting. The results reported that corporate risk reporting is negatively related to share ownership by long-term institutions. Also, both the number of executive and the number of independent directors related positively to the level of corporate risk reporting. Beretta and Bozzolan (2004) analyzed the MD&A section of the annual report for a sample of 85 non-financial companies listed on the Italian Stock Exchange. The study analyzed the topic of risk: first, according to three risk factors; company characteristics, company strategy and environment around the company; and second, according to five narrative categories; monetary/non-monetary, quantitative/qualitative, past/future, negative/positive and information/action. Regarding the quality of risk disclosure, the results reported that there is no relationship with either size or industry; in contrast, regarding the quantity of risk disclosure, there is a positive relationship with firm size but no relationship with industry. Linsley and Shrivs (2006) examined all narrative sections of the annual reports of 79 non-financial UK FTSE 100 companies. The study showed a positive relationship between risk disclosure and company size and risk disclosure and environmental risk but none was found between risk disclosure and measures of financial risk including gearing, asset cover, beta and price to book value. The first objective of the current study is to investigate the nature of corporate risk disclosures applying the categories of risks suggested in Appendix (A) while the second is to examine the determinants of the quantity of corporate risk disclosures. Therefore, the following section will address these determinants.



### 5.1 Determinants of Corporate Risk Disclosure

A significant body of literature has explored corporate disclosure generally ( Barako et al., 2006; Ezat and Al-Masry, 2008). One strand of this literature is risk disclosures (Beretta and Bozzolan, 2004; Linsley and Shrivess, 2006), the focus of this study. It is expected that the determinants of these disclosures reflect the findings of general disclosure studies (e.g., Haniffa and Cooke, 2002; Desoky, 2009). In the current study, ten factors (firm size, type of industry, profitability, leverage, liquidity, beta risk, firm listing, issuance of shares and percentage of free float and percentage of foreign ownership) are selected as independent variables.

#### 5.1.1 Firm Size

Firm size represents one of the most common variables in determining the extent of disclosure. In most prior disclosure studies it was documented as a significant determinant of disclosure levels (Haniffa and Cooke, 2002; Barako et al., 2006; Ezat and Al-Masry, 2008; and Desoky, 2009). Several reasons are provided to explain the significant relationship between firm size and corporate disclosure. For example, large companies may be more able to access financial markets if they disclose more information which may reduce government intervention (Firth, 1979). They generally have a richer information environment and are more likely to be followed by a larger number of financial analysts. Firth (1979) and Beattie et al. (2004) found a positive relationship between size and corporate disclosure for a sample of UK companies; in Italy, Beretta and Bozzolan (2004) found a similar relationship between the quantity of risk disclosure and firm size. There are several proxies of firm size used in prior research, including total assets (Barako et al., 2006), turnover (Craven and Marston, 1999) and total sales (Aly and Simon, 2008). A log of the total assets of each firm in BD for 2011 has been used in this study as a proxy of firm size. Based on the above arguments, the following hypotheses are tested.

**H1:** There is a significant association between firm size and the amount of systematic risk disclosures.

**Ha1:** There is a significant association between firm size and the amount of unsystematic risk disclosures.

**Ha2:** There is a significant association between firm size and the amount of total corporate risk disclosures.

#### 5.1.2 The Beta of the Company

Beta is one of the most popular and commonly used measures of risk for the financial markets. It is a proxy for information asymmetry between the firm's managers and investors. This measure quantifies a stock's risk in relation to the market. It is a measure of the extent to which the returns on a given stock move with the stock market. The tendency of a stock to move with the market is reflected in its beta coefficient ( $\beta$ ) which is a measure of the stock's volatility relative to that of the overall market. The market has a beta of 1.0. Hence, a stock with a beta greater than 1.0 will have a greater volatility than the overall market, and vice versa. Beta is calculated as:

$$\text{Beta } (\beta) = \text{Covariance (Market Index, Stock Price)} / \text{Variance of Market Index}$$

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The higher a firm's risk, the more difficult it is for investors to assess precisely its value. If a company increases its information disclosure, it can be assumed that investor uncertainty should be reduced (Marston and Polei, 2004). For instance, Knight and Affleck-Graves (1986) found an association between beta risk and the level of corporate disclosure. In contrast, Linsley and Shrives (2006) reported that no significant association exists between beta of the company and the numbers of risk disclosures. Therefore, based on the above arguments, the hypotheses are:

**H2:** There is a significant association between beta risk and the amount of systematic risk disclosures.

**Hb1:** There is a significant association between beta risk and the amount of unsystematic risk disclosures.

**Hb2:** There is a significant association between beta risk and the amount of total corporate risk disclosures.

### 5.1.3 The Issuance of Shares

The issuance of shares is an important factor that may impact corporate disclosure. Most companies seek to increase their capital by different resources and one of these resources is issuing more shares. Frankel et al. (1995) argued that firms that access the capital markets are more likely to engage in voluntary disclosure. Companies which need new financing will seek to disclose more information on their web sites to attract more investors and increase their confidence about the position of the companies which may encourage those investors to invest in them (Ezat and El-Masry, 2008). Geerings et al. (2003) argued that increasing globalization of capital markets will lead to a strengthening and expansion of disclosure as companies need to attract more foreign investors in the face of greater competition for capital. The literature revealed a significant association between the issuance of new shares and corporate disclosure (Ettredge et al., 2002). Therefore, based on the above arguments, the hypotheses are:

**H3:** There is a significant association between issuance of shares and the amount of systematic risk disclosures.

**Hc1:** There is a significant association between issuance of shares and the amount of unsystematic risk disclosures.

**Hc2:** There is a significant association between issuance of shares and the amount of total corporate risk disclosures.

