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Corporate Risk Disclosure

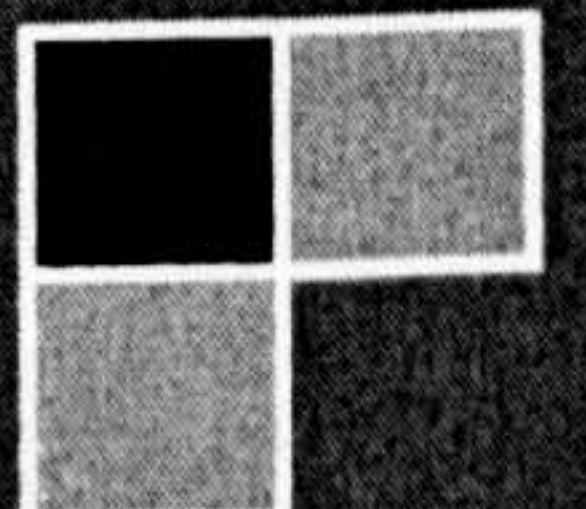
Its determinants and its impact on
the company's cost of equity capital

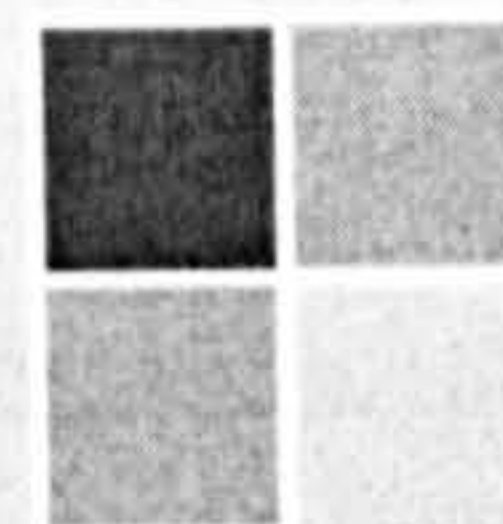
by Bassam Rajab

February 2009

Thesis submitted in partial fulfilment of the requirements of
Edinburgh Napier University for the degree of Doctor of Philosophy

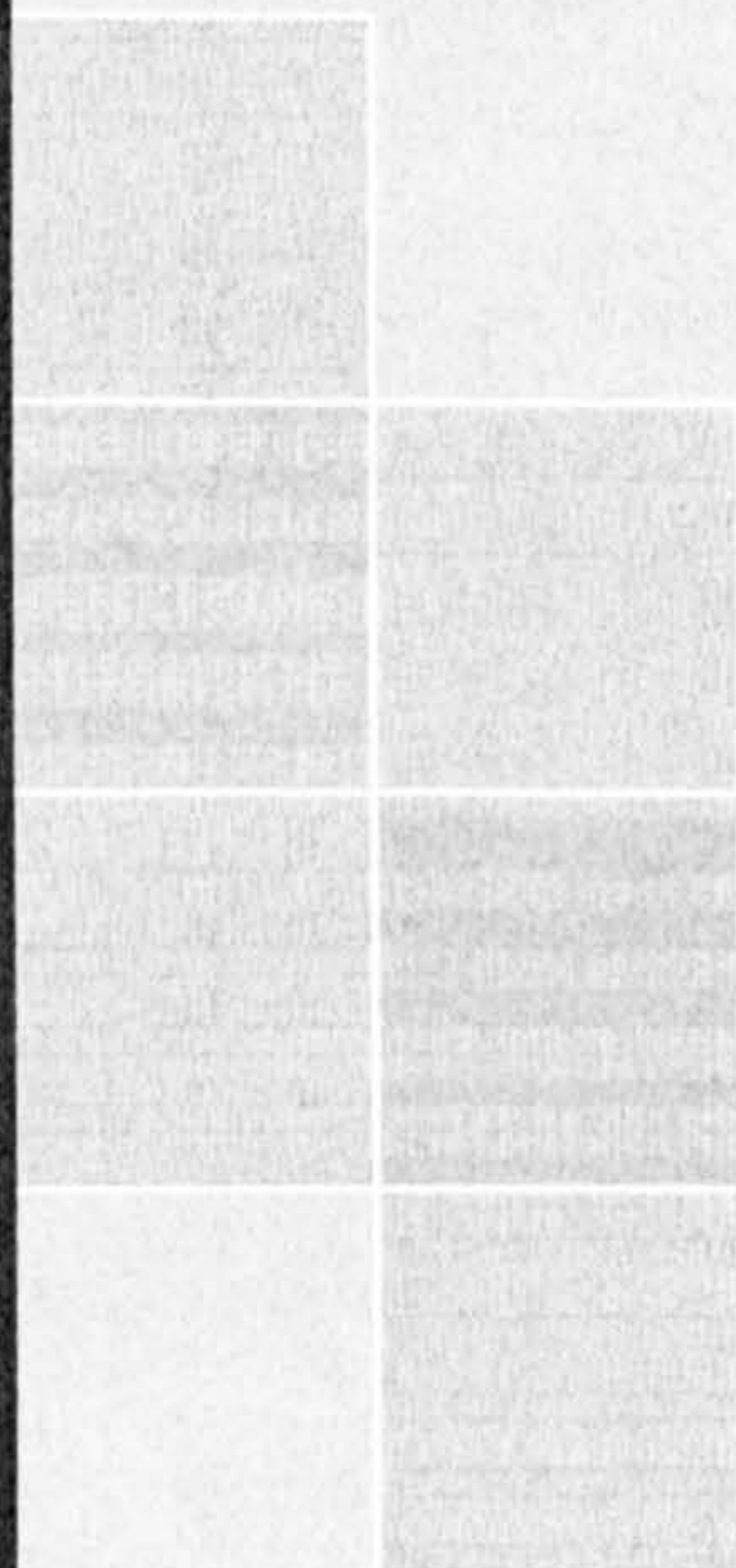
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DEDICATED TO

My Family

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Abstract

Risk disclosure has received considerable interest and attention in recent times. The aim of this research is to examine risk information disclosure in annual reports with the aim of establishing trends. Further, this research empirically examines the influence of four firm factors on the level of risk disclosure in the annual reports. These factors are firm size, leverage, industry and US-dual listing. In addition, the research examines the association between risk disclosure and the company's cost of equity capital (and information asymmetry) after controlling for firm size and market beta.

The annual reports of a sample comprising 52 UK non-financial companies, drawn from the FTSE-100 index, for three different periods (1998, 2001, and 2004) were sought, collected, and analysed. Content analysis was applied and risk disclosure in the annual report was measured according to the number of sentences disclosed and trends were analysed over the six-year period. Risk disclosure sentences were classified according to four main quality dimensions: type of risk, the nature of the evidence, the type of news disclosed, and news time-frame. A four-stage dividend growth model was used to measure the company's cost of equity capital. Bid-ask spread and stock volatility were also used as proxies for information asymmetry. Only when investors perceive that the information is relevant, risk information disclosed in the annual report can lead to a reduction in the cost of equity capital.

The study found, in aggregate, a trend of increasing amounts of risk disclosure in the annual report. Risk disclosure was found primarily qualitative; good and neutral; and non-time. There is minimal disclosure of quantified risk information and bad news information. These results suggest that accounting rules and regulations, in addition to recommendations from accounting institutions, have influenced the increase in the level of risk information disclosed, though without ensuring the quality of the disclosed risk information. US-dual listing and industry are found to be significantly related to risk disclosure, but firm size and leverage are found to have insignificant association with the level of risk disclosure. These findings suggest that the extent of annual report risk disclosure is driven more by regulation than by the market.

The findings reveal that for the largest UK companies with high analyst following, no relation was found between risk disclosure level and cost of equity capital. However, the study found that both quantitative and bad news risk information are significantly and negatively related to stock volatility. Moreover, a significant and negative association was found between bad news risk disclosure and bid-ask spread. This suggests that firms with greater bad news and quantitative disclosure enjoy a reduction in information asymmetry as measured by proxies for information asymmetry. Overall, the analysis suggests that UK companies make substantial risk disclosure but the usefulness of this disclosure is limited.

