

# THE LEVEL OF RISK DISCLOSURE IN LISTED BANKS: EVIDENCE FROM SAUDI ARABIA

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## Abstract

This study contributes to the existing risk disclosure literature in emerging economies, in particular Saudi Arabia (SA), by examining the levels of risk disclosure in the annual reports of both Islamic and non-Islamic listed banks. This investigation uses a manual content analysis method to examine all Saudi listed banks from 2009 to 2013. This study also develops two holistic risk disclosure indices to measure the levels of risk disclosure in both Islamic and non-Islamic banks. The empirical analysis shows that Islamic banks report less risk information than non-Islamic banks. However, the analysis also reveals that both Islamic and non-Islamic banks report relatively the same amount of risk information regarding the banks' universal items. Furthermore, the empirical analysis shows that Islamic banks report very low risk disclosure items. The study's findings have practical implications. They inform the regulators about the current level of risk disclosure in all Saudi listed banks (Islamic and non-Islamic). For example, the findings show that Islamic banks report less risk information than their non-Islamic counterparts. The practical implications for managers from these findings are that in order to keep investors satisfied, banks with low levels of risk disclosure should enhance their reporting practices. This will help investors when making investment decisions. To the best of the researchers' knowledge, no prior research has previously been conducted on the levels of risk disclosure in Saudi Arabian listed banks. Therefore, this is the first study to examine the levels of risk disclosure in the context of Saudi Arabia.

**Keywords:** Banks, Saudi Arabia, Risk Disclosure Levels, Universal and Islamic Risk Disclosure Indices

## 1. INTRODUCTION

Recently, considerable attention has been paid to investigating and improving corporate risk disclosure (CRD) (Oliveira et al., 2013). The goal of a great number of companies is to disclose sufficient information in their annual reports to satisfy their various shareholders' needs. However, there is a developing debate on the inadequacy of risk disclosure and the lack of full transparency from companies in this respect (Oliveira et al., 2011a; 2013). There have been demands for even greater disclosure to reduce asymmetries of access to corporate information and ensure shareholders are fully able to assess information on a company's performance (Oliveira et al., 2013). Risk disclosure is one aspect of these disclosure demands. Shareholders have become more interested in risk profiles to better understand the risks a company faces and how the managers are dealing with those risks as well as to improve the measurement and disclosure of risk-related matters (Beretta and Bozzolan, 2004; Konishi and Mohobbot, 2007; Oliveira et al., 2013).

To date, there has been an inadequate amount of research on corporate risk disclosures (Beasley et al., 2005; Lajili and Zeghal, 2005; Lajili, 2009). However, this lack of research is even greater in developing countries since all of the risk disclosure investigations have been restricted to the developed world, for example, German, Dutch and Anglo-Saxon countries (see Rajgopal, 1999; Linsmeier et al., 2002;

Jorion, 2002; Solomon et al., 2000; Dhanani, 2003; Lajili and Zeghal, 2005; Linsley, Shrivess and Crumpton, 2006; Linsley and Lawrence, 2007; Abraham and Cox, 2007; Deumes and Knechel, 2008; Iatridis, 2008; Lajili, 2009; Elshandidy et al., 2013) and Europe and Latin America (see Beretta and Bozzolan, 2004; Thuelin, Henneron and Tournon, 2006; Lopes and Rodrigues, 2007; Oliveira, Rodrigues and Craig, 2011; 2013; Madrigal et al., 2012; Miihkinen, 2013; Maffei et al., 2014). Notwithstanding the work of Amran et al. (2009), Mokhtar and Melett (2013), Elkelish and Hassan (2014) Hassan (2009; 2014) and Al-Shammari (2014), who investigated the determinants of risk disclosure in the UAE and Kuwait, very little attention has been given to the risk reporting practices of publicly listed banks in emerging economies. Therefore, little is known about the CRD in Arab countries in general and Saudi in particular. This study seeks to investigate the levels of risk disclosure in Saudi listed banks in an attempt to fill the gap.

As discussed above, most previous risk disclosure work has concentrated on developed economies. However, it would be beneficial to investigate risk disclosure practices in a developing economy since developing markets have larger behavioural variations, and thus any research on them would contribute to the disclosure literature. Developed economies are efficient, have greater compliance, robust regulatory structures, developed corporate governance structures and financial reporting systems. Conversely, developing markets

are less efficient and suffer from a lack of compliance, regulations, enforcement and transparency (Richardson and Welker, 2001). However, this research aims to contribute to the existing literature and fill the gap by examining the extent of risk disclosure in a sample of Saudi listed banks in the context of an emerging economy, Saudi Arabia. Furthermore, what makes this research even more interesting is that Saudi Arabia has a secretive culture, where corporations release little information regarding their business affairs and risk disclosures (Roberts and Kamla, 2010).

Saudi Arabia is the focus of this study because of its unique socio-economic context. Firstly, Saudi Arabia is the largest emerging capital market that adopts an open economic philosophy based on the market economy and liberalization of trade (AMF, 2013). Secondly, the Saudi government has initiated several far-reaching reforms at the Saudi Stock Exchange (Tadawul) to mobilize domestic savings and attract foreign capital investment. These measures include the privatization of state corporations. Thirdly, Saudi Arabia has become one of the largest emerging economies in the world, having the largest stock market in the Middle East (Piesse *et al.*, 2012). Also, the Saudi stock market is now the largest in the Arab world as far as capitalization is concerned and is becoming an important capital market in the region. Fourthly, compared to other countries with advanced capital markets, the Saudi accountancy profession is lagging behind in terms of offering professional certificates. Finally, the Saudi regulatory framework incorporates different legislation that requires the disclosure of risk related information in the corporations' annual reports. All the above reasons make investigating the extent of risk disclosure in Saudi Arabia an important issue.

Furthermore, this study makes some important contributions to the field. Firstly, it contributes to the understanding of the nature of risk disclosure in Saudi Arabia. Secondly, it contributes to existing risk reporting literature by being the first study to investigate the levels of risk disclosure in Saudi listed banks. Thirdly, it contributes to the literature on risk disclosure by investigating the differences between the risk disclosure practices of Islamic and non-Islamic banks in a rapidly developing emerging market.

This paper is organized as follows: section 2 describes risk disclosure in Saudi Arabia; section 3 discusses the theoretical framework; section 4 reviews previous literature on the quantity of risk disclosure; section 5 discusses the methodology, criteria for the selection of the sample banks, the employment of annual reports and the data collection procedure; section 6 presents and analyses the empirical findings; and section 7 outlines the conclusion, limitations and further research.

## 2. RISK DISCLOSURE IN SAUDI ARABIA

Financial reporting regulations in Saudi Arabia are created and managed by the government. They focus on protecting investors and other users of financial reports. The main bodies issuing rules are the Ministry of Commerce and Industry, the Capital Market Authority (CMA), the Saudi Stock Exchange

(Tadawul), the Saudi Arabian Monetary Agency (SAMA) and Companies Law (1965). The latter are considered to be the main bodies monitoring publicly traded Saudi companies. Regulating, supervising and registering are some of the most important responsibilities of the above-mentioned bodies, which ensure that Saudi companies comply with national regulations. Moreover, the Ministry of Commerce and Industry indirectly performs a supervisory role over many monitoring devices, such as the Saudi Capital Market Authority (CMA), the Saudi Stock Exchange and the Saudi Arabian Monetary Agency (SAMA).

Furthermore, the role of the CMA is to regulate and develop Saudi companies by providing appropriate rules and regulations that contribute to increasing investment and enhancing transparency and disclosure standards as well as protecting investors and dealers from illegal activities in the market (CMA, 2007). Regulations on transparency and disclosure are the most important to have been issued by the Capital Market Authority.

Saudi Arabia has become one of the largest emerging economies in the world, and it has the largest stock market in the Middle East (Piesse *et al.*, 2012). Also, the Saudi stock market is now the largest in the Arab world as far as capitalization is concerned, and Saudi Capital Market growth between 1996 and 2005 was high, with a huge increase in the number of transactions, volume and value trading. For example, listed firms increased in number from 77 in 2005 to 145 in December 2010, with a market capitalization of about \$353bn, representing nearly 44% of the total Arab stock market capitalization (SFG, 2009; Hearn *et al.*, 2011; Tadawul, 2012). Accordingly, the Saudi market may not be active in terms of corporate risk disclosure and may suffer from greater information deficits in comparison with established markets, such as the US, the UK and Europe. Although the Saudi stock market is very large compared to the markets of other developing countries, recent studies have found that, like those of most developing countries, it is not efficient (Dahel, 1999; Onour, 2004).

This study looks at Saudi Arabia because very little is known about the financial risk reporting in this country. Some cultural characteristics of Saudi Arabia, such as the strong hierarchical social structure, the importance of kinship and personal relationships, religion, the importance of professionalism, accountability and trust, and the nature of some of its socio-economic institutions, are similar to other developing countries and can provide insights into those countries that share similar characteristics. The findings of this research should be of interest not only to academic researchers interested in examining the uniqueness of risk disclosure issues in a country but also to practitioners and policy makers in Saudi Arabia and other Middle-Eastern and developing countries that share a similar socio-economic environment as it has important policy implications.

The study is justified on the following grounds. Firstly, it provides a starting point for research involving corporate risk disclosure in the Saudi context. It is one of the first empirical studies to use the unweighted disclosure index approach to investigate the levels of voluntary corporate risk disclosures in the annual reports of listed Saudi

banks. Secondly, relatively little is known about risk disclosure in Saudi Arabia, and thus it may make a general contribution to this area. Thirdly, this empirical investigation could benefit investors and regulators. Fourthly, it may help in studying other capital markets in the area, especially the Gulf Co-Operation Council (GCC) member states and other Middle-Eastern countries, and thus may contribute to the accounting literature in emerging markets.