### 5.1.4 Profitability

It was argued that profitable firms have the incentive to distinguish themselves from less successful firms to raise capital at the lowest possible price, thus, voluntary disclosures are one way to achieve this (Marston and Polei, 2004). According to agency theory, managers of highly profitable companies are motivated to disseminate more information on the firms' web sites to achieve personal advantages such as the continuance of their positions and compensation justification (Haniffa and Cooke, 2002; Wallace et al., 1994). Mixed evidence has been reported regarding the

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relationship between firm profitability and the amount of disclosure. Ettredge et al. (2002); Oyelere et al. (2003); and Marston and Polei (2004) reported a negative relationship. Conversely, a positive relationship was reported by other studies (Ismail, 2002; and Juhmani, 2008). Return on asset (ROA) is used as a proxy of profitability (measured by net income to total assets). The hypotheses to be tested are:

**H4:** There is a significant association between profitability and the amount of systematic risk disclosure.

**Hd1:** There is a significant association between profitability and the amount of unsystematic risk disclosure.

**Hd2:** There is a significant association between profitability and the amount of total corporate risk disclosure.

### 5.1.5 Financial Leverage

Leverage refers to the use of the finance resources such as debt and borrowed funds to increase the return on equity (Ezat and Al-Masry, 2008). Previous studies which investigate the relationship between leverage and disclosure levels have provided conflicting results. A body of research reported evidence that corporate leverage level is significantly and positively associated with the extent of voluntary disclosure (Haniffa and Cooke, 2002 and Barako et al., 2006). They argued that highly levered firms will provide a high level of information to give creditors confidence about their ability to settle their claims. However, other studies did not establish a significant relationship between leverage and the quantity of disclosure (Hossain et al., 1994). In the current study, the ratio total liabilities/total assets is used as a proxy for financial leverage. In the light of the above arguments, it is hypothesized that:

**H5:** There is a significant association between leverage and the amount of systematic risk disclosures.

**He1:** There is a significant association between leverage and the amount of unsystematic risk disclosures.

**He2:** There is a significant association between leverage and the amount of total corporate risk disclosures.

### 5.1.6 Percentage of Free Float

The effect of ownership variables on corporate disclosure has received considerable attention in the literature. A number of studies was conducted to examine this relationship. For the purposes of this study, the percentage of free float and percentage of foreign ownership were considered to address this effect. Percentage of free float is one of the criteria that have been suggested to explain variability of disclosure (Haniffa and Cooke, 2002). It represents the percentage of the company's shares available to individual investors relative to the total number of shares outstanding. Pirchegger and Wagenhofer (1999) supported that percentage of free float is one of the determinants of corporate disclosure for the sample of 32 Austrian companies but this was not supported for the sample of 30 German companies. Ashbaugh et al. (1999) showed no significant relationship between percentage of free float of the company and its disclosure. In contrast, others prove a significant

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relationship (e.g., Marston and Polei, 2004 and Ezat and Al-Masry, 2008). The hypotheses to be tested are:

**H6:** There is a significant association between percentage of free float and the amount of systematic risk disclosures.

**Hf1:** There is a significant association between percentage of free float and the amount of unsystematic risk disclosures.

**Hf2:** There is a significant association between percentage of free float and the amount of total corporate risk disclosures.

### 5.1.7 Percentage of Foreign Ownership

Since the types of ownership may vary across firms according to the type of shareholders, it can be suggested that the relationship between types of shareholders and corporate disclosure may be affected by who the shareholders are. The demand for disclosure is greater when a high proportion of shares are held by foreigners. Haniffa and Cooke (2002) reported a positive and significant relationship between foreign ownership and corporate disclosure using 167 Malaysian companies. The percentage of foreign ownership in this study represents percentage of shares owned by non-Bahraini to total number of shares issued. The hypotheses to be tested are:

**H7:** There is a significant association between percentage of foreign ownership and the amount of systematic risk disclosures.

**Hg1:** There is a significant association between percentage of foreign ownership and the amount of unsystematic risk disclosures.

**Hg2:** There is a significant association between percentage of foreign ownership and the amount of total corporate risk disclosures.

### 5.1.8 Firm Listing

Listing period is the length of time that the firm's common stock has been traded on the BHB. This variable may be relevant in explaining variability in the disclosure of information. Haniffa and Cooke (2002) argued that a new listed company may need to disclose more information to increase the confidence of investors but they reported a non-significant relationship between the firm listing and corporate disclosure.