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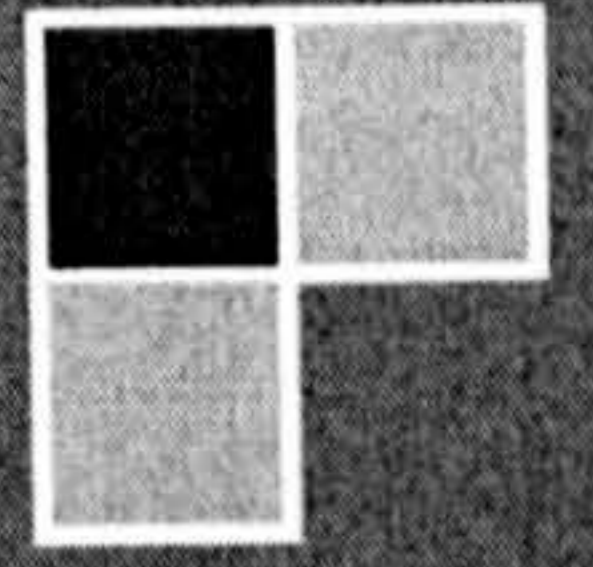
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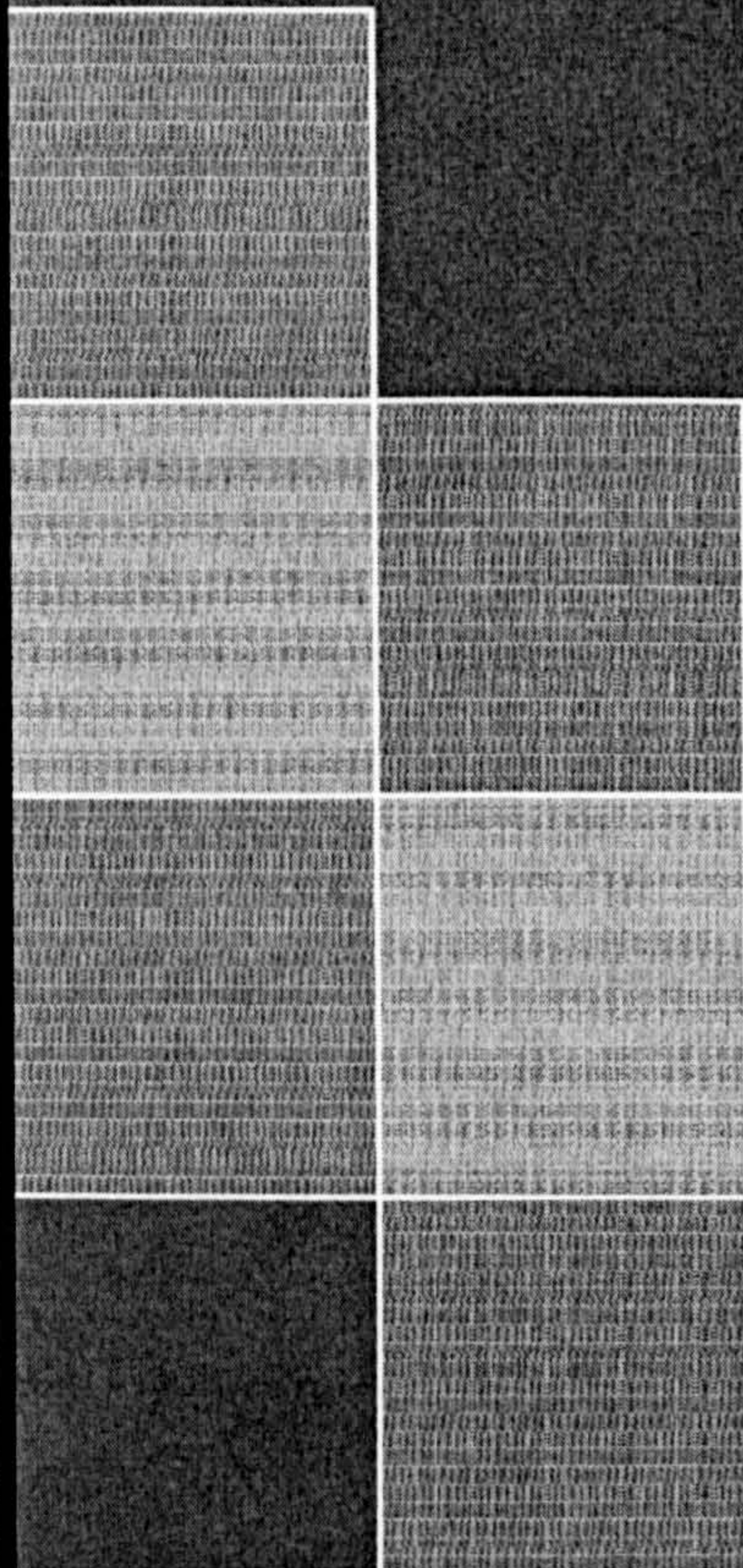
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Chapter 1

Introduction



1.1 Introduction

In recent times, corporate reporting on risk has gained considerable attention giving rise to an urgent investigation into international accounting disclosure. The mainstream literature suggests that there is limited disclosure on risk information available in companies' annual reports (e.g., AICPA, 1987, 1994; Schrand and Elliot, 1998, ICAEW, 1997; and for evidence see ICAEW, 1999b; Lajili and Zegal, 2005; Woods and Reber, 2003; Abraham and Cox, 2007, Linsley and Shrives, 2006; Konishi and Ali, 2007) and that the various users of financial reports are increasingly demanding more relevant information in order to enable them to assess the risk profile of a company (e.g., ICAEW, 1997, 1999b, 2002; Solomon et al., 2000; Linsley and Shrives, 2000, 2005). This increase in users' demands for information has motivated a considerable debate on the topic by regulators, institutional bodies and other interested parties whilst simultaneously gaining a central role in current accounting literature. A number of proposals on improving business reporting have called for more relevant disclosure of risk information in company annual reports (ICAEW, 1997, 1999b, 2002; AICPA, 1994; CICA, 2002; ASB, 1993, 2003, 2006). Enormous business losses of some large corporations around the world together with a number of well-publicised business scandals in recent years have reinforced this debate.

In the accounting literature, several theories have been developed over the years to explain the phenomenon of disclosure as a whole, and to explain the variation in disclosure between companies. Examples of theories include agency theory (Jensen and Meckling, 1976), signalling theory (Spence, 1973) and capital need theory (Choi, 1973). Based on theoretical argument, prior research (e.g., Gray, 1988; Hossain et al., 1994; Roberts et al., 1998) also explains different factors, including financial, non-financial and social responsibility factors behind disclosure differences.

It has been argued that companies' disclosures on risks and how these risks are identified, managed, analysed and evaluated should assist users of corporate reports to understand business profiles and risk profiles thus enabling them to make an accurate assessment of a company's financial conditions and performance (ICAS, 1999; Cabedo and Tirado, 2004; Solomon et al., 2000; Lev and Zarowin, 1999). In turn, companies would reap the benefits by being transparent about the risks and uncertainties they face. For example, it is claimed that greater disclosure reduces information asymmetry and investor uncertainty, thereby having a positive effect on the firm's cost of capital (ICAEW, 1997, 1999b; Botosan, 1997; Hail, 2002). In addition, confident and well-informed investors are an essential factor in achieving and maintaining an accurate assessment of a company's stock (Deumes, 2008). Disclosure is also important and critical for the functioning of the capital markets and, by extension, for the stability of the economy (Akerlof, 1970; Lev, 1988).

The present thesis will examine the literature on corporate risk disclosure and extend this further by undertaking an empirical investigation into the corporate risk disclosure of UK non-financial companies. The initial purpose is to gain insight on the amount, type and nature of risk information disclosed by companies in their annual reports. The present research examines in detail the current risk disclosure practices and trends over a six-year period. Three different periods (fiscal years 1998, 2001 and 2004) are analysed. Furthermore, the relation of risk disclosure to firm-specific characteristics is examined. In addition, the present research examines the impact of risk disclosure on the company's cost of equity capital.

The core aim of the present chapter is to provide the context for this research thesis. In essence, the thesis focuses on the subject of corporate disclosure while honing in on corporate risk disclosure in particular. In the ensuing sections of this chapter, an overview of the research is provided

followed by justification for the research and a discussion of the aims and objectives. This is followed by a summary of the research methods employed. Finally, the structure of the thesis is outlined.

1.2 Research Overview

In the past few decades, the business environment has witnessed dramatic changes driven by fundamental changes in technology, society and world politics. Globalisation activities of capital and product markets have increased. New countries' regulations have developed and emerged. The legal systems by which companies operate have become more complex and competitive activities have intensified with new businesses emerging all the time. The rise in volatility worldwide has affected credit markets dramatically. Financial products and services together with business transitions and structures have become even more complex. The increased economic and political uncertainty across the globe has created concerns. The failures of some major companies (e.g., Johnson Matthey, BCCI and Barings, Enron, Maxwell, WorldCom; AIG, Lehman Brothers) have exacerbated already difficult economic conditions and shaken the confidence of both investors and regulators.