### 3. THEORETICAL FRAMEWORK

As argued earlier in the theoretical framework chapter a number of scholars have defined risk disclosure differently. Therefore, it is important to take on a fit for purpose definition here since taking on an inappropriate definition could lead to different analysis and results. Moreover, risk disclosure practices profoundly rest on numerous factors such as, culture, legal, political, economic and regulations. The ICAEW (1999) indicated that risk divulging in annual reports should include "information about risks in the broadest sense, about actions to manage them and relevant measures". Though, some researchers have defined risk reporting as informative news in annual financial reports concerning managers' estimates, judgments and reliance on market based accounting policies, such as impairment, derivative hedging, financial instruments, economic, political, financial, management of risks and internal control of risks (Hassan 2009 and Miihkinen 2012).

Therefore, for the purpose of this study, the investigator has chosen a well-defined and appropriate risk disclosure definition by Linsley and Shrivess (2006, p.3), who defined risk reporting as "If the reader is informed of any opportunity or prospect or of any hazard, danger, harm, threat, or exposure, which has already impacted upon the company or may impact upon the company in the future or of the management of any such opportunity prospect, hazard, harm, threat or exposure". The subsequent section considers the theory selected for the purpose of this examination.

Signaling theory has been developed by Spence (1973) as a means of describing people's behaviour in labour markets (see Watts and Zimmerman, 1986). It has also been a universal phenomenon valid in any market with information asymmetries (Morris, 1987). A number of academic researchers have employed signaling theory in previous empirical disclosure investigations to explain why managers are motivated to report more information news in annual report narratives (Linsley and Shrivess, 2006; Hassan, 2009; Al-Shammari, 2014). Based on this theory, managers disclose adequate information in the financial reports to convey specific signals to current and potential users. Hughes (1986) argued that this kind of communication is credible to the investors because they know that managers who send out fraudulent signals will be penalized. In this investigation, signaling theory is used to explain the possible variations in the level of voluntary risk disclosure in the annual reports of the sampled banks.

Descriptive risk disclosure is recognized as an important element in making firm reporting more valuable to shareholders (Miihkinen, 2012; Mokhtar and Mellet, 2013; Maffei et al, 2014). In order to

improve firm descriptive risk disclosure, regulators and standard setters have attempted to advance a compound set of standards, demanding more information on different forms of risks (Dobler et al., 2011). However, firms still offer inadequate risk information (ICAEW, 2011). Similarly, the far-reaching research on this subject agrees that risk reporting practices are not beneficial for investors as such practices are not really comprehensive, in depth, forward-looking or adequate for the valuation of the total risk profile (Paaple and Spekle, 2012; Magna and Markarian, 2011) nor are they relevant for decision-making procedures (Beretta and Bozzolan, 2004). Also, there is general agreement in the literature regarding the inadequacies of current risk reporting. The literature on this issue is far from complete (Woods et al., 2007; Maffei et al, 2014) since very little of the current research on risk reporting has empirically examined risk disclosure (Linsley and Shrivess, 2006; Miihkinen, 2012).

### 4. LITERATURE REVIEW

The literature on the measurement of risk disclosure is profuse (Dobler, Lajili and Zeghal, 2011; Oliveira, Rodrigues and Craig, 2011b; Miihkinen, 2012; Barakat and Hussainey, 2013; Elshandidy, et al., 2013; Nitm, Lindop and Thomas, 2013; Al-Shammari, 2014; Lipunga, 2014; Campbell et al., 2014; Elshandidy, et al., 2015; Abdallah, Hassan and McClelland, 2015). However, none of the previous studies have measured the levels of voluntary risk disclosure in Saudi Arabia. Thus, this is the first study that measures risk disclosure levels in Saudi Arabia. Many studies have measured risk disclosure in developed economies as this is what the generally rely upon (Beretta and Bozalan, 2004; Lajili and Zeghal, 2005; Mohobbot, 2005; Linsley and Shrivess, 2006; Abraham and Cox, 2007; Deumes and Knechel, 2008; Hassan, 2009; Elzahar and Hussainey, 2012). Similarly, there were some studies in emerging markets, which mostly rely upon voluntary risk disclosure (Amran, Bin and Hassan, 2009; Hassan, 2009; Hemrit and Ben Arab, 2011; Mokhtar and Mellett, 2013; Nitm, Lindop and Thomas, 2013; Soodanian, Navid and Kheirollahi, 2013; Al-Shammari, 2014 Abdallah, Hassan and McClelland, 2015). However, none of the previous studies have examined voluntary risk disclosure in Saudi Arabian banks. Hence, this investigation will contribute to the existing literature on developing economies by examining voluntary risk disclosure in a new environment, namely Saudi Arabia.

While nonfinancial and mixed institutions in developed countries have been widely researched and reported upon in the literature (Linsley and Shrivess, 2005; Lajili and Zeghal, 2005; Combes-Thuelin, Henneron and Touron, 2006; Abraham and Cox, 2007; Deumes and Knechel, 2008; Oliveira, Rodrigues and Craig, 2011b; Dobler, Lajili and Zeghal, 2011; Elzahar and Hussainey, 2012; Elshandidy, Fraser and Hussainey, 2015), only a few studies have focused on banks and financial institutions in developed countries (Solomon et al., 2000; Linsley, Shrivess and Crumpton, 2006; Oliveira, Rodrigues and Craig, 2011a; Barakat and Hussainey, 2013; Maffei et al., 2014) and no prior investigations have been conducted purely on banks or financial institutions in developing markets (Amran, Bin and

Hassan, 2009; Hassan, 2009; Abdallah and Hassan, 2013; Mousa and Elamir 2013; Al-Shammari, 2014; Abdallah, Hassan and McClelland, 2015). Therefore, this is the only study that investigates the levels of voluntary risk disclosure in banks in developing economies, particularly in Saudi Arabia.

Furthermore, whilst a small number of studies have examined risk disclosure over more than a one year period in developed economies (Cabedo and Tirado, 2004; Deumes, 2008; Deumes and Knechel, 2008; Rajab and Schachler, 2009; Elshandidy, Fraser and Hussainey, 2015), none have examined risk disclosure over more than a one year period in developing economies (Amran, Bin and Hassan, 2009; Hassan, 2009; Abdallah and Hassan, 2013; Mousa and Elmir, 2013; Al-Shammari, 2014; Abdallah, Hassan and McClelland, 2015). Therefore, the current study is the only study that examines voluntary risk disclosure over a period of five years in developing economies.

Preceding literature examining the level of risk disclosure is very limited and focuses on research carried out in the West. This could be attributed to the early implementation of regulatory measures by firms and increased complexity of making investment decisions by investors in these countries. A comprehensive review of the literature shows that two methods are generally used to measure the level of risk reporting. The first method employs words as a recording unit to measure risk reporting levels (Abraham and Cox, 2007), and the second approach employs self-constructed indices (Aljifri and Hussainey, 2007; Alshammari, 2014). Therefore, this investigation aims to quantify voluntary risk disclosure in Saudi listed banks by using a self-constructed risk disclosure index. This approach is based on an un-weighted content analysis method, which counts risk words (which have been previously identified in the self-constructed risk disclosure index - see appendix) within banks' annual reports to measure the level voluntary of risk disclosure. This is consistent with a number of prior studies (Al-Shammari, 2014; Elzahar and Hussainey, 2012; Dobler et al., 2011; Oliveira et al., 2011a; Amran et al., 2009; Linsley and Shrivess, 2006; Lajili and Zeghal, 2005).

Linsley and Shrivess (2003) confirmed that German and UK firms report equal levels of risk information. Yet, the authors revealed that only a few quantitative disclosures are reported in the annual reports of the firms from both countries. They also documented that the most reported category is "non-monetary/future".

Beretta and Bozzolan (2004) examined risk disclosure practices in 85 annual reports of non-financial firms listed on the Italian Stock Market. They concentrated on the Management Discussion and Analyst section (MDA). The authors identified 75 risk items that are reported in the MDA section and documented that firms avoid conveying any anticipated effect of risks and the economic direction of the firms in quantitative terms. They also illustrated that firms are not willing to show whether reported future risks will affect them positively or negatively and affirmed that such firms were prone to report past and present risks rather than future risks.

Linsley and Shrivess (2005) investigated 79 annual reports of non-financial UK listed firms

employing a content analysis method. They reported that the most reported risk categories are strategic, financial and integrity risks. They also stated that there is minimal exposure of quantified risk information and a considerable quantity of risk exposure is incorporated in the general statements on their risk policy.

Mohobbot's (2005) study included 90 non-financial corporations, which were randomly selected from the Tokyo stock market. He documented that most corporations would rather report descriptive risk information and are not willing to quantify risks in their annual reports. The author also reported large variations in the levels of risk disclosure practices among the sample corporations.

Lajili and Zeghal (2005) examined risk disclosure in the annual reports of 300 TSE Canadian corporations against 12 risk factors. They reported significant variations in disclosure quantity on risk sources and management and a lack of uniformity, quantification and forward-looking risk disclosure. They also showed that financial risk was the most regularly reported by the sample firms, which consisted of information on operations in foreign currencies. This study also documented that firms' disclosures were almost always qualitative in nature and lacked specificity and depth.

Linsley and Shrivess (2006) explored risk disclosure in the annual reports of 79 non-financial FTSE 100 firms. The authors disaggregated risk disclosure into two categories. Firstly, according to six risk factors: financial, operational, empowerment, information processing and technology, integrity and strategy. Secondly, according to three narrative groups: upside/downside risk, monetary/non-monetary risk and past/future risk. By employing a content analysis method to measure the level of risk disclosure, they quantified 6,168 risk sentences that were consistent with the prior study undertaken by Lajili and Zeghal (2005). Most of the sample firms' disclosures were qualitative, with only a few being quantitative, the majority of reported statements were on general risk management policy and there was a dearth of coherence in the risk narratives, indicating that risk information gaps are existent. With such reporting, shareholders are unable to effectively evaluate the risk profile of a firm.