The hypotheses to be tested are:

**H8:** There is a significant association between firm listing and the amount of systematic risk disclosures.

**Hi1:** There is a significant association between firm listing and the amount of unsystematic risk disclosures.

**Hi2:** There is a significant association between firm listing and the amount of total corporate risk disclosures.

### 5.1.9 Liquidity

Liquidity refers to the ability of companies to convert their assets into cash with minimum loss of value (Ezat and Al-Masry, 2008). Creditors prefer to give loans to firms with high current cash flow (Rajan and Zingales, 1995). Oyelere et al. (2003) found that liquidity is a significant determinant of voluntary adoption of Internet financial reporting. Other studies which investigate the relationship between leverage and corporate disclosure are inconclusive. For example, Barako et al., (2006) found no relationship between liquidity and corporate disclosure. In contrast, Ezat and Al-Masry (2008) found a positive significant association between this variable and disclosure. Following previous studies (e.g., Barako et al., 2006; Ezat and Al-Masry, 2008) that used the ratio current assets to current liabilities as a proxy for liquidity, the current study used the same ratio. Depending on the above debate, the hypotheses are:

**H9:** There is a significant association between liquidity and the amount of systematic risk disclosure.

**Hj1:** There is a significant association between liquidity and the amount of unsystematic risk disclosure.

**Hj2:** There is a significant association between liquidity and the amount of total corporate risk disclosure.

### 5.1.10 Type of Industry

The amount of information disclosed by firms may vary according to its industry type. Literature on the relationship between corporate disclosure and type of industry has mixed results. Some of the studies show that there is a significant relationship between on-line disclosure and type of industry (Bollen et al., 2006; Ismail, 2002; and Oyelere et al., 2003). Joshi and Al-Modhakhi (2003) reported that industry was one of the main factors which influenced the financial reporting practices of companies on the internet using a sample of 42 Kuwait and 33 Bahraini companies. However, others such as Juhmani (2008) and Beretta and Bozzolan (2004) showed an insignificant relationship between type of industry and corporate disclosure. The hypotheses are formulated as follows.

**H10:** There is a significant association between type of industry and the amount of systematic risk disclosures.

**Hk1:** There is a significant association between type of industry and the amount of unsystematic risk disclosures.

**Hk2:** There is a significant association between type of industry and the amount of total corporate risk disclosures.

Although literature on corporate disclosure has addressed other factors that can impact on the quantity of voluntary disclosure such as audit firm and foreign listing (Aly and Simon, 2008 in Egypt; Xiao et al., 2004, in China), the current study has excluded the first factor, audit firm, because all sample companies had already been audited by big audit firms. For the second factor, foreign listing, there is only one firm

in the sample that is listed on a foreign stock exchange. The study applies firm age as a control variable.

## **6. The Sample Selection and Methodology**

### **6.1 The Sample**

By the year 2011, 49 companies only were listed on the BHB. These companies are included in the "Bahrain All Share Index" which is the main index of the BHB. Because of the small number of listed companies, all sectors are included in the sample of the current study. Despite this, it is expected that the financial sector (banks and insurance companies) can be made as a significantly different type of risk disclosure, therefore, a number of previous studies excluded this sector (Beretta and Bozzolan, 2004; Linsley and Shrivess, 2006).

Due to de-listing and suspension of three companies, only 46 companies are included in the final sample of the study. For the purpose of this study, these firms were divided into two sections (financial and non-financial sectors). The financial sector includes commercial banks and insurance (14 companies) while the nonfinancial sector includes hotels and tourism and service (13 companies) and industrial and investment section (19 companies) totaling 32 companies. To build the database for this study, several sources have been relied on; one source was BHB and its website ([www.bahrainbourse.net](http://www.bahrainbourse.net)) which is the main provider of information about the Bahraini stock market. Other sources were companies' annual reports (the financial period 2011); the web page of each of the listed companies; and other specialized web sites which include data bases of listed companies in the BHB (e.g., [www.mistnews.com](http://www.mistnews.com); and [www.mubasher.net](http://www.mubasher.net)). Various web pages were used to obtain data related to some variables (e.g., financial leverage, return on assets - ROA, liquidity). A list of the sample companies is presented in Appendix (B).

### **6.2 Definition and Measurement of Dependent and Independent Variables**

#### **6.2.1 Dependent Variables and Content Analysis**

As the aim of this study is to investigate the nature of risk disclosures within the annual reports for a sample of 46 listed companies using a content analysis approach, three estimates of corporate risk disclosures have been employed in this study as systematic risk (SRD), unsystematic risk (USRD) and a third estimate of risk disclosure is the sum of the previous two categories, total risk disclosure (TORSD). Content analysis is one of the research methods used to analyze text data (Krippendorff 1980). It is a means of categorizing items of text and can be used where a large amount of qualitative data needs analyzing. It involves coding words, phrases and sentences against a particular schema of interest (Bowman, 1984). Berelson (1952, p.74) defined content analysis as "a research technique for the objective, systematic, and quantitative description of manifest content of communications". It is used to determine the presence of certain words, concepts, themes, phrases, characters or sentences within texts or sets of texts and to quantify this presence in an objective manner. Content analysis is a method widely adopted in corporate disclosure studies, therefore, it has been selected for this study as the research tool focusing on the actual content and internal features of media.