There has been increased public demand for firms to make even greater disclosure of corporate information, especially those related to risks and uncertainties. A number of sophisticated and well-structured approaches to risk management have been developed over the recent years to help managers manage different type of risks (Linsley and Shrives, 2000), hence, reducing the quality gap in internal risk management reporting systems. However, companies' external reporting was lacking an adequate disclosure on risks and uncertainties. The literature (e.g., Beattie and Pratt, 2002; Solomon et al., 2000; Healy and Palepu, 2001; Linsley and Shrives, 2000; Epstein and Palepu, 1999; Schrand and Elliot, 1998; ICAEW, 1997, 1999b, 2002; Eccles and Mavrinac, 1995; AIMR, 1993; AICPA, 1987, 1994;

CICA, 2002; IASB, 2005; Beattie, 2005) suggests that corporate reports are lacking sufficient relevant information for users to help them assess a company's risk profile and make informed decisions. There was recognition that financial reporting standards developed by bodies such as the International Accounting Standards Board (IASB) and the UK's Accounting Standards Board (ASB) or from civil law codes in continental Europe fell short of providing sufficient relevant information to the users of corporate reports. Thus, while the internal reporting gap has been narrowed, the external reporting gap still remains high. This has created an information problem, known as 'information asymmetry'. Information asymmetry is caused by agency conflict which arises because of the separation of ownership between managers and owners of the business, and occurs when managers who hold information withhold it from owners for certain reasons, including commercial sensitivity and uncertainty about measurements. Information problems comprise a key issue in corporate disclosure literature. It is a key issue to the extent that it may disturb the functioning of the capital markets leading to their partial or complete breakdown (Akerlof, 1970).

The increasing demand for information has compelled regulatory authorities and professional bodies worldwide to examine the quality of financial reporting. Regulators and accounting institutions around the globe have been considering new laws and formal codes of best practice in corporate governance. Countries such as USA, UK, Canada, Netherlands, Italy, Germany and others are well advanced in this regard. As a result, risk disclosure is nowadays increasingly required by law and formal codes of best practice in corporate governance worldwide.

In the UK, the Institute of Chartered Accountants in England and Wales (ICAEW), in connection with the regulatory authorities, has been leading the change with the development of new codes and frameworks to strengthen corporate governance and restore investor confidence. The

codes of corporate governance, from Cadbury through Greenbury and Hampel, to the Combined Code on Corporate Governance and, most recently, the Turnbull guidance have embedded risks and conflicts of interests within publicly quoted firms. The agenda of corporate governance emphasises the need for companies to maintain a sound system of internal control and risk management procedures and prioritises the disclosure of risk information. However, it was not until the publication of the Turnbull report in 1999 that the framework of internal control, risk management and risk disclosure remained implicit and at the description of individual company management (Solomon et al., 2000). The Turnbull report explicitly emphasises the need for internal management procedures and calls for listed companies to report on the effectiveness of their systems of internal financial controls and encourages them to report externally on their key risks.

Likewise, the long debate on the Operating and Financial Review (OFR) in the UK, together with other pressures from accounting law and regulatory, have underpinned the reporting of risk and placed companies under more pressure to report openly on risk and uncertainty.

Similarly, several proposals and reports have been published by accounting institutions to promote better disclosure by listed companies in order to increase transparency in financial reporting. For example, the ICAEW (1997, 1999b, 2002) has been trying to further encourage listed companies to disclose relevant and meaningful information by drawing up more demanding information to improve the quality of information that helps users make rational decisions. The institute (ICAEW, 1999b) calls company directors to act in order to reduce the gap between internal and external reporting, that is to reduce the gap between what internal processes tell them (the managers) and what the annual report tells investors. Companies who are not prepared to disclose relevant information, the institute argues, should reconsider whether they wish to

be listed. The institute sees great merit in better risk reporting, and claims that there is no real reason to justify secrecy when listed companies want to build relationships with the providers of capital, and that greater risk disclosure would lead to a reduction in the cost of equity capital (ICAEW, 1997, 1999b).

Thus, the abovementioned scenario of events and debate on risk disclosure are a motivation for research on risk disclosure in annual reports of UK companies with a view to particularly examining its nature, its determinants and its effect on the company's cost of capital. It is expected that further insight will emerge regarding corporate risk reporting.

1.3 Research Justification and Aims and Objectives

The topic of risk reporting has been of interest to accounting researchers as the result of recent debate and requirements. While a selection of studies have investigated the topic, the focus of these studies varies considerably. Previous studies have almost exclusively examined quantified risk disclosure in financial statements and focused on specific categories of risk (Li and Gao, 2007; Dunne et al., 2007; Seow and Tam, 2002; Linsmeier et al., 2002; Jorion, 2002; Rajgopal, 1999; Thornton and Walker, 2000; Roulstone, 1999; Linsmeier and Pearson, 1997). Other researchers have moved towards more comprehensive risk information and examined risk disclosure in annual reports (e.g., Linsley and Shrives, 2005, 2006; Abraham and Cox, 2007; Lajili and Zegal, 2005), and in prospectus (e.g., ICAEW, 1999b, Papa, 2007; Deumes, 2008) – the empirical literature that has investigated risk information under this broader perspective is still limited. For example, Lajili and Zegal (2005) and Woods and Reber (2003) examined risk disclosure in annual reports without exploring the possible determinants of risk disclosure. Linsley and Shrives (2005) examined risk disclosure in non-financial UK companies

and, apart from size and risk level, other determinants are not tested. Other studies that have examined the determinants of risk disclosure have produced mixed results (Abraham and Cox, 2007; Abraham et al., 2007; Linsley and Shrives, 2006; Konishi and Ali, 2007; Beretta and Bozzolan, 2004).

The main issues that have been tackled or are currently being tackled in accounting disclosure literature as a whole includes identifying what companies are reporting, the underlying factors that may affect the extent to which information is reported and what motivates companies to make particular information disclosure. While some previous studies have focused on what risk information is disclosed, more studies are needed to examine how risk information is disclosed, and to examine the potential benefits of risk information disclosure, for example, its impact on the company's cost of capital.

Thus, with regard to risk reporting, the empirical literature provides only partial answers concerning risk disclosure practises, its characteristics and its determinants. In addition, there is limited research on the potential impact of risk information disclosure on the company's cost of equity capital. The scope of this research aims, therefore, to fill this gap in the literature.

This research project has three key objectives. The first objective is to explore corporate risk disclosure practices in the annual report in three different time periods (1998; 2001, and 2004) to determine whether differences exist in the extent and variety of disclosure over time. This is a longitudinal study. The purpose is to provide a snapshot of the volume and nature of information disclosed and evaluate whether disclosure practices indicate any changing pattern in corporate reporting, hence to draw attention to the limitations inherent in risk reporting. Although there have been published studies on risk disclosure, no previous studies has

explored risk disclosure trends and examined whether companies have responded to the pressure from the burgeoning demand for risk information. It is interested to study how risk disclosure has developed over the years in response to the developments of new rules and codes of corporate governance (ICAEW, 1999b). The literature on other types of accounting disclosure (e.g., social and environmental disclosure) shows that corporate social reporting has increased over time in response to a number of factors. Some of the reasons may be attributed to increases in legislation, specific events, activities of pressure groups, societal awareness and politics (Haniffa and Cooke, 2005). Companies' risk reporting should reflect the developments in corporate governance and regulations made over the past years.