Linsley et al. (2006) studied risk disclosure in the baking industry through an examination of the annual reports of 18 UK and Canadian banks. The authors constructed a coding grid based upon the risk disclosure groups set forth by the Basel committee in pillar 3 "Market Discipline". They reported that the characteristics known to be more beneficial relative to risk information disclosures are quantitative and future-oriented information, which are reported less frequently than qualitative and past information in the annual reports of the sample banks of both countries.

Konishi and Mohobbot (2007) investigated factors influencing the level of risk disclosure in 100 non-financial Japanese firms listed on the Tokyo stock exchange market. They employed a manual content analysis method to measure the extent of risk disclosure. They discovered that firms almost always reported descriptive risk information and were unwilling to quantify risk. They also

documented that the sample firms disclosed more good news than bad/neutral news.

Amran et al. (2009) investigated risk disclosure in 100 non-financial Malaysian corporation annual reports, repeating the methodology employed by Linsley and Shrivs (2006) in the UK. They also relied on counting the number of sentences dedicated to the discussion of risk information as a representation of the level of risk exposure. They employed the stakeholder theory to connect corporations' attributes to the amount of risk exposure and explain their empirical findings. The total number of sentences dedicated to discussion of risk information by the sampled Malaysian firms was very low when compared with a 2006 study done by Linsley and Shrivs in the UK.

Oliveira, Rodrigues and Craig (2011a) claimed that the implementation of IAS/IFRS had led to a better flow of risk related information but still had not guaranteed better transparency in the Portuguese banking sector. Although most banks revealed information about how they quantified and evaluated performance in managing market risks, only about one third reported quantitative information on market risk exposure and performance.

Oliveira, Rodrigues and Craig (2011b) affirmed that the implementation of IAS/IFRS and the European Union's Modernisation Directive in 2005 did not have a positive impact on the quantity and quality of risk disclosure in listed Portuguese corporations. Their disclosures were generic, qualitative and backward looking. Although the authors claimed that quantitative and forward looking information would be more appropriate to shareholders' decision needs, they found that such disclosures were less common due to potential inaccuracy and exposure to litigation costs.

Dobler et al. (2011) examined the extent of risk exposure in 160 non-financial corporations from the US, Canada, the UK and Germany. Using a content analysis method for designated annual reports, they reported a consistent pattern where risk exposure was most dominant in management. The report focused on financial risk categories and contained little quantitative and forward looking exposure across the sample countries. In terms of risk exposure quantity, US corporations generally led, followed by German then UK ones.

Elzahar and Hussainey (2012) examined the extent of risk disclosure in 72 non-financial companies in the UK. Content analysis was used to quantify risk disclosure. They found that large companies were more likely to report more risk related-information in their narratives.

Mousa and Elamir (2013) explored the nature of risk disclosure within the annual reports of 46 listed firms on the Bahrain Bourse. Their study concentrated on all narrative sections in the annual reports, including the notes and accounts, and only examined the quantity of risk disclosure rather than the quality. One of the main findings of their study was that risk disclosures are very limited in the annual reports of the examined Bahraini firms.

Al-Shammari (2014) investigated firm specific traits and corporate risk disclosure in the annual reports of a sample of 109 Kuwaiti listed non-financial companies. The author employed a manual

content analysis approach to measure risk disclosure by counting the number of risk-related sentences in annual reports. The findings of this study indicated that the quantity of risk disclosures for all categories of risks was very limited in the annual reports of the sampled companies.

## 5. METHODOLOGY

This section describes the research methodology of the study, including the selection of representative banks, criteria, data collection and techniques employed.

### 5.1. Research paradigm

Understanding the philosophical stance or research paradigm is essential since it provides the researcher with guidance to identify which research design is fit for purpose to accomplish the research objectives (Easterby-Smith et al., 1994). Therefore, the preferred choice of paradigm for this research is the positivism paradigm, which claims that knowledge is best expressed objectively using determined theories that are based upon laws and facts. Such a paradigm prefers to measure knowledge using quantitative methods to approve or disprove theories (Saunders et al., 2009). Therefore, this investigation takes a quantitative approach to examining the levels of voluntary risk disclosure in Saudi listed banks over a 5-year period.

### 5.2. Sample

There are 24 banks in Saudi Arabia which are divided into two sets of banks. The first set of banks represents the 12 local banks. The second set of banks represents the 12 subsidiaries' of foreign banks licensed to operate in the kingdom. The second set of banks is excluded from this study since their annual reports are a part of the mother bank, thus there is not a separate annual report dedicated to the subsidiaries (SAMA, 2014).

Moreover, the sample of the current investigation consists of 12 local listed banks on Tadawul in Saudi Arabia. Where, listed Islamic banks from Saudi Arabia will form the foundation of the Islamic bank's data sources, while non-Islamic banks will form the foundation of the conventional bank's data sources. According to the Saudi Arabian Monetary Agency, there are only 12 listed local banks on the Saudi exchange market today. Four of these are entirely Islamic, and the other eight are conventional with Islamic banking windows. Accordingly, the researcher can state that a total of 12 listed banks meet the selection criteria for this investigation.

This study covers a five-year period to examine voluntary risk disclosure levels in Saudi listed banks. This allows the researcher to identify any changes in the levels of risk disclosure that may have occurred over the period. The selected annual reports are from 2009 to 2013.

### 5.3. Data collection

The nature of this investigation dictates the use of secondary data. As argued by Bryman and Bell

(2011), secondary data sources deliver good quality data and involve minimal resources when executing the data collection phase. Therefore, it is the researcher's belief that the examination of secondary data will provide the required answers for this investigation.

Annual reports for the 12 listed Saudi banks are downloaded from the banks' websites and the Saudi Arabian Stock market (Tadawul).

### *5.3.1. The employment of annual reports as the main source of research data*

Prior investigations in the field of risk disclosure have concentrated on the employment of annual report narratives as the main source of data (e.g. Kothari et al., 2009; Li, 2010; Dobler, Lajili and Zeghal, 2011; Miihkinen, 2012; Barakat and Hussainey, 2013; Elshandidy, et al., 2013; Al-Shammari, 2014; Elshandidy, et al., 2015). Moreover, they are the fundamental form of communications that organizations employ to convey messages to their investors (Lang and Lundholm, 1993; Holland, 1998).

Furthermore, there is a substantial amount of support in the accounting disclosure literature for the examination of disclosure exercises through employing annual report narratives. Accordingly, Gray, Kouhy and lavers (1995a; 1995b) stated that constitutional regulations oblige organizations to publish their annual reports periodically due to their significance and the provision of their consistent historical image of a company. Moreover, Hines (1988) claimed that annual reports are the most pivotal document for providing a company's social picture. A complementary argument was put forward by Tilt (1994), who stated that organizations can symbolically communicate views and values to appropriate investors through their reports. Campbell (2000) presented two more reasons to support the employment of annual reports. Firstly, annual reports are the most extensively distributed of all other documents of an organization made public. Secondly, the organization's management has comprehensive editorial power over the voluntary disclosure of information in the published annual reports. Also, Tay and Parker (1990) confirmed that genuine disclosure practices can be measured more accurately from annual report narratives.

## **5.4. Content Analysis**

Content analysis has been broadly used in social accounting research (Guthrie and Parker, 1989; Milne and Adler, 1999; Parker, 2005; Kamla, 2007). These studies analyse the information content disclosed in annual reports and acknowledge definite words and themes within the textual material (Beattie et al., 2004; Brennan, 2001). When analysing the content of a written document, words, phrases and sentences are coded against a specific schema of interest (Bowman, 1984). Krippendorff (1980: p. 21) described content analysis as "a research technique for making replicable and valid inferences from data". Furthermore, Bowman (1984) claimed that content analysis is able to collect rich data since it can reveal relationships that other techniques cannot. However, a weakness of content analysis is that it is subjective (Linsley and Shrivess, 2006).

Therefore, validation practices are often used to override this problem (Bowman, 1984).

Additionally, content analysis can be carried out using either manual or automatic methods or a combination of the two. Many studies have used the manual method to conduct content analysis (Hackston and Milne, 1996; Beretta and Bozzolan, 2004; Linsley and Shrivess, 2006) despite the labour-intensive data collection process, which limits the sample size (Beattie and Thomson, 2007). Automated content analysis was first used in the 1980s, and with the creation of different content analysis software, it is constantly developing. It is often the method chosen when the sample size is larger (Frazier, Ingram and Tennyson, 1984; Breton and Taffler, 2001; Kothari, Li and Short, 2009). Other researchers have used both manual and automated content analysis methods (Hussainey, Schleicher and Walker, 2003; Clatworthy and Jones, 2003; Beattie and Thomson, 2007). Hence, this paper employs a manual content analysis method to examine the level of voluntary risk disclosure in Saudi listed bank.

### *5.4.1. Development of Risk Disclosure indices*

For this investigation to examine the level of voluntary risk disclosure in Saudi listed banks a risk disclosure index, which is a checklist of different disclosure items included in banks' annual reports, was required (Arvidsson, 2003). For the purpose of constructing the risk disclosure indexes, an extensive review of prior studies was undertaken (e.g. Hassan, 2009; Al-Shammari, 2014; Abdullah et al., 2015). Therefore, for an item to be included, it must have been used in previous published disclosure studies. Hence, the following steps were taken as the basis for the development of the risk disclosure indices for this study:

Step 1: A comprehensive review of the prior risk disclosure literature was undertaken (e.g. ICAEW, 1997, 2000; Hassan, 2009; Lopes and Rodrigues, 2007; Al-Shammari, 2014; Lipunga, 2014; Abdullah et al., 2015). Based on this, the researcher identified some items which were used in previous studies. Therefore, the annual reports of listed Saudi banks should contain and disclose.