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In order to perform content analysis, a sentence is selected as the coding unit, following a number of previous studies, such as Milne and Adler (1999), Beretta and Bozzolan (2004) and Linsley and Shrives (2006) who employ sentences to code risk disclosures. The analysis of risk disclosures for the sample companies was performed on all narrative sections of the annual reports. Content analysis is inevitably subjective and, therefore, the coding method needs to be reliable for valid conclusions to be drawn. Similar to Linsley and Shrives (2006), each sentence was highlighted if it contains risk information and ignored if it contains no risk information or is too vague with reference to risk. The irrelevant information is decided to be ignored after being reexamined as suggested by Weber (1990). Any disclosure that is repeated shall be recorded as a risk disclosure sentence each time it is discussed. The two principal researchers independently coded an initial sample of 6 company annual reports. This generated a Scott's  $\pi$ , a measure of inter-rater reliability, of 0.79. Note that an estimate of 0.75 or more is considered a satisfactory level of inter-rater reliability for this intra-class correlation coefficient (Beattie et al., 2004).

### 6.2.2 Independent Variables

In addition to the above dependent variables, there are ten independent variables (firm size, type of industry, profitability, leverage, liquidity, beta risk, listing, issuance of shares and percentage of free float and percentage of foreign ownership, as well as firm age as a control variable. Definitions of all variables used in the current analysis are presented in Table (2).

**Table 2: Definitions of the all variables**

Variables	Definitions
<p><b><u>Dependent variables:</u></b></p> <p>systematic risk disclosure (SRD)                      unsystematic risk disclosure (USRD)                      Total risk disclosure (TORSD)</p>	<p>-Number of sentences related to types of SRD                      - Number of sentences related to types of USRD                      -Total number of sentences related to all types of risk disclosure TORSD</p>
<p><b><u>Independent variables:</u></b></p> <p>1-Firm size (Logsize)                      2-Beta                        3-Issuing shares (ISSUE)                        4- Return on assets (ROA)                      5-Leverage (LEVER)                      6-Free float (FFLO)                        7-Foreign ownership (FOWNER)                        8-Listing (List)                        9--liquidity (LIQUI)                      10-Type of Industry (Typind)</p> <p><b><u>Control variable:</u></b></p> <p>-Age (Age)</p>	<p>1- Log of the total assets of each firm in BD for 2011                      2- <u>Covariance (Market Index, Stock Price)</u>                      Variance of Market Index                      3- A dummy variable that takes the value 1 if the company is issuing shares in the last two years and 0 otherwise.                      4- Net profit to total assets                      5- Firm total liabilities/total assets                      6-% of the company's shares available to individual investors to total number of shares issued                      7-% of shares owned by non-Bahraini to total number of shares issued                      8-Number of years a firm's stock has been traded on the BHB.                      9- Firm total current assets / total current liabilities                      10- A dummy variable that takes the value 1 if the company is in the financial sector and 0 otherwise.                      - Number of years from the date of establishment of the firm so far.</p>

**6.2.3 Data Analysis**

Besides the descriptive statistics which mainly depend on the mean and the standard deviation for different types of risk disclosure, a statistical analysis (Pearson correlation and regression analysis) was carried out using the Statistical Package for Social Sciences (SPSS). Pearson correlation was used to explore the strength of the relationship between dependent variables (SRD, USRD and TORSD) and independent variables (Logsize; Beta; ISSUE; ROA; LEVER; FFLO; FOWNER; List; LIQUI; Typind and Age as a control variable.). In addition to the correlation analysis, the regression analysis was performed (OLS) for the three measures of corporate risk disclosure as dependent variables, ten independent variables and one control variable. The regression equation used is as follows.

**Model 1**

$$Y (SRD) = \beta_0 + \beta_1 \text{Logsize} + \beta_2 \text{Beta} + \beta_3 \text{ISSUE} + \beta_4 \text{ROA} + \beta_5 \text{LEVER} + \beta_6 \text{FFLO} + \beta_7 \text{FOWNER} + \beta_8 \text{LIQUI} + \beta_9 \text{List} + \beta_{10} \text{Typind} + \beta_{11} \text{Age} + \varepsilon$$



**Model 2**

$$Y (\text{USRD}) = \beta_0 + \beta_1 \text{Logsize} + \beta_2 \text{Beta} + \beta_3 \text{ISSUE} + \beta_4 \text{ROA} + \beta_5 \text{LEVER} + \beta_6 \text{FFLO} + \beta_7 \text{FOWNER} + \beta_8 \text{LIQUI} + \beta_9 \text{List} + \beta_{10} \text{Typind} + \beta_{11} \text{Age} + \varepsilon$$

**Model 3**

$$Y (\text{TORSD}) = \beta_0 + \beta_1 \text{Logsize} + \beta_2 \text{Beta} + \beta_3 \text{ISSUE} + \beta_4 \text{ROA} + \beta_5 \text{LEVER} + \beta_6 \text{FFLO} + \beta_7 \text{FOWNER} + \beta_8 \text{LIQUI} + \beta_9 \text{List} + \beta_{10} \text{Typind} + \beta_{11} \text{Age} + \varepsilon$$

Where Y = the corporate risk disclosures (SRD, USRD and TORSD);  $\beta_0$  is a constant;  $\beta_i, i=1, \dots, 11$ , is parameters; and  $\varepsilon$  is error term.