The second objective is to explain the variation, if any, in risk disclosure and to examine what determines the extent of disclosure about risk. The association between disclosure and firm characteristics has long been of interest to accounting researchers. The extent of corporate disclosure may be influenced by different firm factors (e.g., financial factors, non-financial factors, social responsibility factors) including firm size (e.g., Aljifiri, 2008; Aljifiri and Hussainey, 2007; Huafang and Jianguo, 2006; Oliveira et al., 2006; Kent and Ung, 2003; Naser et al., 2002; Depoers, 2000; Raffournier, 1995; Meek et al., 1995; Hossain et al., 1994; Wallace et al., 1994; Chow and Wong-Boren, 1987; Cooke, 1989a), industry type (Aljifiri, 2008; Haniffa and Cooke, 2005; Beretta and Bozzolan, 2004; Lymer, 1997; Wildstrom, 1997; AIMR, 1997; Cooke, 1992), listing status (Abraham and Cox, 2007; Haniffa and Cooke, 2005; Hossain et al., 1994; Singhvi and Desai, 1991), leverage (Aljifri, 2008; Huafang and Jianguo, 2006; Haniffa and Cooke, 2005; Naser et al., 2002; Hossain et al., 1994; Bradbury, 1992; Meek et al., 1995, Hossain et al., 1994; Malone, 1993), performance (Oliveira et al., 2006; Land and Lundholm, 1993; Wallace et al., 1994), ownership structure (Huafang and Jianguo, 2006; Hossain et al., 1994; Mckinnon and Dalimunthe, 1993; Craswell and Taylor, 1992), the

size of audit firm (Oliveira et al., 2006; Depoers, 2000; Hossain et al., 1994; Craswell and Taylor, 1992; Malone, 1993) and culture (Hanifa and Cooke, 2005). However, some of these relationships are weak and not verified in the literature. The findings of previous research do provide a good starting point to further examine the relationship between risk disclosure and its underlying firm factors. The present research relates the level of risk disclosure to four firm factors including firm size, leverage, type of industry and US-dual listing. These factors are chosen because they are the most commonly used independent variables (factors) in accounting disclosure.

The third objective of the present research is to examine the potential usefulness of risk disclosure made in the annual report. Previous accounting disclosure research offers insight into the potential usefulness and perceived benefits and costs of disclosure. For example, it has been asserted (e.g., Gray and Roberts, 1989; AICPA, 1994; Botosan, 1997; Linsley and Shrives, 2000; Lajili and Zegal, 2005; Hail, 2002; ICAEW, 1997) that improved disclosure enhances corporate transparency, develops corporate image, and provides useful information for decision making. Disclosure can also be seen as one of the mechanisms to mitigate adverse selection by reducing information asymmetry between preparers (managers) and users (e.g., investors). It is a mechanism to lower a company's cost of capital, increase liquidity of its shares, and lower transaction costs resulting from lower bid-ask spreads. In addition, disclosure can be seen as one of the mechanisms by which companies attempt to manage their stakeholders in order to gain their support and approval. Moreover, disclosure can also assist in staving off potential regulatory pressure and avoiding additional requirements.

The question whether greater disclosure level reduces a company's cost of equity capital is a matter of considerable interest and importance to the corporate reporting community. However, there is debate on this issue

(e.g., Botosan, 1997; Armitage and Marston, 2007). Theoretical argument suggests that greater disclosure is associated with a reduction in the cost of equity capital through reduced transaction costs and/or reduced estimation risk. The ICAEW sees great merit in enhancing corporate risk disclosure, claiming that companies with greater disclosure of risk information will portray an image in the marketplace that they are riskier than prior to their disclosure. Risk reporting encourages risk management and reduces stock volatility, thereby, lowering the company's cost of capital. Information disclosure is important to outside investors. The more they know, the more accurately they will be able to determine a company's cost of capital and its value. However, empirical evidence does not seem to totally support the theory and produces mixed findings. By way of example, the Jenkins committee (AICPA, 1994) states that an important benefit of greater disclosure is a lower cost of capital. In rebuttal, the financial executive institute (Berton, 1994, cited in Botosan, 1997) argues that the improved disclosure promoted by the committee's report are targeted to stock traders which would add to share price volatility thereby increasing risk and leading to a higher cost of equity capital. In the institute's report (ICAEW, 1999b) some sceptics point out that "a more accurate cost of capital is not necessarily a lower cost of capital and a more accurate value is not necessarily a higher value. In practice, more disclosure might well increase the cost of capital" (ICAEW, 1999b, p. 11). It could be argued that companies with a higher level of risk may demonstrate a reluctance to reveal such information in order to divert attention from their riskiness. Recent evidence (Armitage and Marston, 2007) finds that finance directors do not believe in a clear link between disclosure level and the cost of equity capital perhaps because their companies already provide at least a good practice level of disclosure. It is also argued that only when investors perceive that the information is credible and relevant, can risk disclosure in annual reports serve as a mechanism to reduce the company's cost of capital. Whereas risk disclosure is increasingly required in annual reports, the current rules

allow firms a degree of discretion with regard to the type of information to be disclosed and the level of details to be provided, hence risk disclosure depends on manager's willingness to actively disclose the right information (Deumes, 2008). Indeed, the decision of the UK government to abolish the statutory requirements for preparing the OFR by listed UK companies is to avoid producing "boilerplates" information that do not help investors to make accurate decisions.

Existing literature (ICAEW, 1997, 1999b, 2002; 2004b; Linsley and Shrivess, 2000; Woods and Reber, 2003; Beretta and Bozzolan, 2004, Lajili and Zegal, 2005) suggests that there is still demand for empirical work examining the impact of risk disclosure on the company's cost of equity capital. Thus, based on the research aim and objectives, the research questions are formulated as follows:

Research question 1: What are the current practices of corporate risk disclosure and to what extent did UK listed companies respond to recent developments that lead to the increased pressure on companies to enhance their information disclosure? This question is extended to include the following sub questions:

- Do differences exist in the extent and variety of annual report risk disclosure of UK companies between 1998, 2001, and 2004?
- What information is being disclosed?
- How is the information being disclosed?
- Does reporting practice vary between industries?

Research question 2: Does risk disclosure relate to the following firm attributes (factors): size, leverage, industry and US-dual listing variables?

Research question 3: Does risk disclosure have an impact on the company's cost of equity capital?

Figures 1.1 and 1.2 show the research plan and framework of the research.