Step 2: A review of the Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI, 2014) and Islamic Financial Services Board (IFSB, 2007) risk disclosure sections to identify the risk disclosure items that should be included in listed Islamic banks' annual reports was undertaken. Due to the nature of the sample of this study, an Islamic index had to be developed.

Step 3: The two indices were reviewed with 2 independent researchers who deal with both Islamic and conventional bank reports and specialize in the area of disclosure and financial reporting to enhance the validity of the study, indexes and results.

Therefore, two risk disclosure indices were developed solely for the purpose of measuring the level of voluntary risk disclosure in Saudi listed banks. This is similar to the approach used by prior voluntary risk disclosure investigations (e.g. Hassan, 2009; Abdullah et al., 2015). The two indices included between them a total of 67 items that were expected to be published in the annual reports of the sample banks. The non-Islamic risk disclosure

index included 54 items, which were divided across 8 categories: accounting policies, financial and other risks, derivative hedging and general risks, financial instruments, reserves, segment information, business risk and compliance with regulations. While, the Islamic risk disclosure index included 67 items, which were distributed across 10 categories: accounting policies, financial and other risks, derivative hedging and general risks, financial instruments, reserves, segment information, business risk, compliance with regulations, Islamic bank risk characteristics and AAIOfI standards. This categorization of the two crafted risk disclosure indexes is due to the nature of the listed Saudi banks, where listed banks represent two sets of banks, namely Islamic banks and conventional banks, which are vigorously offering banking services in Saudi Arabia. Moreover, one of the important issues during crafting the disclosure index was deciding 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 study, 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 bank's annual reports were compared to the items listed in the Appendix, and on the basis of a dichotomous model they were coded as 1 if disclosed or 0 if otherwise. This index coincides with other studies that quantify the extent of disclosure (Al-Razeen and Karbhari, 2004; Barako et al., 2006; Alsaeed, 2006; Owusu-Ansah, 1998; Oliveira et al., 2006).

The total score for a bank is:

$$TD = \sum_{i=1}^n d_i \quad (1)$$

where,  $d = 1$  if the item is disclosed;  $0 =$  if the item is not disclosed;  $n =$  number of items.

#### 5.4.2. Reliability and Validity of Disclosure Indices

Weber (1988) argued that the classification procedure should be reliable and valid. The reliability and validity of content analysis approaches need to be reviewed carefully. In human-scored schemes, reliability, that is the reproducibility of the measurement, is a major concern (Marston and Shrives, 1991; Healy and Palepu, 2001). The preceding studies argued that content analysis is not reliable if it is conducted only once or only by one specific person (Neuendorf, 2002). Consequently, to ensure the content validity of the initial research instrument, it was reviewed independently by two other researchers. Subsequently, after the researcher received the independent researcher's comments and suggestions. A fourth experienced academic was required to discuss any ambiguities raised. The final disclosure checklist included 67 items. In terms of validity the research instruments (disclosure indices) are valid if they can measure what they claim to measure (Field, 2009). In this study the indices have measure what they claimed to measure, therefore the researcher can safely claim that the research instruments are valid. To ensure the reliability of the research instrument, the author and the two independent researchers scored three randomly selected banks. Then, the results from the three researchers were compared. Given that the final research disclosure indices were agreed by all researchers, differences in the compliance scores from the researchers were insignificant. This method was adopted by Marston and Shrives (1991), who argued that the index scores awarded to firm could be considered reliable if other researchers could replicate the same results. The final disclosure checklists are presented in the following table 1:

**Table 11.** Ensuring validity of research instrument

Categories	Items suggested by author	Items suggested by first independent researcher	Items suggested by second independent researcher	Final index after consultation	Weight
Accounting Policies	12	13	9	10	15%
Financial risks	15	18	10	15	22.5%
Derivatives hedging and General Risk Info	1	3	2	11	16.5%
Financial instruments	3	2	3	2	3%
Reserves	4	3	2	3	4%
Segment information	2	2	2	2	3%
Business risk	5	3	4	5	7.5%
Compliance with regulations	7	11	3	6	9%
Islamic Bank Risk characteristics	9	9	9	9	13.5%
AAIOFI Standards	5	4	4	4	6%
Total	73	75	56	67	100%

The weight is calculated based on final items for each standard dividend into total items (67). For example: weight of Accounting Policies =  $10/67 \times 100 = 15\%$ .

### 5.5. Descriptive analysis and Discussion

This section presents the results of the analysis and the resultant discussion. The results are generally based on the outcome of the descriptive statistics of disclosure levels and rankings related to the risk categories.

Recently, there has been an increase in users' demands for corporate information. The literature reveals that companies have been put under immense pressure to make even greater disclosures of corporate information, especially in relation to risks and uncertainties. This is the background

against which the results of this study should be interpreted. This study sets out to examine the levels of risk disclosure amongst listed Saudi banks. Tables 2 and 3 display the results of the content analysis. The tables show that all banks in the sample disclosed risk-relevant information. Furthermore, the results displayed in tables 4, 5 and 6 below show that on average the level of risk disclosure steadily increased across the period under study, rising from 52% in 2009 to 77% in 2013; however, the highest score recorded was 78% in 2011 by Banque Saudi Fransi. This provides evidence that there was an upward trend in the average amount of risk disclosure being published by the sampled banks over the period from 2009 to 2013. The average disclosure, regardless of the universal items or Islamic items, increased overall.

**Table 2.** Average risk disclosure level for Non-Islamic Banks (2009 - 2013)

Categories	Saudi Investment Bank	Arab National Bank	National Commercial Bank	Banque Saudi Fransi	SAMBA	Saudi Hollandi Bank	SAAB	Riyad Bank	Average
Accounting Policies	66%	73%	77%	69%	64%	82%	66%	73%	71%
Financial and other Risks	100%	81%	87%	91%	60%	90%	92%	93%	87%
Derivative Hedging and General Risks	45%	58%	36%	73%	18%	47%	49%	49%	47%
Financial Instruments	50%	50%	100%	50%	50%	50%	50%	50%	56%
Reserves	67%	100%	67%	100%	100%	100%	66%	100%	88%
Segment Information	100%	100%	100%	50%	50%	50%	100%	50%	75%
Business Risk	60%	52%	60%	52%	60%	60%	40%	44%	54%
Compliance with Regulations	67%	66%	67%	76%	67%	67%	83%	67%	70%
Average	69%	73%	74%	70%	59%	68%	68%	66%	68%

*Note: The disclosure score for each risk disclosure level is calculated as a ratio of the actual total items disclosed in the annual reports for each bank divided by the 54 items included in the risk disclosure index for non-Islamic and divided by the 67 items included in the risk disclosure index for the Islamic banks.*

Table 2 shows the descriptive analysis for the level of corporate risk disclosure and its categories in the annual reports of all listed non-Islamic banks in Saudi Arabia. In general, what should be noted when observing the table above is that, from a merely quantitative point of view, the total risk disclosure per index reveals that Saudi non-Islamic banks on average reported more risk disclosure than their Islamic counterparties. This is consistent with Abdallah et al. (2015). Furthermore, the results indicate that the total risk disclosure in non-Islamic banks was 68%, with the most common risk disclosure categories in the annual reports of the sampled banks being reserves (88%), financial and other risks (87%), segment information (75%), accounting policies (71%), compliance with regulations (70%), financial instruments (56%), business risk (54%) and derivative hedging (47%).

However, in terms of reporting risk disclosure levels per category for all non-Islamic banks in Saudi Arabia, the Saudi Hollandi bank scored the highest in the first category namely accounting policies (82%). In second place, came the National Commercial bank by scoring (77%). Where, in third

place, came jointly the Arab National bank and Riyadh bank by obtaining a score of (73%). The Banque Saudi Fransi came fourth in the accounting policies category by scoring (69%). In fifth place, jointly came the Saudi Investment bank and SAAB bank by achieving a score of (66%). SAMBA bank came last in the accounting policies category by achieving an overall score of (64%). While, in the second category financial and other risks, the Saudi Investment banks achieved the highest score (100%), secondly, came Riyadh bank (93%), thirdly SAAB bank acquiring a score of (92%), fourthly came the Banque Saudi Fransi at (91%), next came the Saudi Hollandi bank at (90%), then the National Commercial bank came by obtaining a score of (87%), in seventh place, the National Arab bank came by scoring (81%) in the financial risk category, where SAMBA also came last in this category by a large difference (60%). Moreover, the third category is the derivative hedging, which is the lowest category where most non-Islamic banks scored below the (49%). It also has the lowest average of all non-Islamic banks at (47%). The fourth category is the financial instruments category, which is the only category where all non-

Islamic banks from this study's sample achieved a score of (50%) except the National Commercial bank which have achieved a score of (100%). Next comes the reserves category where the Arab National bank, Banque Saudi Fransi, SAMBA, Saudi Hollandi bank and Riyadh bank acquired in this category (100%), while secondly came together the Saudi investment bank and the National Commercial bank at a score of (67%) which is low compared to the first 5 banks in this category, lastly in the reserves category came SAAB bank at (66%). In the sixth category, namely segment information the banks split into two groups where Saudi investment bank, Arab National bank, National Commercial bank and SAAB obtained a score of (100%), while Banque Saudi Fransi, SAMBA, Saudi Hollandi bank and Riyadh bank achieved a score of (50%). In the business risk category, the Saudi Investment banks, the National Commercial bank, SAMBA and the Saudi Hollandi bank all achieved a score of (60%), while the Arab National bank and the Banque Saudi Fransi together scored (52%). In this category Riyadh bank achieved (44%), also in the same category SAAB bank obtained (40%).