**7. Empirical Results and Analysis**

**7.1 Descriptive Statistics**

Table (3) shows the descriptive statistics for the different types of corporate risk. Concerning the types of SRD, the most common type of risk disclosure is IRR in both sectors (100 and 166 disclosures) with a standard deviation (Sd) of 2.42 and 0.84, respectively. The financial sector did not disclose any information on IR, whilst the nonfinancial sector discloses some information (16 disclosures). ERR occupies the second order of risk disclosures in the non-financial sector (with total 137 and the mean 5.19). It has the same order in the financial sector (36 disclosures). Regarding the types of USRD, the highest number of risk disclosures is OR in the financial sector with a total of 190 and Sd 3.8, then, LR with a total of 133 and Sd 1.87. There is not any information on ICR. Similarly, in the non-financial sector OR is the most type of risk that has been disclosed in the financial sector with a total of 203 and Sd 6.34 then, LR with a total of 196 and Sd 6.12. It can be argued that the quantity of risk disclosures for all types of risk is very limited. For example, the variation in the mean disclosure rate per report for IRR, the highest mean of disclosures in the financial sector, is large with 7.14 sentences, a minimum of 0 sentences with IR.

**Table 3: Descriptive statistics for the types of risks**

Sectors	Type of risks	Systematic risk (SRD)						Unsystematic risk (USRD)				
		IRR	ERR	IR	PR	RR	BR	LR	OR	ICR	SR	CR
Financial sector	Total	100	36	0	4	3	24	133	190	0	6	18
	Mean	7.14	2.57	0	0.28	0.21	1.71	9.5	13.6	0	0.43	1.28
	Sd	2.42	0.54	0	0.12	0.15	0.90	1.87	3.8	0	0.25	0.30
Non- financial	Total	166	137	16	12	6	8	196	203	1	5	74
	Mean	5.19	4.28	0.5	0.37	0.19	0.25	6.12	6.34	0.03	0.15	2.31
	Sd	0.84	0.69	0.5	0.14	0.10	0.11	0.79	2.19	0.03	0.09	0.76

Note that: Financial sector (14 companies) and Non- financial sector (32 companies).

**7.2 Correlation Analysis**

Table (4) below shows the correlation coefficients matrix using Pearson correlation. It shows a number of significant associations among dependent and independent variables, for example, Logsize has a positive and significant correlation with the three measures of dependent variables (.48\*\*, .69\*\*and .70\*\*), respectively. Similarly, Beta shows a positive and significant correlation with the dependent variables (.30\*, .34\*and .37\*), respectively. ISSUE has a positive correlation with the dependent variables (.02,

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0.18 and .148). ROA shows a negative and significant association with USRD (-.41\*\*) and TORSD (-.34\*). This is consistent with Ettredge et al. (2002); Oyelere et al. (2003); and Marston and Polei (2004) who reported a negative relationship. Profitable companies may think because they gain profit, it is not urgent to disclose information on risks. Moreover, LEVER, FFLO and Age have a low negative correlation with the dependent variables. LIQUI (.36\* and .33\*) reveals a positive significant correlation with USRD and TORSD in the same line with Ezat and Al-Masry (2008) and contrast by Barako et al., (2006). FOWNER (.39\*\* and .39\*\*) has a positive and significant correlation with USRD and TORSD. Typind has a negative and significant correlation only with USRD.

**Table 4: Correlation matrix between dependent, independent and control variables**

	SRD	USR D	TORS D	Logsiz e	Bet a	ISSU E	RO A	LEVE R	FFL O	FOWNE R	List	LIQU I	Typin d	Ag e
SRD	1													
USRD	.55 .000	1												
TORS D	.77** .000	.96** .000	1											
Logsize	.48** .001	.69** .000	.70** .000	1										
Beta	.30* .04	.34* .019	.37* .012	.54** .000	1									
ISSUE	.02 .89	0.18 0.220	.148 .32	.04 .809	-11 .46	1								
ROA	-.06 .67	-.41** .004	-.34* .02	-.29 .053	-.28 .058	.10 .50	1							
LEVER	-.19 .21	-.29* .049	-.29 .052	-.26 .076	-.26 .076	.14 .34	.33* .025	1						
FFLO	-.01 .95	-.17 .26	-.13 .38	-.08 .60	-.08 .61	.012 .94	-.01 .94	-.02 .904	1					
FOWNE R	.27 .07	.39** .007	.39** .007	.37* .011	.31* .033	.17 .26	- .57* .000	-.25 .090	-.21 .152	1				
List.	.06 .71	-.24 0.10	-.17 .26	-.24 .115	.44* * .002	.19 .200	.28 .06	.05 .764	.005 .974	-.26 .081	1			
LIQUI	0.16 0.28	.36* .014	.33* .02	.40** .006	.07 .658	-.01 .93	-.12 .425	-.29* .049	.17 .250	-.02 .892	-.08 .59	1		
Typind	-0.08 0.61 3	-.31* .036	-.20 .179	-.35* .018	- .003 .983	-.013 .932	.073 .632	.222 .139	-.015 .922	.007 .965	-.03 .824	- .496 .000	1	
Age	-.09 .53	-.25 .094	-.22 .13	-.04 .80	-.03 .85	.20 .18	.30* .041	-.023 .880	-.09 .536	.29* .04	.73* * .000	-.02 .871	.05 .741	1

\* Correlation is significant at the 0.05 level (2 – tailed); \*\* Correlation is significant at the 0.01 level (2 – tailed)

Notes: 1- Dependent variables and independent variables are defined in Table 2.