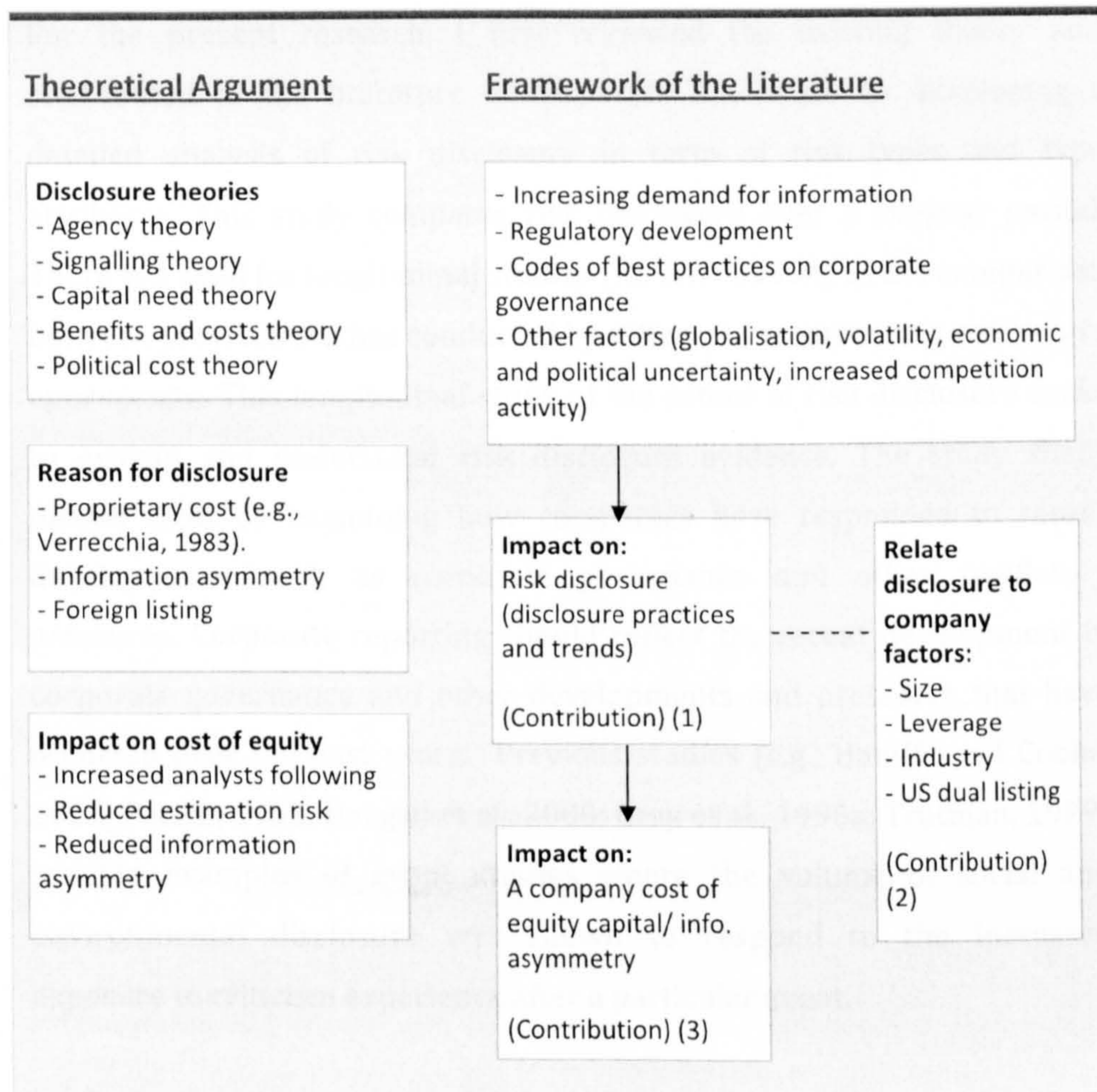


Figure 1.1: Research Plan

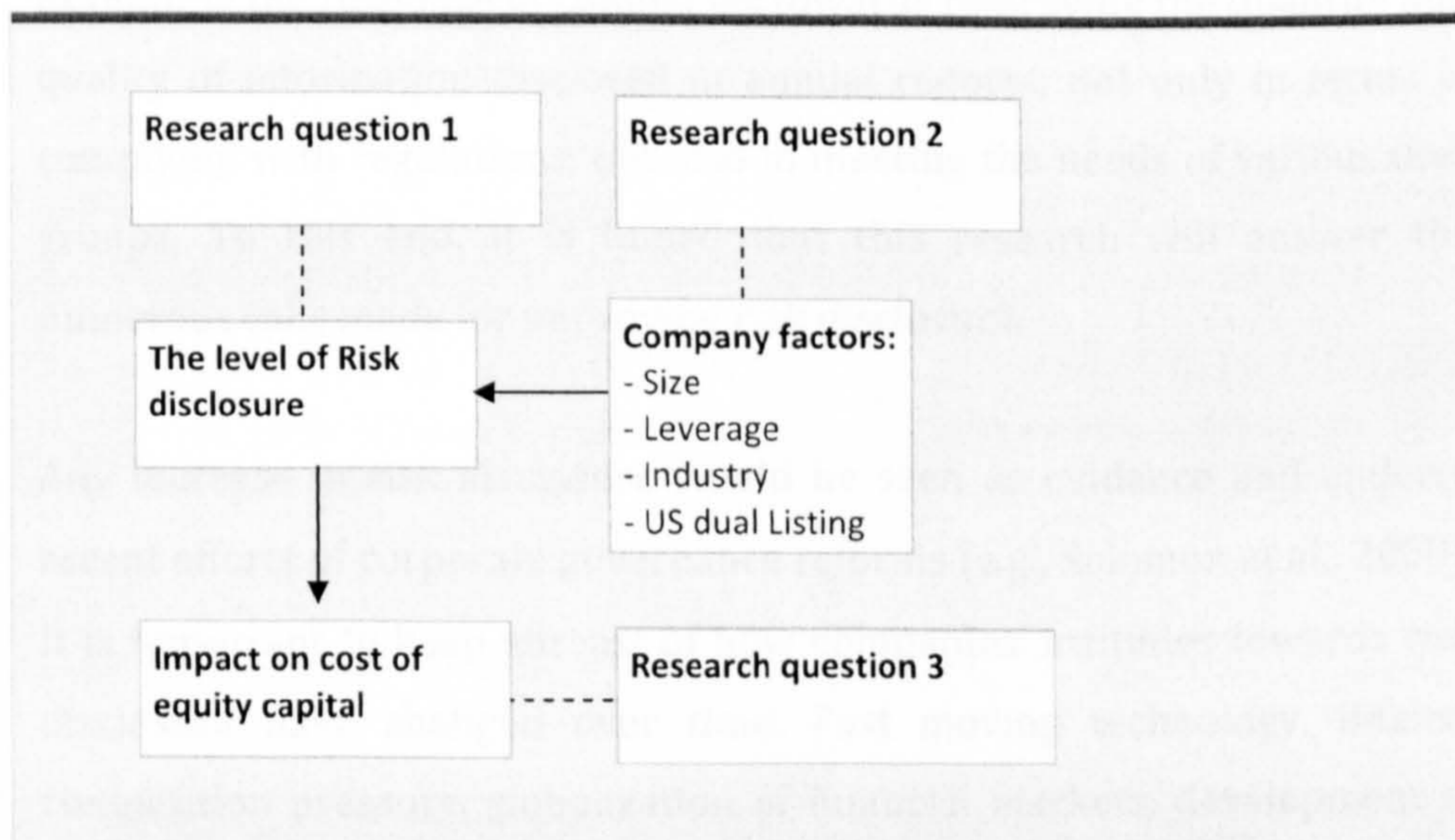


Figure 1.2: Framework for the Research

1.4 Importance of the Research

For the present research, I first reviewed the existing theory and contributed to the literature of corporate disclosure by developing a detailed analysis of risk disclosure in term of risk types and type attributes. This study compares risk disclosure over a six-year period. There is a need for longitudinal studies (ICAEW, 1999b) as the comparison between previous studies conducted by different researchers is not always appropriate. This longitudinal study of the extent of risk disclosure seeks to explain and understand risk disclosure evidence. The study sheds further light by examining how companies have responded to recent developments such as corporate governance and other regulatory pressures. Corporate reporting should reflect the recent development in corporate governance and other developments and pressures that have occurred over the past years. Previous studies (e.g., Haniffa and Cooke, 2005; Patten, 1992; Deegan et al., 2000; Gray et al., 1995a; Trotman, 1979) provide examples of event studies where the volume of social and environmental disclosure was shown to respond to the increased exposure to criticism experience after a particular event.

This gap in the literature needs to be filled especially when one is examining the response of companies towards improving the quantity and quality of information disclosed in annual reports; not only in terms of complying with regulations, but also in meeting the needs of various user groups. To this end, it is hoped that this research will answer the numerous calls made for improving risk disclosure.

Any increase in risk disclosure would be seen as evidence and endorse recent efforts of corporate governance reforms (e.g., Solomon et al., 2000). It is important to keep abreast of how companies' attitudes towards risk disclosure have changed over time. Fast moving technology, intense competition pressure, globalization of financial markets, development of

new internal accounting standards, and regulatory development are among the many factors that significantly influence the way companies disclose their risk information. Studying risk disclosure practices can make clear to the financial reporting community whether risk reporting can be viewed as an area of best practices (Deumes, 2008). Various users may wish to extend their investigations and verify such reporting practices. The study also has its advantages as it offers investors an objective assessment of the current reporting practices. Investors need to be able to observe and form an opinion on the risks potentially affecting the company and the way in which these risks are managed. Risk disclosure would also help investors to form a view on the amount, timing and probability of the firm's future cash flows. Indeed, any increase in risk disclosure would attract the attention of users. The results have the potential to assist all users including standard setters when developing the framework and the requirements of corporate risk disclosure.

The present research also contributes to the existing literature by identifying factors that determine risk reporting. The study will be useful both in assisting regulators and investors in identifying the type of risk information disclosed by different companies in different sectors and by identifying the characteristics of the companies that disclose such information.

Finally, the present research contributes to the existing literature by examining the usefulness of this information by empirically testing the impact of risk disclosure on a company's cost of equity capital. Only when annual report risk disclosure is useful in some way to investors is it expected to find a significant relationship between the cost of equity and the level of annual report risk disclosure. Previous studies (e.g., Botosan, 1997; Botosan and Blumlee, 2002; Hail, 2002, Chen et al., 2003) examined different disclosure types including financial and environmental,

corporate governance and investors' relation disclosure. This study focuses specifically on risk disclosure.

1.5 Summary of Research Methods

The present research is descriptive and empirical in scope. A detailed specification of the research methodology employed (including the rationale for the selection of the research methods, research models, sample selection, and statistical tests) is provided in Chapter 4.

For data collection, the research approach adopted is content analysis (e.g., Neu et al., 1998; Milne and Adler, 1999; Campbell 2004; Linsley and Shrives, 2006) to measure the level of risk disclosure in the annual report. Content analysis is a method of codifying the text (or content) of a piece of writing into various groups (or categories) depending on selected criteria (Weber, 1988). The extent and nature of risk disclosure in annual reports was measured according to the number of sentences disclosed and trends were analysed over a six-year period. Risk disclosure is classified according to four quality variables: risk disclosure categories (environmental risk, operational risk, strategic risk); the nature of evidence (i.e., qualitative versus quantitative); the type of news (good, bad, neutral); and time orientation (future, past, non-time).