Finally in the compliance with regulations category, the highest score was acquired by SAAB bank at (83%), the second highest score was achieved by Banque Saudi Fransi at (76%). While in this category Saudi investment bank, National Commercial bank, SAMBA, Saudi Hollandi bank and Riyadh bank all scored the same at (67%), the Arab National bank scored (66%) in the compliance with regulations category.

However, looking at it in terms of the average risk disclosure reporting per bank of the 8 non-Islamic banks listed on the Saudi stock market the National Commercial Bank was the highest, scoring 74%, followed by the National Arab Bank came second, scoring 73%, then the Banque Saudi Fransi at 70%, fourthly the Saudi Investment bank at a score of 69%. Also, in terms of average risk reporting the Saudi Hollandi bank and SAAB bank scored the same at 68%, followed by Riyadh bank with little difference between them (66%). Finally, SAMBA Bank came last, scoring only 59% in the overall average of all categories per bank.

**Table 3.** Average risk disclosure level for Islamic Banks (2009 – 2013)

Categories	ALJAZIRA	ALRAJHI	ALINMA	ALBILAD	Average	
Accounting Policies	64%	75%	71%	83%	73%	67%
Financial and other Risks	68%	72%	70%	72%	71%	
Derivative Hedging and general risks	55%	69%	56%	29%	52%	
Financial Instruments	100%	80%	50%	40%	68%	
Reserves	100%	100%	67%	67%	84%	
Segment Information	60%	70%	50%	80%	65%	
Business Risk	44%	48%	48%	60%	50%	
Compliance with regulations	70%	83%	77%	66%	74%	38%
Islamic Bank Risk Characteristics	73%	54%	44%	49%	55%	
AAOIFI Standards	30%	25%	0%	25%	20%	
Average	66%	68%	53%	57%	61%	

Table 3 shows that the average risk disclosure among Islamic banks was 61%, while on average the most frequently reported risk categories amongst listed Islamic banks in Saudi Arabia were reserves (84%), compliance with regulation (74%), accounting policies (73%), financial and other risks (71%), financial instruments (68%), segment information (65%), Islamic bank risk characteristics (55%), derivative hedging and general risks (52%), business risk (50%) and Islamic standards (20%). However, the most frequently reported categories among all banks (Islamic banks as well as non-Islamic banks) were reserves (88%), financial and other risks (87%) for non-Islamic (see tables 2) and reserves and compliance with regulations (74%) for Islamic banks (see tables 3). The two most infrequently reported categories among the Islamic banks were Islamic standards (20%) and business risk (50%) and for non Islamic were derivative hedging and general risks (47%) and business risk (54%), (see table 2).

However, in terms of reporting risk disclosure levels per category for all Islamic banks in Saudi Arabia, the Albilad bank achieved the highest score in the first category namely accounting policies at a score of (83%), while, Alrajhi bank, which is the largest Islamic banks in the country came second in the accounting policies category by achieving a score of (75%). In third place came the Alinma bank, which

is the newest bank in Saudi Arabia, being established in 2008 scoring (71%), (Alinma bank, 2015). While, in last place came Aljazira bank, which in 2007 shifted from being a conventional bank to a fully sharia-compliant bank by scoring (64%), (Aljazira bank, 2015). The second category is the financial and other risks. In this category Albilad bank and Alrajhi bank jointly scored the highest among the Islamic at (72%). Secondly, the Alinma bank achieved in this category a score of (70%), where Aljazira bank came last by acquiring a score of (68%). However, in the derivative hedging and general risk information, Alrajhi bank scored the highest at (69%), in second place Alinma bank scored (56%), followed by Aljazira bank by a very close score at (55%) and coming last at a very low score at this category is Albilad bank (29%). In the financial instruments category, Aljazira bank topped all Islamic banks by obtaining a score of (100%). Alrajhi bank scored second top at (80%), while Alinma bank and Aljazira bank score considerably low at the financial instruments category at (50%), (40%) respectively. Moreover, Aljazira and Alrajhi banks jointly acquired the highest scores in the reserves category (100%). This could be attributed to large size both banks enjoy, where both banks had the largest total assets over the sample period. Also, in the same category Alinma and Albilad banks jointly acquired a score of

(67%). In the segment information category, Albilad bank came first with a score of (80%), followed by Alrajhi bank with a score of (70%), then Aljazira bank with a score of (60%), and followed by Alinma bank with a score of (50%). While, in the business risk category Albilad scored (60%), where in second place came jointly Alrajhi and Alinma banks at (48%), followed by Aljazira bank with a score of (44%). Whereas, in the compliance with regulations Alrajhi bank scored the highest score at (83%), then Alinma bank came second with a score of (77%), followed by Aljazira bank with a score of (70%) and in fourth place came Albilad bank at (66%). Moreover, in the Islamic bank risk characteristics category, Aljazira bank acquired the highest score of (73%), in second place came Alrajhi bank with a score of (54%), and followed by in third place Albilad bank with a score of (49%), then by Alinma bank with a score of (44%). In the last category, named the AAOIFI standards Aljazira scored the highest at (30%), followed by jointly Alrajhi and Albilad banks with a score of (25%) and in last place came Alinma bank with zero percent.

However, over the sampled period, amongst the Islamic banks Alrajhi Bank had on average the highest score at 68% in terms of risk disclosure per bank. In second place in terms of risk reporting per bank, Aljazira bank achieved a score of (66%). Thirdly, Albilad bank on average per bank scored (57%), while Alinma Bank had the lowest score of (53%).

## 6. FURTHER DISCUSSION

Table 2 shows the descriptive analysis for the level of corporate risk disclosure and its categories in the annual reports of listed non-Islamic banks in Saudi Arabia. In general, what should be noted when observing the table above is that, from a merely quantitative point of view, the total risk disclosure per index reveals that Saudi non-Islamic banks on average reported more risk disclosure than their Islamic counterparties. This could be a reflection of the inherently conservative nature of the principles that guide Islamic financial institutions, which aim to provide financial products that serve the interests of society more broadly than do non-Islamic banks, which are more likely to be oriented towards the pursuit of profit maximization. Furthermore, the results indicate that the total risk disclosure in non-Islamic banks was 68%.

On the other hand, table 3 illustrates the descriptive analysis for the level of corporate risk disclosure and its categories in the annual reports of listed Islamic banks. It reveals that the average level

of risk disclosure among Islamic banks was 61%. However, table 2 and 3 indicate that Islamic banks were more likely to report risk disclosure than non-Islamic banks in the areas of accounting policies, derivatives hedging and general risk information, financial instruments and compliance with regulations categories. This is concurrent with Abdallah et al. (2015). It is worth noting, however, that the difference in the risk disclosure between Islamic banks and non-Islamic banks is not momentous for the overall and all-risk categories. Generally, this suggests that on average the two groups reported a similar amount of risks. However, when comparing the overall risk disclosure levels of all 12 listed Saudi banks in this study with disclosure levels in previous studies, such as Amran et al. (2008) (74.5%), Deumes and Knechel (2008) (87.3%) and Maffei et al. (2014) (84.8%), the sample banks' score was relatively low at 64%. This signifies that listed Saudi banks still have to improve upon their corporate risk disclosure levels so as to improve the overall risk disclosure practices among the banking industry, which will result in well-informed investors and more effective decision making practices. This was confirmed by the ICAEW (1999), who advised quantifying risk whenever possible to improve the quality of risk reporting. Basically, the quantification of risk by managers in the annual reports results in the overall enhancement of risk disclosure quality. This leads to investors being able to make more informed investment decisions. Moreover, Islamic banks (67%) and non-Islamic banks (68%) disclosed almost the same amount of risk in terms of the universal items, which are the first 8 categories of the risk disclosure index (see appendix). Islamic banks only reported (38%) regarding Islamic items, the last two categories of the Islamic banks risk disclosure index (see appendix).

It is evident that the sample banks reported more non-financial information than specific financial information. Looking at the above tables, on average the total number of banks examined for the purpose of this investigation reported most on the same nonfinancial category, namely, reserves. Empirical studies in different contexts have provided similar results (Rajab and Schachler, 2009; Woods and Reber, 2003, Mokhtar and Mellett, 2013). The total Saudi banks scored 79% on financial and other risks category, which is more than the average reported by previous studies, such as Mokhtar and Mellett (2013) (4.55%) and Maffei et al. (2014) (30%). The tables below show the average per year over the entire sample period of all banks.

**Table 4.** Average risk disclosure of each Islamic bank (per year)

ALJAZIRA					ALRAJHI					ALINMA					ALBILAD				
2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
68%	66%	64%	64%	71%	75%	74%	67%	55%	67%	52%	52%	51%	56%	56%	53%	53%	54%	66%	60%

**Table 5.** Average risk disclosure of each Non-Islamic bank (per year)

SAMBA					Saudi Hollandi Bank					SAAB					Riyad Bank				
2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
59%	59%	59%	59%	59%	67%	67%	67%	70%	70%	66%	72%	68%	68%	68%	65%	65%	67%	66%	66%

**Table 6.** Average risk disclosure of each Non-Islamic bank (per year)

Saudi Investment Bank					Arab National Bank					National Commercial Bank					Banque Saudi Fransi				
2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
68%	69%	69%	74%	67%	67%	72%	69%	77%	77%	74%	74%	74%	75%	75%	70%	66%	78%	74%	62%

Tables 4, 5 and 6 present the descriptive statistics for the scores of the risk disclosure levels for each year of the sample period for the individual banks. Table 2 displays the average risk disclosure of each Islamic bank per year. It can be seen from this table that Aljazira Bank witnessed a drop in terms of reporting risk disclosure from 68% in 2009 to 64% in 2012 before increasing up again to 71% in 2013. Such fluctuations in risk reporting over the period could be attributed to new board members joining or due to new corporate governance measures adopted. However, as demonstrated in table 2 Alrajhi bank witnessed a decrease throughout the entire period, despite being the largest bank in terms of total assets and profitability. This decrease effect could be attributed to other corporate governance factors, such as changes in disclosure policy or changes in the top management. Albilad bank witnessed a steady increase in the levels of risk disclosure over the first 4-years of the period before decreasing to 60% in 2013. This effect could be due to steady profitability levels over the latter 4 years of the examined period. While, Alinma bank witnessed the no changer effect in the levels of voluntary risk disclosure for the first 2-year, followed by a very little decrease in the subsequent year before soaring up again over the last 2-year of the period. This could be only attributed to trying new reporting strategy by management.