2- Pearson correlation was performed for all variables.

3- All coefficients are based on 46 observations.

4- Variance inflation factors (VIF) was calculated to check inter-correlation among the independent variables with no values exceeding 5.00 which refers to multicollinearity is not a serious concern in the study.

### 7.3 Regression Analysis

Tables 5, 6 and 7 show the estimates of the three OLS regression models which were employed using three dependent variables (SRD; USRD and TORSD). This will help to know which of the independent variables included in each of the three models contribute to the prediction of the dependent variables. The parameter estimates and the effect of each predictor are given in Tables 5, 6 and 7. B values (un-standardized coefficients) are the values for the regression equation for predicting the dependent

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variable from the independent variable measured by their natural units. Beta values (standardized coefficients) are the measure of how strongly each independent variable influences the dependent variable measured by units of standard deviation. The sign of the coefficients can give important insights into the effects of the predictors in the model. In Tables 5, Model 1 (SRD) is statistically significant ( $p$  value is 0.006\*\*) in explaining the dependent variable, when measured by SRD, with F-value of 3.101 and  $R^2 = 0.470$  (adj.  $R^2 = 0.318$ ) which explains 31.8% of the variance in SRD. Significant results are found in this model, for example; Logsize has a significant relationship with SRD. This is in line with some previous studies (e.g., Beattie et al., 2004; Barako et al., 2006; and Desoky, 2009) that have documented a significant relationship between firm size and the quantity of disclosures. Larger firms are more complex and information disclosure is necessary to allow existing and potential investors to make efficient investment decisions which may explain this relationship and supported the hypothesis (H1). Beta has also the same relationship in the model which leads to acceptance of the hypothesis (H2). This finding is not consistent with Linsley and Shrivs (2006) who found no significant association. Listing has a significant relationship with SRD which supported the hypothesis (H8). A new listed company needs access to capital markets and gains the trust of investors which may motivate it to disclose more information especially that related to risks. This result is contrasted with the results reported by Haniffa and Cooke (2002). Other independent variables such as (ISSUE, ROA, LEVER, FFLO, FOWNER, LIQUI and Typind) are not significant in the model 1 (SRD) therefore, the related hypotheses (H3; H4; H5; H6; H7; H8; H9; H10), are rejected.

These results are consistent with some previous studies and conflict with others. For example, LEVER has an insignificant relationship with SRD which can be explained by highly levered firms who may prefer not to disclose information on systematic risks to avoid the increase of fears and anxiety for some creditors resulting from the scepticism about the company's inability to fulfill its obligations. This result agrees with Hossain et al. (1994) who reported the same relationship while inconsistent with Haniffa and Cooke (2002) and Barako et al. (2006). The variable FFLO has an insignificant relationship with SRD which is in line with Ashbaugh et al. (1999) and Pirchegger and Wagenhofer (1999). Perhaps, the more the company disclosed information on systematic risks, the more a part of investors believe that there are serious risks in the market facing the company, which makes them reluctant to make investment decisions, contrary to Marston and Polei (2004) and Ezat and Al-Masry (2008) who reported a significant association with the quantity of corporate disclosure. In contrast, Ezat and Al-Masry (2008) found a positive significant association between the LIQUI variable and corporate disclosure. The current study has reported an insignificant association. Typind shows an insignificant relationship with SRD compatible with Juhmani (2008) who reported the same relationship with corporate disclosure and also Beretta and Bozzolan (2004) who reported an insignificant association with the quantity of risk disclosures.

**Table 5: Regression analysis for systematic risk (SRD) (Model 1)**

Model Performance		Coefficient		
		B	Beta	P value
F value	3.101	Constant	-33.685	0.029*
P value	0.006**	Logsize	4.389	0.021*
R <sup>2</sup>	0.470	Beta	4.370	0.027*
Adj. R <sup>2</sup>	0.318	ISSUE	-0.140	0.957
		ROA	0.242	0.154
		LEVER	-0.009	0.917
		FFLO	0.004	0.931
		FOWNER	0.030	0.508
		List	1.005	0.001**
		LIQUI	0.042	0.792
		Typind	0.047	0.889
		Age	-0.494	0.004**

Note: 1- \* significant at the 0.05 level (2 – tailed); \*\* significant at the 0.01 level (2 – tailed)

2- Dependent, control and independent variables are defined in Table 1.

3- Coefficient is standardized coefficients (Beta) and t values give a rough indication of the impact of each predictor variable.