The present research attempts to measure directly the cost of equity through a four-stage dividend growth model. In addition, bid-ask spread was used to capture information asymmetry, a component of the cost of equity capital. Another proxy, stock volatility, was also used. The analysis is based on companies' annual reports based on a sample extracted from the FTSE 100-index. The selection procedures yield 52 UK non-financial companies. Three annual reports for each company (fiscal years 1998, 2001, and 2004) are sought and analysed. A three-year interval was chosen to give greater time coverage for the analysis, hence allowing more

in-depth examination of trends. The time span 1998-2004 is recent enough to ensure reasonable access to firms' corporate reports and yet still ensures the availability of other post-sample data.

The focus on FTSE-100 index makes sense given the focus of prior studies of risk disclosure practices (e.g., Linsley and Shrivess, 2006; Dunne et al., 2007; Abraham and Cox, 2007). The focus on FTSE-100 index firms will ensure that the sample includes some multiple listing companies and that all companies are subject to approximately equivalent levels of disclosure pressures arising from various regulatory and capital market regimes. More importantly, FTSE-100 firms are the UK's largest, audited by the biggest firms and tend to be well monitored; hence, the selection will ensure analysts' forecasts accuracy (Kou and Hussain, 2007).

The reason for choosing annual report as a basis for analysis is because it is the most dominant, reliable, and significant source of information for users. Furthermore, most accounting rules and codes of corporate governance are aimed at disclosures in the annual report.

1.6 Chapter Summaries

Chapter one provides an introduction to this thesis together with an outline of the key aims of the research.

Chapter two provides the context for the issue in corporate disclosure with special focus on recent changes in business environment, the debate on corporate reporting and related literature. The chapter begins with a review of various factors and business events that have occurred recently and affected businesses and raised questions on the corporate governance system and quality of business reporting. The chapter then discusses issues in corporate reporting including users needs and information problems. This is followed by a comprehensive review of the role of

regulators and accounting institutions in promoting corporate reporting in an attempt to restore user confidence. This covers regulatory development, the development in corporate governance and the role of accounting institutions. Following this, a section reviewing related literature on risk and risk disclosure where the notions of “risk” and risk classification are discussed. In addition, previous studies which examined risk disclosure will be reviewed and discussed in order to identify gaps in the literature.

Chapter three begins by explaining the term ‘disclosure’ and differentiates between different types of disclosure. The chapter presents the theoretical framework of disclosure, which includes various disclosure theories. The aim is to understand what motivates managers to disclose additional information regarding their firms. This is followed by a section devoted to explaining disclosure benefits and costs. Following this, the determinant factors of disclosure are discussed. This chapter culminates with a review of the theoretical and empirical literature on the relationship between disclosure and the cost of equity capital, and a summary of previous studies is presented.

Chapter four describes the research methods and research design which has been utilized to achieve the research aims and objectives. The chapter outlines the research objectives, research questions and hypotheses. The chapter then presents the research models and, in addition, the sample selection procedures. This is followed by a section devoted to describing the research methods chosen to carry out this research. The measures of variables are discussed. Descriptive statistics are described followed by a discussion on the use of statistical tests and data sources.

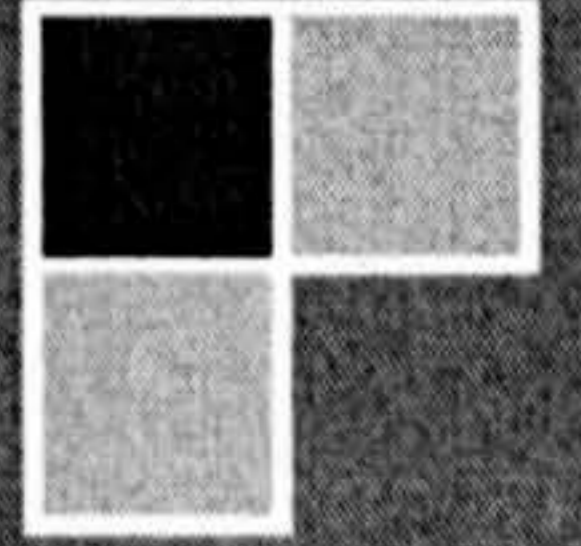
Chapter five reports the results of content analysis. It gives a broad explanation of the results of content analysis. Hypothesis 1 will be tested

in this chapter. A discussion of the results will be given and some comments are made.

Chapter six reports on the results of statistical analysis which examines the relationship between disclosure and some firm-specific characteristics including firm size, leverage, industry type, and US-dual listing. Then the results of this chapter are explained and discussed.

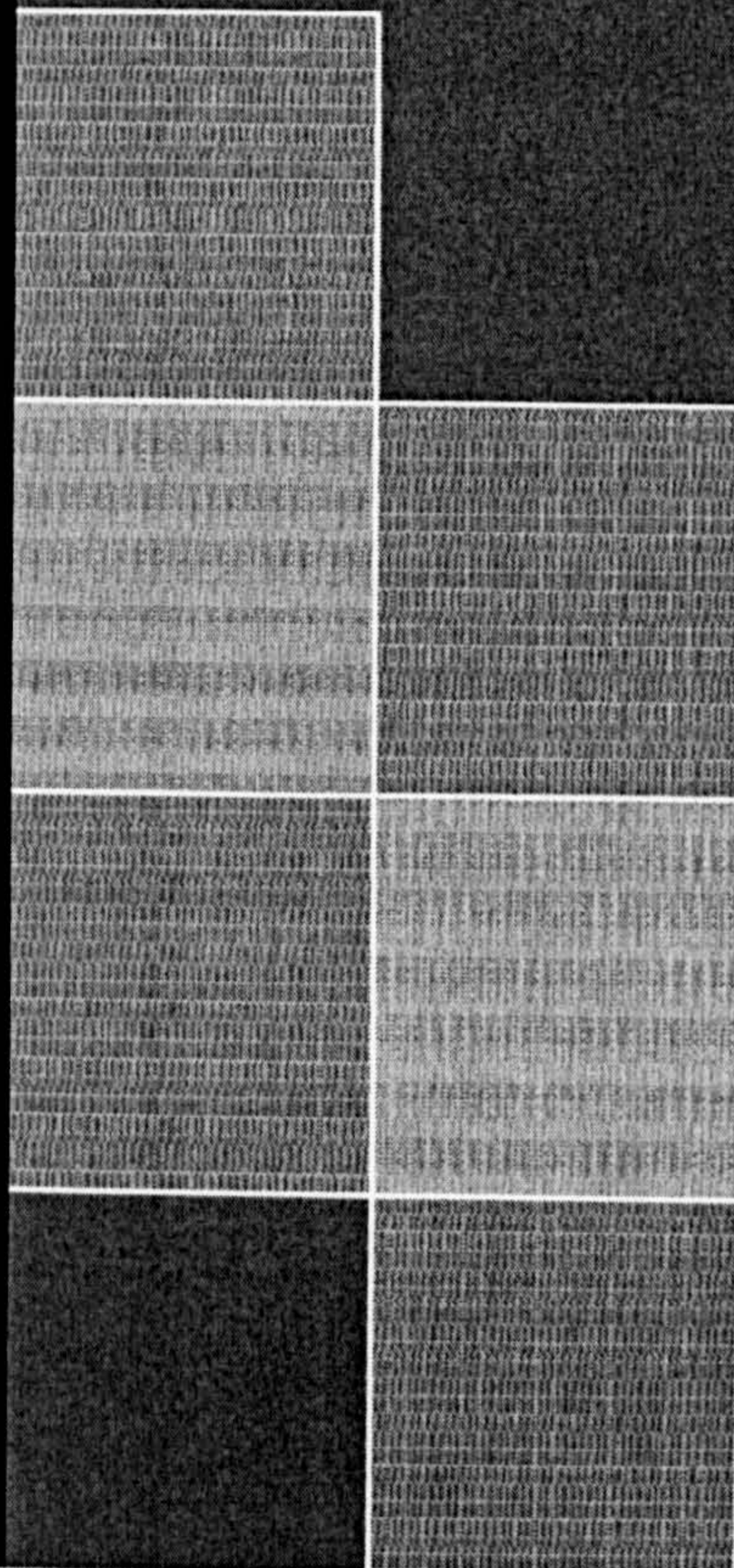
Chapter seven constitutes the final chapter on empirical analysis. The chapter reports on the results of empirical analysis which examine the impact of risk disclosure on the cost of equity. The results are discussed and explained.