On the other hand, tables 3 and 4 demonstrate that most of the individual non-Islamic banks witnessed overall steady increases in the levels of risk disclosure over the sample period, which could be attributed to the same levels of profitability of these banks. However, Banque Saudi Fransi witnessed large changes over the period in its risk reporting levels, starting in 2009 at 70%, followed by a slight decrease to 66% in 2010, then soaring up to 78% in 2011, scoring the highest score of the entire sample through the whole period, then once again dropping to 74% in 2012 and reaching the lowest score 62% in 2013. This could be due to changes in the board of directors, since some board members tend to lean toward a specific disclosure strategy. Contrastingly, SAMBA Bank observed no changes in its reporting levels over the sample period.

Overall, the above tables indicate that the

majority of banks witnessed an increase in their risk reporting levels over the 5-year period. This provides evidence that there was an upward trend in the average amount of risk disclosure being published by the sampled banks over the period from 2009 to 2013. There is only one possible explanation for this trend, which is that all of the sampled banks were following the international financial reporting standards as well as the national accounting standards (IFRS, 2011), requiring them to apply the IFRS7, which makes it categorically clear that disclosure is mandatory. This could be confirmation that regulation is the most powerful driver of the increases in the levels of corporate risk disclosure (Adamu, 2013; Lipunga, 2014). Furthermore, some studies have documented that the amount of information disclosed by organizations has increased substantially over the past few years in part due to regulations (Oliveira et al., 2011a; Leuz, 2010) and that there has been a rise in voluntary information provided by companies (Oliveira et al., 2011a; Campbell and Slack, 2008). In addition, other studies have reported that firms react to new requirements (Miihkinen, 2012) by increasing the amount of disclosure relating to either specific risk items (Roulstone, 1999) or specific sections of their annual reports.

As can be observed from the table above, the National Commercial Bank is the highest ranked bank in terms of its voluntary risk disclosure score over the entire sample period. It is also the largest listed bank on the Saudi stock market in terms of size (total assets). This result shows that the level of risk disclosure is positively correlated with size. This is consistent with previous risk disclosure studies that employed annual reports, such as Beretta and Bozzolan (2004), Linsley and Shrivs (2006), Konishi and Mohobbot (2007), Lopes and Rodrigues (2007), Vandemele et al. (2009) and Mousa and Elamir (2013), which confirmed that size is positively correlated with the level of risk disclosure. This outcome is also in line with signalling theory. According to signalling theory, larger companies rely more on external finance. Hence, they are incentivized to disclose more risk information in order to send a good signal to investors and creditors regarding their ability to manage risk.

Table 7. Banks Descriptive Information

Banks	Disclosure Level	Year	Firm-Specific Characteristics Variables				
			LOG Size	Profitability	Leverage	Auditor Dummy (1-0)	
ALJAZIRA	68%	2009	7.48	0.1%	8.98%	1	
ALRAJHI	75%		8.23	4.06%	3.57%	1	
ALINMA	52%		7.24	1.78%	0	1	
ALBILAD	53%		7.24	-1.48%	1.14%	1	
SAMBA	59%		8.27	2.52%	4.96%	1	
Saudi Hollandi Bank	67%		7.77	0.22%	13.76	1	
SABB	66%		8.10	1.78%	57.67%	1	
Riyad Bank	65%		8.25	1.78%	57.67%	1	
Saudi Investment Bank	68%		7.70	1.78%	57.67%	1	
Arab National Bank	67%		8.04	2.08%	10.99%	1	
National Commercial Bank	74%		8.41	1.78%	57.67%	1	
Banque Saudi Fransi	70%		8.08	1.78%	57.67%	1	
ALJAZIRA	66%		2010	7.52	0.09%	1.18%	1
ALRAJHI	74%			8.27	3.81%	2.93%	1
ALINMA	52%	7.43		0.07%	8.45	1	
ALBILAD	53%	7.32		1.78%	57.67%	1	
SAMBA	59%	8.27		2.39%	11.57%	1	
Saudi Hollandi Bank	67%	7.73		1.48%	9.08%	1	
SAAB	72%	8.10		1.78%	8.23%	1	
Riyad Bank	65%	8.24		1.78%	57.67%	1	
Saudi Investment Bank	69%	7.71		1.78%	57.67%	1	
Arab National Bank	72%	8.06		1.71%	14.56%	1	
National Commercial Bank	74%	8.45		1.78%	57.67%	1	
Banque Saudi Fransi	66%	8.09		1.78%	57.67%	1	
ALJAZIRA	64%	2011		7.59	0.9%	5.93%	1
ALRAJHI	67%			8.34	3.64%	3.18%	1
ALINMA	51%		7.57	1.36%	6.64%	1	
ALBILAD	54%		7.44	1.78%	1.52%	1	
SAMBA	59%		8.29	2.27%	10.7%	1	
Saudi Hollandi Bank	67%		7.76	1.93%	8.99%	1	
SAAB	68%		8.14	2.3%	7.24%	1	
Riyad Bank	67%		8.26	1.78%	3.55%	1	
Saudi Investment Bank	69%		7.72	1.78%	11.79%	1	
Arab National Bank	69%		8.07	1.88%	10.95%	1	
National Commercial Bank	74%		8.48	1.78%	57.67%	1	
Banque Saudi Fransi	78%		8.15	1.78%	57.67%	1	
ALJAZIRA	64%		2012	7.71	1.17%	8.41%	1
ALRAJHI	55%			8.43	3.23%	0.84%	1
ALINMA	56%	7.73		1.61%	8.24%	1	
ALBILAD	66%	7.47		3.28%	1.92%	1	
SAMBA	59%	8.30		2.21%	6%	1	
Saudi Hollandi Bank	70%	7.84		2.08%	11.77%	1	
SAAB	68%	8.19		2.27%	6.75%	1	
Riyad Bank	66%	8.28		1.87%	3.24%	1	
Saudi Investment Bank	74%	7.77		1.69%	14%	1	
Arab National Bank	77%	8.14		1.89%	9.15%	1	
National Commercial Bank	75%	8.54		1.78%	57.67%	1	
Banque Saudi Fransi	74%	8.20		1.78%	9.24%	1	
ALJAZIRA	71%	2013		7.78	1.78%	57.67%	1
ALRAJHI	67%			8.45	2.72%	1.3%	1
ALINMA	56%		7.80	1.72%	32.84%	1	
ALBILAD	60%		7.56	1.78%	57.67%	1	
SAMBA	59%		8.31	2.23%	3.64%	1	
Saudi Hollandi Bank	70%		7.91	2.13%	13.03%	1	
SAAB	68%		8.25	2.33%	5.17%	1	
Riyad Bank	66%		8.31	2%	5.64%	1	
Saudi Investment Bank	67%		7.91	1.9%	14.69%	1	
Arab National Bank	77%		8.14	1.78%	6.76%	1	
National Commercial Bank	75%		8.58	1.78%	57.67%	1	
Banque Saudi Fransi	62%		8.23	1.58%	6.35%	1	

As has been established by prior investigation, leverage could affect the level of risk disclosure since the level of risk disclosure and the leverage ratio simultaneously increase or decrease. Moreover, firms with higher leverage are more likely to have a higher level of voluntary risk disclosure in their annual reports than those with lower leverage (Deumes and Knechel 2008; Hassan 2009; Marshall and Weetman 2007; Taylor et al., 2010). The table

above shows that Alrajhi Bank's risk disclosure levels decreased in tandem with the leverage ratio year by year over the entire sample period, confirming the above argument. This is also concurrent with signalling theory, whereby managers tend to provide more risk management information to send a good signal to debt holders regarding corporate ability to meet obligations (Oliveira et al., 2011b).

The banks descriptive table above shows that SAMBA Bank had a consistent level of risk disclosure throughout the whole sample period. Yet, its profitability levels decreased year by year. This non-directional relationship illustrates that there is a negative association between the two variables. This is concurrent with Mousa and Elamir (2013), who reported a negative relationship between profitability and risk disclosure levels. Furthermore, applying signalling theory could mean that those firms that are better at risk management will have higher levels of relative profitability and would want to signal their superior risk management abilities to the market place via voluntary disclosures in the annual report.

Auditor type has been suggested as a factor in explaining variations in voluntary risk disclosure levels (Al-Shammari, 2014). Furthermore, Jensen and Meckling (1976) argued that larger audit firms are less likely to be associated with clients that disclose lower levels of information in their annual reports. Chalmers and Godfrey (2004) claimed that these larger and better known auditing firms tend to encourage their clients to disclose more risk information to maintain their own reputation. The international Big 4 auditing firms are more likely to pressure their clients to disclose risk information in their annual reports to assure the shareholders regarding the quantity of risk that their companies face. However, the consistently changing levels of voluntary risk disclosure over the examined period, as can be seen from the table above, indicate that auditor type had no effect on the levels of voluntary risk disclosure in the sample banks of this study. Indeed, one of the Big 4 accounting firms audited all banks included in this investigation, which proves that there is no correlation between auditor type and the level of voluntary risk disclosure in Saudi listed banks. Nevertheless, the choice of an external auditor can serve as one signal of a firms' value. For example, Craswell and Taylor (1992) showed that listed firms are more likely to choose one of the Big 4 auditing firms. Such a choice signals to investors that the auditing of the contents of the annual reports is of high quality.