Table (6) presents the findings of (Model 2) below. USRD model is statistically significant ( $p$  value is 0.00\*\*) in explaining the dependent variable with F-value of 7.207 the highest, among the three models,  $R^2 = 0.673$  (adjusted  $R^2$  of 0.580 which explains 58% of the variance in USRD. As Model 1 Logsize has a significant and positive coefficient with USRD which supports hypothesis (Ha1). ISSUE has the same relationship in Model 2 which is compatible with the results reported by Ettredge et al. (2002). Globalization and information technology have helped to increase competition among companies to attract investors and if the issuing companies disclose more information on the risks that may be exposed to them this may be a good way to reassure and encourage investors to make their investment decisions. This supports hypothesis (Hc1). Oyelere et al. (2003); and Marston and Polei (2004) reported a negative association between firm profitability and the amount of disclosure. In line with these studies, ROA in Model 2 has shown the same finding with USRD which supports hypothesis (H d1). This can support the argument that profitable companies may think there is no urgent need to disclose more information on USRD or think investors may not be interested to know information on risks as long as the company achieved profits. The independent variable, ISSUE, has a significant association with USRD which supports (H f1) in contrast with the results of Model 1 and consistent with the results reported by Ezat and Al-Masry (2008). This may support the argument that an issuing company may need to disclose information on risks related to the company (USRD) to help new investors to make their decisions. A number of independent variables such as (Beta; LEVER; FOWNER; Listing; LIQUI; and Typind) have insignificant associations with USRD, therefore, the related hypotheses (Hb1; H e1; Hg1; H i1; H j1 and Hk1) are rejected.

**Table 6: Regression analysis for unsystematic risk (USRD) (Model 2)**

Model Performance		Coefficient		
		B	Beta	P value
F value	7.207	Constant	-78.442	0.005**
P value	0.00**	Logsize	13.306	0.000**
$R^2$	0.673	Beta	2.536	0.449
Adj. $R^2$	0.580	ISSUE	11.865	0.012*
		ROA	-0.568	-0.249
		LEVER	-0.080	-0.059
		FFLO	-0.181	-0.228
		FOWNER	-0.097	-0.178
		Listing	0.720	0.262
		LIQUI	0.302	0.126
		Typind	-3.231	-0.76
		Age	-0.749	-0.469
				0.012*

Note: 1- \* significant at the 0.05 level (2 – tailed); \*\* significant at the 0.01 level (2 – tailed)

2- Dependent, control and independent variables are defined in Table 1.

3- Coefficient is standardized coefficients (Beta) and t values give a rough indication of the impact of each predictor variable.

Table (7) provides the findings of TORSD (Model 3) below. It is statistically significant (p value is 0.000\*\*) in explaining the dependent variable, when measured by TORSD, with F-value of 6.523 and  $R^2 = 0.651$  (adj.  $R^2 = 0.551$ ) which explains 55% of the variance in TORSD. There are only two independent variables which have significant associations with TORSD similar to the results for previous Models 1 and 2, therefore, (Ha 2 and Hc 2) are acceptable. It should be noted that Age, the control variable, has a negative significant association with all dependent variables (SRD; USRD and TORSD) in the three Models. Perhaps possible interpretation of this result is new companies may need to disclose more than the old ones in the market-place to identify and recognize themselves to investors and thus more disclosure on risks may be considered a good way to convince investors. The independent variable Typind has an insignificant relationship with all Models, thus, none of the related hypotheses (H10; Hk1 and Hk2) developed earlier in this study are accepted. This result is in the line with Juhmani (2008) and Beretta and Bozzolan (2004) which contrast with others (Bollen et al., 2006; Ismail, 2002; and Oyelere et al., 2003). Perhaps, this result is related to the sample which is limited to only 46 companies. Other independent variables such as (Beta; ISSUE; ROA; LEVER; FFLO; FOWNER; and LIQUI) have insignificant associations with TORSD, therefore the related hypotheses (H b2; Hc 2; Hd2; H e2; H f2; Hg2 and H j2) are rejected.

**Table 7: Regression analysis for total risk (TORSD) (Model 3)**

Model Performance		Coefficients			
			B	Beta	P value
<i>F</i> value	6.523	Constant	-112.127		0.003**
<i>P</i> value	0.000**	Logsize	17.696	0.580	0.000**
<i>R</i> <sup>2</sup>	0.651	Beta	6.906	0.236	0.130
Adj. <i>R</i> <sup>2</sup>	0.551	ISSUE	11.726	0.219	0.060
		ROA	-0.326	-0.110	0.409
		LEVER	-0.089	-0.051	0.665
		FFLO	-0.177	-0.171	0.123
		FOWNER	-0.067	-0.094	0.527
		Listing	1.725	0.481	0.015*
		LIQUI	0.344	0.110	0.361
		Typind	0.794	0.15	0.910
		Age	-1.243	-0.597	0.002**

Note: 1- \* significant at the 0.05 level (2 – tailed); \*\* significant at the 0.01 level (2 – tailed)

2- Dependent, control and independent variables are defined in Table 1.

3- Coefficient is standardized coefficients (Beta) and t values give a rough indication of the impact of each predictor variable.

## 8. Conclusions and Future Research

This study investigates the nature of risk disclosures within annual reports for 46 listed companies in BHB and identifies a number of determinants of these disclosures. It contributes to corporate risk disclosure literature, especially as studies on this vital topic are characterized by scarcity in developing countries such as Bahrain, the subject of study here. Three regression models were employed using three dependent variables (systematic (SRD); unsystematic (USRD) and total risk disclosures) and ten independent variables as the determinants of risk disclosures. One of the main findings in the study is corporate risk disclosures are very limited in annual reports of the companies sampled. Concerning the types of SRD, the most common type of risk disclosures is interest rate risk (IRR) in financial and non-financial sectors. On the other hand, the highest number of risk disclosure in both sectors for the types of USRD is operational risk (OR). There are significant associations between the quantity of systematic risk disclosures and some independent variables such as firm size, Beta of the company and firm listing. In the same line, other significant associations between the quantity of unsystematic risk disclosures and firm size, issuance of shares, profitability and percentage of free float are reported. On the other hand, no significant associations are found between the total quantity of risk disclosures and leverage, Beta of the company, liquidity issuance of shares, profitability and percentage of free float.