Chapter eight summarizes the research findings with discussions on the contributions of this research. Limitations of the study are also outlined in this chapter. In addition, potential extensions of the study and areas for future research are explored.



Chapter 2

Corporate Reporting: Background & Overview



2.1 Introduction

"Studying risk disclosure is important because corporate transparency about risk is vital for the well-functioning of capital markets."

(Deumes, 2008:122)

Financial reporting or disclosure is defined by the Accounting Standards Steering Committee (ASSC) as the process of communicating information, both financial and non-financial, regarding the resources and performance of the reporting entity (ASSC, 1975). Disclosure is a complex function and is critical for the functioning of an efficient capital market. Disclosure in company reports is an area that has aroused the interest of the financial reporting community including regulators and accounting setters, stock markets, accounting and auditing bodies, academics, rating agencies, and other interested users of reported information including investors and the public.

In particular, the last 15 years have seen dramatic changes in the business environment, which created concerns among users of financial reports as well as company directors. With this in mind, the aim of this chapter is to carry out a critique of the literature. More specifically, the chapter covers related literature on corporate reporting and corporate risk disclosure. Throughout the chapter, changes in the economic and business environments are discussed. Next, the recent debate on financial reporting, the information needs of users, and information problems is explained. Thereafter, the role of accounting regulatory and accounting institutions in promoting corporate reporting is discussed. Afterwards, the concept of risk and risk categories are examined followed by a section reviewing previous related risk disclosure studies culminating in a summary of the chapter.

2.2 General Background

This section highlights the characteristics of the business environment and the economic forces which gave rise to a demand for disclosure and motivated both regulators and the accounting profession to act to enhance the quality of financial reporting and increase its credibility.

2.2.1 Recent Changes in Business Environment

The business environment has changed dramatically over the past fifteen years driven by fundamental developments in technology, society and world politics. Additional factors influencing businesses and corporate financial reporting include the globalisation of capital markets, expansion of businesses as well as economic, political and regulatory conditions. Figure 2.1 highlights the factors that have most impacted the corporate reporting of companies. These changes create risks.

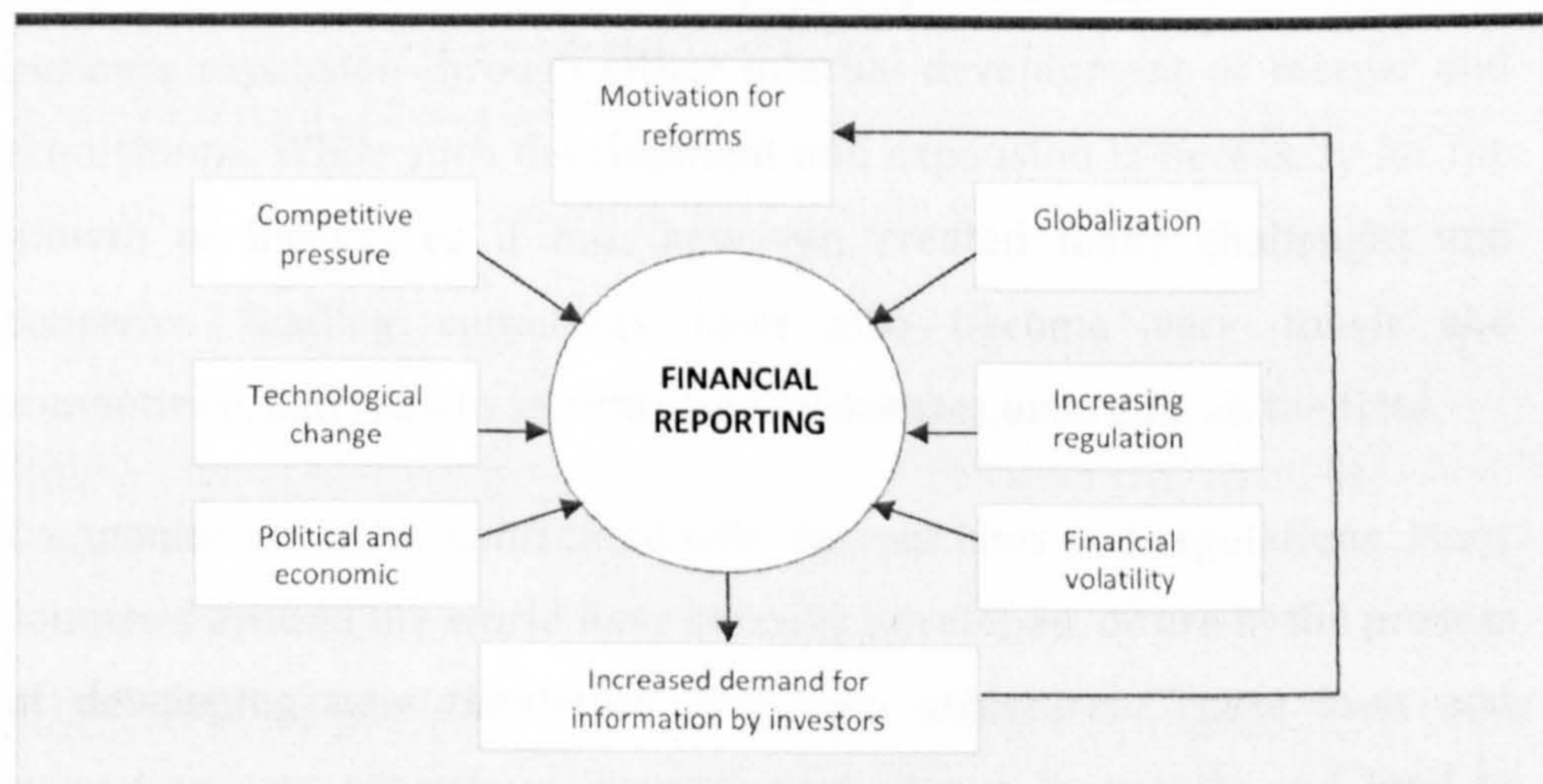


Figure 2.1: Pressure for Change: Factors Affecting Financial Reporting

The evolution of new technology during the late 20th century – such as computers, communications, and the internet – has facilitated the expansion of businesses as well as the globalisation of capital markets, thereby creating many opportunities and challenges for companies. Such technological advances have made it progressively easier for companies to

communicate with investors and financial intermediaries through the internet and other communication tools. However, a key challenge lies in the fact that the economic impact of these innovations is not reflected in financial statements in a timely manner (Healy and Palepu, 2001).

Capital and products markets are becoming increasingly global. However, globalisation causes complexity in business transactions and structures. Given the differences in legal, social and economic circumstances in different countries and also the differences in need for accounting information, among the users of financial reports, there have been calls for harmonising regulations, accounting standards and procedures related to the preparation and presentation of financial statements, otherwise referred to as the globalization of financial reporting. Notably, the international harmonisation of accounting practices was a central concern for companies operating in more than one country (Weetman, 1999).

Many organisations have also adopted rapid and innovative forms of business expansion through either internal development or merger and acquisitions. While such development and expansion is necessary for the growth of businesses it has, however, created many challenges and concerns. Trading conditions have also become very tough and competitive, and remain so, with new businesses emerging all the time.

Companies are being confronted with various laws and regulations. Many countries around the world have recently developed, or are in the process of developing new regulatory and legal structures. These laws and regulations are sometimes complex and change frequently and tend to become more stringent over time. Applying and complying with these laws and regulations is sometimes costly and may adversely impact companies' operating cost and performance.

The ongoing political conflict in some significant parts of the world created concerns. The economic downturn of the late 1990s had a knock-on effect on the macro-economy and was also a real concern to politicians. Energy

prices dropped, volatility increased, consumer spending decreased, economic growth slowed, earnings sank, stock markets fell and investors' wealth declined (Andersen et al., 2001). The rise in stock return volatility together with an increase in economic, political and regulatory uncertainty around the globe was also cause for concern.

Furthermore, the events of 9/11 coupled with the recent business scandals and failures of major companies such as Enron, WorldCom (and more recently Lehman Brothers and AIG) have worsened already deteriorating economic conditions. Investors' confidence has been shaken in the truthfulness and accuracy of information provided. The survey of UK investors conducted by Cavendish Asset Management (2002) found that 66% of UK investors no longer feel confident investing in the stock market as a result of fraud and accounting problems at Enron and WorldCom. This raises questions concerning the quality of financial reporting and the efficiency of corporate governance (CG).

2.2.2 Business Reporting: Recent Developments

In any economy, disclosure is essential for the optimal allocation of saving to investment opportunities in the economy (Healy and Palepu, 2001). Therefore, it is essential to provide investors and other users with useful information to enable them to make investment decisions, hence achieving stock market prosperity (Watts and Zimmerman, 1986).