## 7. CONCLUSION

In conclusion, the ICAEW (1999) advised firms to quantify risk whenever possible to improve the quality of risk reporting. Basically, the quantification of risk by managers in annual reports results in the overall enhancement of risk disclosure quality. It improves the bank's image and sends a good signal to investors and creditors, which attracts more capital. It also enhances investors' decision-making practices. Finally, it is an opportunity for managers to show their skills and abilities in relation to quantifying risk information in their annual reports to the market, which can improve their career prospects.

This study sought to empirically investigate the level of voluntary risk disclosure in the annual reports of all listed banks on the Saudi stock market from 2009 to 2013. This study used the manual content analysis approach to measure voluntary risk disclosure by counting the number of words

disclosed by the sample banks in their annual reports. The empirical analysis showed that overall Islamic banks reported less risk information than non-Islamic banks. However, the analysis also revealed that both types of banks reported relatively the same amount of risk information regarding the banks' universal items and Islamic banks reported very little risk information on the Islamic risk disclosure items. Based on this, the following conclusion can be made: Islamic banks disclose less voluntary risk information than their non-Islamic counterparties. This outcome could be a reflection of the inherently conservative nature of the principles that guide Islamic financial institutions, which aim to provide financial products that serve the interests of society more broadly than non-Islamic firms, which are more likely to be oriented towards the pursuit of profit maximization.

This investigation results have important implications for regulators in Saudi Arabia as they attempt to ensure information adequacy and the increased efficiency of the most rapidly developing capital market. The study is significant in that it sheds light on the voluntary risk-disclosing practices of banks that operate in an environment that is often considered to be opaque.

Several limitations should be noted in this investigation. Firstly, this study used content analysis to measure voluntary risk disclosure by creating a risk disclosure index through simply adding up the number of risk-related words. Secondly, this study relied only on annual reports to measure risk disclosure levels. However, information about risk can be provided in sources other than annual reports, such as interim reports, press releases, conference calls, web sites or prospectuses. Thirdly, this study ignored the influence of corporate governance and corporate-specific characteristics on risk disclosure by financial and non-financial institutions as well as ignoring the determinants of voluntary risk disclosure. Future studies may examine these financial and non-financial institutions to provide a bigger picture of the impact of corporate governance and corporate specific characteristics on the levels of voluntary risk disclosure in Saudi Arabia. In spite of the noted limitations, the study did offer substantial insights into voluntary risk disclosure in Saudi Arabia.

This study suggests a number of other openings for future research. In the field of corporate risk disclosure in the Middle East, research could extend this study over a longer period of time or alternatively involve comparative studies with other Arab countries, such as the Gulf Co-Operation Council (GCC) member states. Such studies could investigate the changes in corporate risk disclosures across time and compare potential variation in nations with different social, political and economic systems. This may also help researchers to understand why managers choose to disclose certain parts of risk information and withhold other parts. Additional research could be also undertaken to examine the economic consequences of risk reporting in annual reports (e.g., the effect on prices leading earnings, cost of capital, analyst following, firm value and characteristics of analysts' forecasts).

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## APPENDIX

Table A.1. Islamic Risk Disclosure Index

Category and type of reported risks	References
<b>Accounting Policies</b>	
Risk Management	Abdullah et al., 2015; Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000
Objective of Holding Derivatives/ instruments	Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Abdullah et al., 2015
Use of Estimates	Abdullah et al., 2015; Alfredson et al., 2007; ICAEW, 1997, 2000; Hassan, 2009
Collateral Assets against Loans	Alfredson et al., 2007; Abdullah et al., 2015; Hassan, 2009
Financial Assets Impairment	Abdullah et al., 2015; Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Hassan, 2009
Other Assets Impairment	Alfredson et al., 2007; Abdullah et al., 2015; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Hassan, 2009
Contingent Liabilities	Alfredson et al., 2007; ICAEW, 1997, 2000; Abdullah et al., 2015; Hassan, 2009
Contingent Assets	Alfredson et al., 2007; ICAEW, 1997, 2000; Abdullah et al., 2015; Hassan, 2009
Detailed risk management	Lopes and Rodrigues, 2007; Alfredson et al., 2007
Contingency	Abdullah et al., 2015; Hassan, 2009
<b>Financial and other risks</b>	
Pricing Risk	ICAEW, 1997, 2000; Abdullah et al., 2015, Lipunga, 2014
Commodity risk	Abdullah et al., 2015;
Liquidity risk	Abdullah et al., 2015; Alfredson et al., 2007; ICAEW, 1997, 2000; Lipunga, 2014; Hassan, 2009
Credit risk	Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Lipunga, 2014
Capital Adequacy	Lipunga, 2014; Abdullah et al., 2015
Changes in Interest Rates	Abdullah et al., 2015
Credit Risk Exposure	Abdullah et al., 2015
Operational Risk	Abdullah et al., 2015; ICAEW, 1997, 2000; Lipunga, 2014
Insurance Risk	Abdullah et al., 2015; ICAEW, 1997, 2000
Market Risk	Abdullah et al., 2015; Ahmed et al., 2004; Lipunga, 2014
Interest Rate	Lipunga, 2014; Abdullah et al., 2015;
Currency risk	Lipunga, 2014
Exchange Rate	Abdullah et al., 2015
<b>Sustainability Risk</b>	
Sensitivity Analysis	Abdullah et al., 2015; Ahmed et al., 2004
<b>Derivatives hedging and general risks</b>	
Cash flow Hedge	Alfredson et al., 2007; Lopes and Rodrigues, 2007; Abdullah et al., 2015
Equity Risk	Abdullah et al., 2015
Customer Satisfaction	Abdullah et al., 2015
Competition (Service Market)	Abdullah et al., 2015; ICAEW, 1997, 2000
Natural Disasters	ICAEW, 1997, 2000; Abdullah et al., 2015; Lipunga, 2014
Communications	Abdullah et al., 2015
Outsourcing	Abdullah et al., 2015
Reputation	Abdullah et al., 2015; Lipunga, 2014
Reputation risk	Abdullah et al., 2015; Lipunga, 2014
Physical disasters (Explosions and Fire)	Lipunga, 2014
Changes in Technology	Abdullah et al., 2015
<b>Financial instruments</b>	
Derivatives	Hassan, 2009; Abdullah et al., 2015
Cumulative Change in Fair value	Lopes and Rodrigues, 2007; Alfredson et al., 2007; Abdullah et al., 2015
<b>Reserves</b>	
General Reserves	Hassan, 2009; Abdullah et al., 2015
Statutory Reserves	Hassan, 2009; Abdullah et al., 2015
Other Reserves	Hassan, 2009; Abdullah et al., 2015

Table A.1. continued

Category and type of reported risks	References
<b>Segment information</b>	
Geographical Concentration	Alfredson et al., 2007; Abdullah et al., 2015; ICAEW, 1997, 2000
Customer Concentration	Hassan, 2009; Abdullah et al., 2015; ICAEW, 1997, 2000
<b>Business risk</b>	
General Financial Problems	Hassan, 2009
Regional Financial Problems	Hassan, 2009
Political risk	Abdullah et al., 2015
Diversification	
Performance	Abdullah et al., 2015
<b>Compliance</b>	
Compliance with listing rules	Lipunga, 2014
Compliance with financial regulations	Lipunga, 2014
Compliance with companies act requirements	Lipunga, 2014
Compliance with other regulations and laws	Lipunga, 2014
Litigation risk	Lipunga, 2014
Health and Safety	Lipunga, 2014
Category and type of reported risks	References
<b>Accounting Policies</b>	
Risk Management	Abdullah et al., 2015; Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000
Objective of Holding Derivatives/instruments	Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Abdullah et al., 2015
Use of Estimates	Abdullah et al., 2015; Alfredson et al., 2007; ICAEW, 1997, 2000; Hassan, 2009
Collateral Assets against Loans	Alfredson et al., 2007; Abdullah et al., 2015; Hassan, 2009
Financial Assets Impairment	Abdullah et al., 2015; Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Hassan, 2009
Other Assets Impairment	Alfredson et al., 2007; Abdullah et al., 2015; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Hassan, 2009
Contingent Liabilities	Alfredson et al., 2007; ICAEW, 1997, 2000; Abdullah et al., 2015; Hassan, 2009
Contingent Assets	Alfredson et al., 2007; ICAEW, 1997, 2000; Abdullah et al., 2015; Hassan, 2009
Detailed risk management	Lopes and Rodrigues, 2007; Alfredson et al., 2007
Contingency	Abdullah et al., 2015; Hassan, 2009
<b>Financial and other risks</b>	
Pricing Risk	ICAEW, 1997, 2000; Abdullah et al., 2015; Lipunga, 2014
Commodity risk	Abdullah et al., 2015
Liquidity risk	Abdullah et al., 2015; Alfredson et al., 2007; ICAEW, 1997, 2000; Lipunga, 2014; Hassan, 2009
Credit risk	Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Lipunga, 2014
Capital Adequacy	Lipunga, 2014; Abdullah et al., 2015
Changes in Interest Rates	Abdullah et al., 2015
Credit Risk Exposure	Abdullah et al., 2015
Operational Risk	Abdullah et al., 2015; ICAEW, 1997, 2000; Lipunga, 2014
Insurance Risk	Abdullah et al., 2015; ICAEW, 1997, 2000
Market Risk	Abdullah et al., 2015; Ahmed et al., 2004; Lipunga, 2014
Interest Rate	Lipunga, 2014; Abdullah et al., 2015
Currency risk	Lipunga, 2014
Exchange Rate	Abdullah et al., 2015
Sustainability Risk	
Sensitivity Analysis	Abdullah et al., 2015; Ahmed et al., 2004
<b>Derivatives hedging and general risks</b>	
Cash flow Hedge	Alfredson et al., 2007; Lopes and Rodrigues, 2007; Abdullah et al., 2015
Equity Risk	Abdullah et al., 2015
Customer Satisfaction	Abdullah et al., 2015
Competition (Service Market)	Abdullah et al., 2015; ICAEW, 1997, 2000
Natural Disasters	ICAEW, 1997, 2000; Abdullah et al., 2015; Lipunga, 2014
Communications	Abdullah et al., 2015
Outsourcing	Abdullah et al., 2015
Reputation	Abdullah et al., 2015; Lipunga, 2014
Reputation risk	Abdullah et al., 2015; Lipunga, 2014
Physical disasters (Explosions and Fire)	Lipunga, 2014
Changes in Technology	Abdullah et al., 2015
<b>Financial instruments</b>	
Derivatives	Hassan, 2009; Abdullah et al., 2015
Cumulative Change in Fair value	Lopes and Rodrigues, 2007; Alfredson et al., 2007; Abdullah et al., 2015
<b>Reserves</b>	
General Reserves	Hassan, 2009; Abdullah et al., 2015
Statutory Reserves	Hassan, 2009; Abdullah et al., 2015
Other Reserves	Hassan, 2009; Abdullah et al., 2015
<b>Segment information</b>	
Geographical Concentration	Alfredson et al., 2007; Abdullah et al., 2015; ICAEW, 1997, 2000
Customer Concentration	Hassan, 2009; Abdullah et al., 2015; ICAEW, 1997, 2000
<b>Business risk</b>	
General Financial Problems	Hassan, 2009
Regional Financial Problems	Hassan, 2009
Political risk	Abdullah et al., 2015
Diversification	
Performance	Abdullah et al., 2015
<b>Compliance with regulations</b>	
Compliance with listing rules	Lipunga, 2014
Compliance with financial regulations	Lipunga, 2014
Compliance with companies act requirements	Lipunga, 2014