This study is not free from limitations. Firstly; the sample size of the study may need to be extended in future research. Secondly; although the study can contribute to the understanding of the nature of risk disclosures and the determinants of such disclosures, the findings of the study may not be able to be generalized to other countries. Such findings could be different from country to country due to industrial composition, economic status and corporate governance rules and regulations. Therefore, there is a critical need for additional risk reporting research to close the gap in the literature identified by Solomon et al. (2000) and to improve the usefulness of financial reports. One of the limitations of this study is related to using content analysis which is inevitably subjective (Linsley and Shrivs, 2006). The study suggests possible

avenues for future research. One possibility is to replicate the present study by studying the impact of other factors such as ownership concentration and ownership identity on corporate risk disclosures. The attributes of corporate governance need to be considered in future research. Other interesting issues that can be explored are the extent to which differences in legal environments, stockholders' rights and restrictions on take-overs in different countries would affect corporate risk disclosures.

### Acknowledgment

The authors appreciate the financial support provided by Scientific Research Deanship, University of Bahrain (Research # 29/2011). Comments and suggestions from participants at the 7<sup>th</sup> Annual London Business Research Conference at the UK, 2012 are acknowledged. A special thanks to anonymous referees for helpful suggestions.

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## Appendix A: Categories of corporate risk disclosure

Corporate risk disclosures can be broadly divided into two major categories:

**1. Systematic risks include:**

-**Interest rate risk (IRR)** is the risk that the value of a financial instrument will fluctuate due to changes in market interest rates.

-**Exchange rate risk (ERR)** is the risk that the value of financial assets will fluctuate due to changes in foreign currency exchange rates.

-**Inflationary risk (IR)** is the risk that general price levels will go up in the market.

-**Political risk (PR)** is the risk that political vulnerabilities can affect the business and investment. It reflects the uncertainty of returns caused by the possibility of major change in the political or economic environment of a country.

-**Recession risk (RR)** is the risk of an economic downturn.

**2. Unsystematic risks include:**

-**Business risk (BR)** is the risk related to the uncertainty of income flows caused by the nature of firm's business. It includes risks related to the product market in which the company operates and technological innovations.

-**Liquidity risk (LR)** is the risk that companies will be unable to meet their financial obligations as they fall due, as a result of the potential inability to liquidate its financial assets at the required time and price, in order to cope with a payout of liabilities or investment obligations in assets.

-**Credit risk (CR)** is the risk that one party to a financial contract will fail to discharge an obligation and cause the other party to incur a financial loss.

-**Operational risk (OR)** is the risk of loss due to inadequate or failed internal processes, systems and people or external events.

-**Internal control risk (ICR)** is the risk related to operations or systems, documentation, files or records and assets.

-**A strategic risk is (SR)** the risk related to basic changes and strategies in the economy or the political or regulatory environment.

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### Appendix B: List of the sample of 46 listed companies on Bahrain Bourse.

Company Name	Symbol
Ahli United Bank	AUB
Al Salam Bank	SALAM
Bahrain Islamic Bank	BISB
BBK	BBK
Ithmaar Bank	ITHMR
Khaleeji Commercial Bank	KHCB
National Bank of Bahrain	NBB
The Bahraini Saudi Bank	BSB
Al Baraka Banking Group B.S.C.	BARKA
Arab Banking Corporation	ABC
Bahrain Commercial Facilities	BCFC
Bahrain Middle East Bank	BMB
Esterad Investment Company B.S.C.	ESTERAD
Gulf Finance House	GFH
INOVEST B.S.C.	INOVEST
Investcorp Bank	INVCORP
TAIB Bank	TAIB
United Gulf Bank	UGB
United Gulf Investment Corporation	UGIC
Securities and Investment Co	SICO-C
United Paper Industries B.S.C	UPI
Al-Ahlia Insurance Co.	AHLIA
Arab Insurance Group	ARIG
Bahrain Kuwait Insurance Co	BKIC
Bahrain National Holding	BNH
Takaful International Company	TAKAFUL
Bah. Ship Repairing & Engineering	BASREC
Bahrain Cinema Co.	CINEMA
Bahrain Duty Free Shop Complex	DUTYF
Bahrain Telecommunications Co.	BATELCO
BMMI B.S.C	BMMI
General Trading & Food Proc. Co.	TRAFCO
Nass Corporation BSC	NASS
Seef Properties B.S.C.	SEEF
Bahrain Family Leisure Co.	FAMILY
Bahrain Tourism Co.	BTC
Banader Hotels Company BSC	BANADER
National Hotels Co.	NHOTEL
Aluminum Bahrain B.S.C	ALBH
Bahrain Flour Mills Co.	BFM
Delmon Poultry Co.	POLTRY
Bank Muscat	BMUSC
Global Investment House	GLOBAL
International Investment Group	IIG
Sudan Telecommunications	SDTL
United Finance Company SAOG	UFC