Table A.1. continued

Category and type of reported risks	References
Compliance with other regulations and laws	Lipunga, 2014
Litigation risk	Lipunga, 2014
Health and Safety	Lipunga, 2014
<b>Islamic Bank Risk characteristics</b>	
Mudarabah risk	IFSB 2007
Musharakah risk	IFSB 2007
Murabaha risk	IFSB 2007
Ijarah risk	IFSB 2007
Qard Hasan risk	IFSB 2007
Al-Istisna risk	IFSB 2007
Salam risk	IFSB 2007
Sukuk risk	IFSB 2007
Wakalah risk	IFSB 2007
<b>AAIOFI Standards</b>	
Unusual supervisory restrictions	AAIOFI 2014
Earnings or expenditures prohibited by shari'a law	AAIOFI 2014
The method used by the Islamic bank to allocate investment profits (loss) between unrestricted investment account holders or their equivalent and the Islamic bank as a Mudarib or as an investment with its own funds	AAIOFI 2014
Statement of restricted investments	AAIOFI 2014

Table B.1. Non-Islamic Risk Disclosure Index

Category and type of reported risks	References
<b>Accounting Policies</b>	
Risk Management	Abdullah et al., 2015; Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000
Objective of Holding Derivatives/instruments	Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Abdullah et al., 2015
Use of Estimates	Abdullah et al., 2015; Alfredson et al., 2007; ICAEW, 1997, 2000; Hassan, 2009
Collateral Assets against Loans	Alfredson et al., 2007; Abdullah et al., 2015; Hassan, 2009
Financial Assets Impairment	Abdullah et al., 2015; Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Hassan, 2009
Other Assets Impairment	Alfredson et al., 2007; Abdullah et al., 2015; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Hassan, 2009
Contingent Liabilities	Alfredson et al., 2007; ICAEW, 1997, 2000; Abdullah et al., 2015; Hassan, 2009
Contingent Assets	Alfredson et al., 2007; ICAEW, 1997, 2000; Abdullah et al., 2015; Hassan, 2009
Detailed risk management	Lopes and Rodrigues, 2007; Alfredson et al., 2007
Contingency	Abdullah et al., 2015; Hassan, 2009
<b>Financial and other risks</b>	
Pricing Risk	ICAEW, 1997, 2000; Abdullah et al., 2015, Lipunga, 2014
Commodity risk	Abdullah et al., 2015
Liquidity risk	Abdullah et al., 2015; Alfredson et al., 2007; ICAEW, 1997, 2000; Lipunga, 2014; Hassan, 2009
Credit risk	Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Lipunga, 2014
Capital Adequacy	Lipunga, 2014; Abdullah et al., 2015
Changes in Interest Rates	Abdullah et al., 2015
Credit Risk Exposure	Abdullah et al., 2015
Operational Risk	Abdullah et al., 2015; ICAEW, 1997, 2000; Lipunga, 2014
Insurance Risk	Abdullah et al., 2015; ICAEW, 1997, 2000
Market Risk	Abdullah et al., 2015; Ahmed et al., 2004; Lipunga, 2014
Interest Rate	Lipunga, 2014; Abdullah et al., 2015
Currency risk	Lipunga, 2014
Exchange Rate	Abdullah et al., 2015
Sustainability Risk	
Sensitivity Analysis	Abdullah et al., 2015; Ahmed et al., 2004
<b>Derivatives hedging and general risks</b>	
Cash flow Hedge	Alfredson et al., 2007; Lopes and Rodrigues, 2007; Abdullah et al., 2015
Equity Risk	Abdullah et al., 2015
Customer Satisfaction	Abdullah et al., 2015
Competition (Service Market)	Abdullah et al., 2015; ICAEW, 1997, 2000
Natural Disasters	ICAEW, 1997, 2000; Abdullah et al., 2015; Lipunga, 2014
Communications	Abdullah et al., 2015
Outsourcing	Abdullah et al., 2015
Reputation	Abdullah et al., 2015; Lipunga, 2014
Reputation risk	Abdullah et al., 2015; Lipunga, 2014
Physical disasters (Explosions and Fire)	Lipunga, 2014
Changes in Technology	Abdullah et al., 2015
<b>Financial instruments</b>	
Derivatives	Hassan, 2009; Abdullah et al., 2015
Cumulative Change in Fair value	Lopes and Rodrigues, 2007; Alfredson et al., 2007; Abdullah et al., 2015
<b>Reserves</b>	
General Reserves	Hassan, 2009; Abdullah et al., 2015
Statutory Reserves	Hassan, 2009; Abdullah et al., 2015
Other Reserves	Hassan, 2009; Abdullah et al., 2015
<b>Segment information</b>	
Geographical Concentration	Alfredson et al., 2007; Abdullah et al., 2015; ICAEW, 1997, 2000
Customer Concentration	Hassan, 2009; Abdullah et al., 2015; ICAEW, 1997, 2000
<b>Business risk</b>	
General Financial Problems	Hassan, 2009

Table B.1. continued

Category and type of reported risks	References
Regional Financial Problems	Hassan, 2009
Political risk	Abdullah et al., 2015
Diversification	
Performance	Abdullah et al., 2015
<b>Compliance</b>	
Compliance with listing rules	Lipunga, 2014
Compliance with financial regulations	Lipunga, 2014
Compliance with companies act requirements	Lipunga, 2014
Compliance with other regulations and laws	Lipunga, 2014
Litigation risk	Lipunga, 2014
Health and Safety	Lipunga, 2014
Category and type of reported risks	References
<b>Accounting Policies</b>	
Risk Management	Abdullah et al., 2015; Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000
Objective of Holding Derivatives/ instruments	Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Abdullah et al., 2015
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Contingent Assets	Alfredson et al., 2007; ICAEW, 1997, 2000; Abdullah et al., 2015; Hassan, 2009
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Contingency	Abdullah et al., 2015; Hassan, 2009
<b>Financial and other risks</b>	
Pricing Risk	ICAEW, 1997, 2000; Abdullah et al., 2015, Lipunga, 2014
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Insurance Risk	Abdullah et al., 2015; ICAEW, 1997, 2000
Market Risk	Abdullah et al., 2015; Ahmed et al., 2004; Lipunga, 2014
Interest Rate	Lipunga, 2014; Abdullah et al., 2015
Currency risk	Lipunga, 2014
Exchange Rate	Abdullah et al., 2015
Sustainability Risk	
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Outsourcing	Abdullah et al., 2015
Reputation	Abdullah et al., 2015; Lipunga, 2014
Reputation risk	Abdullah et al., 2015; Lipunga, 2014
Physical disasters (Explosions and Fire)	Lipunga, 2014
Changes in Technology	Abdullah et al., 2015
<b>Financial instruments</b>	
Derivatives	Hassan, 2009; Abdullah et al., 2015
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<b>Reserves</b>	
General Reserves	Hassan, 2009; Abdullah et al., 2015
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Other Reserves	Hassan, 2009; Abdullah et al., 2015
<b>Segment information</b>	
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<b>Compliance with regulations</b>	
Compliance with listing rules	Lipunga, 2014
Compliance with financial regulations	Lipunga, 2014
Compliance with companies act requirements	Lipunga, 2014
Compliance with other regulations and laws	Lipunga, 2014
Litigation risk	Lipunga, 2014
Health and Safety	Lipunga, 2014