The Financial Accounting Standards Board stated that financial reporting is intended to provide information that is useful to different users in making business and economic decisions (FASB, 1978). In 1989, the International Accounting Standards Committee (IASC) - later reconstituted as the International Accounting Standards Board (IASB) - supported the FASB's view stating that financial statements should "provide information about the financial position, performance and changes in financial position of an enterprise that is useful to a wide range

of users in making economic decisions” (IASB, 1989: Para 12). However, “financial statements do not provide all the information that users may need to make economic decisions since they largely portray the financial effects of past events and do not necessarily provide non-financial information” (IASB, 1989: Para 13).

The rapid pace of change meant that the present financial statements reporting model fell short in reflecting the economic consequences of many of these changes in a timely way. Adding to this is the growth of intangible assets including those constituting intellectual capital which are not recognised in financial statements (Beattie and Pratt, 2002; Beattie et al., 2002). Past performance in financial statements has become a less useful guide to future prospects (Beattie and Pratt, 2002) and fell short in satisfying investors’ demands of understanding a company’s future performance (e.g., IASB, 1999). It is argued (e.g., Elliot, 1992; AICPA, 1994; ICAEW, 1997, 1999b; IASB, 1999; Lev and Zarowin, 1999) that the present financial reporting model is increasingly inadequate in meeting the information needs of users in the new rapid economy characterised with a highly advanced technology. Previous research (Francis and Schipper, 1999; Brown et al., 1999; Chang, 1998) provides evidence of the declining value-relevance of financial statements. Also, financial reporting was perceived as being “unreliable”, “irrelevant”; “inadequate”; “incomplete”, and “unsatisfactory” (e.g., Aboody and Kasznik, 2000). Hence, there have been increased calls for studying the relevance of financial reporting. It was suggested that the present accounting model should be re-engineered to provide more relevant information to users of financial reporting. There was an acknowledgment that companies had to change their external reporting if it was to maintain its relevance (Elliot, 1992). Elaborating on this, it has been suggested (e.g., AICPA, 1994; ASB, 1999; IASB, 2000) that for financial information to be useful to users, it must have the following five characteristics: relevance, reliability, comparability, timeliness and understandability.

Thus, along with this development, there was growing evidence regarding the need and importance of narrative disclosure/communication, as used by all information users. Previous research (e.g., Solomon et al., 2000) provides evidence that investors regard the forward-looking information (where risk information is considered a critical part of this type of information) as an important source for decision-making. There is also evidence (Rogers and Grant, 1997; Breton and Taffler, 2001) that analysts relied highly on narrative sections of annual report where forward looking information is disclosed. The evidence (Bartlett and Chandler, 1997; KPMG, 2005) concludes that private shareholders viewed narrative disclosure sections as highly important. Over the past years, recommendations have been made to encourage companies to provide additional information in narrative sections outside financial statements such as the chairman statement, chief executive review, the operating and financial review (OFR), directors' report and corporate governance report. Evidence (e.g., ASB, 2007) shows that some companies have responded to this demand and increased the content of qualitative information in their annual report. Improving disclosure would be beneficial from both the company's and investors' perspective. From the investors' perspective, disclosure is useful and improves their decision-making (ICAS, 1999). From the company's perspective, improved disclosure would increase transparency, thereby reducing the company's cost of capital (ICAEW, 1997, 1999b; Botosan, 1997; Hail, 2002; Froidevaux, 2004; Petersen and Plenborg, 2006) and increasing its share price performance (Healy et al., 1999).

Forced by the regulators and accounting bodies, companies began to change the type of information used internally to manage their businesses, and, therefore, adopted new performance measures for internal reporting purposes, such as those developed in the framework of the Balanced Scorecard (Kaplan and Norton, 1996). In addition, new measures and techniques have been developed and adopted by companies to control and

manage their risks, hence, reducing their internal reporting gap. However, although the internal reporting gap was narrowed, the external reporting gap remains high (Eccles et al., 2001). Recent evidence (e.g., Linsley and Shrives, 2006) concludes that the type of risk information disclosed in annual reports and the lack of coherence in the risk narratives entails that a risk information gap exists.

Financial reporting was not perceived as useful or particularly comprehensive for investors in making their investment decisions partly because it focuses more on the past (backward focus). The problem in the UK is compounded by past court decisions. These maintain that accounting information in the UK is produced to tell the existing owners of the company what the directors had done with their money. In other words, accounting information was not produced for investment decisions (e.g., the case of *Candler v. Crane* in 1951; and the case of *Caparo v. Dickman* in 1993) but for stewardship (explaining the past) purposes¹. This is the purpose of accounts in Agency theory. However, there is now a strong perception that accounting information should also satisfy the needs of users for information that is useful for making investment decisions. However, some information such as risk is sensitive by nature and, therefore, cannot be disclosed; hence company annual report cannot always satisfy the information needs of users.

The following section provides evidence on the increasing public demand for firms to disclose more useful information that managers would be able to draw on and utilise in assessing future business prospects.

¹ However, this is different from the USA where the safe harbour protection is provided to companies releasing forward looking information.

2.2.3 The Information Needs of Users

Several academic studies and professional reports worldwide (e.g., ICAS, 1988; AICPA, 1994; ICAEW, 1997, 1999a, 1999b, 1999c, 2002; ICAS, 1999; IASB, 2005; CICA, 2002) highlighted the drawbacks of the present financial reporting model and called for a more comprehensive disclosure to satisfy the needs of corporate report users.

For example, Baker and Haslam (1973) found that individual investors were keen to be able to access three key elements of information for the purpose of their investment analysis of a total of 34 identified factors. These include a company's future economic outlook, the quality of management, and the future economic outlook of the industry. Furthermore, Lee and Tweedie (1975) found that one-third of shareholders included in the survey conducted confirm the need for information related to the future prospects of companies and their income-generating potential.

The American Institute of Certified Public Accountants (AICPA) issued a report entitled *Report of the Task Force on Risk and Uncertainties* recognising that the users of financial statements in uncertain environments are increasingly demanding more information to help them to evaluate risk and uncertainties related to company results and future cash flow (AICPA, 1987). In addition, *Making Corporate Report Valuable (MCRV)* published in 1988 by the Institute of Chartered Accountants of Scotland (ICAS) criticized the present corporate reporting model and described it as "unsatisfactory" because it seldom gives any indication of the overall objectives of the entity. The traditional financial statements model does not adequately reflect the economic reality of a company's progress and position, concentrating on past events rather than the future.

Notably, the AICPA reported that business reports are losing their significance since they are not future-oriented and do not provide value-based information. *Improving Business Reporting: A Customer Focus,*

Meeting the Information Needs of Investors and Creditors, published by the AICPA (1994) (the Jenkins report) identified that users demand more information about strategy, strength and weaknesses, opportunities and threats, performance measures, management plans, trends, significant risks and uncertainties. Furthermore, a study by the Association for Investment Management and Research (AIMR, 1993) found that financial analysts are in need of additional information about company strategies, plans and expectations.

Weetman et al. (1994, 1996) examined the views of analysts and institutional investors on information reported by companies in Operating and Financial Review (OFR). The results indicated that analysts believed that the OFR would contain useful information though the assertion that companies would produce high-quality reports on a voluntary basis was deemed improbable. The ICAEW project revealed a very low level (only 1%) of forward-looking information disclosure and quantified disclosure to support the need for a statutory requirement (Beattie et al., 2002). These findings support the findings of previous researchers (Zeff, 1995) on the need for a mandatory OFR statement. Analysts expressed their need for forward-looking information rather than historical events. Among forward-looking information, information related to risk and uncertainties was the most important information that respondents would like to welcome.

Eccles and Mavrianc (1995) noted the incorrect communication system in the capital market and emphasised the need to improve information disclosure. Rankin's (1996) study on environmental reporting concluded that investors are demanding more information than they are receiving. Coleman and Eccles (1997) surveyed 200 UK financial analysts and found that the analysts viewed companies' disclosures on seven valuable measures as inadequate. Schrand and Elliott (1998) summarised and documented the debate held in the 1997 AAA/FASB conference on risk reporting by companies to their stakeholders. The authors suggested that

US companies were not providing sufficient information related to risk in their annual reports.

The Institute of Chartered Accountants in England and Wales (ICAEW) has also expressed its view on user needs suggesting that the traditional model did not provide users with information about the risk to which companies are exposed, and which may affect company future performance. The Institute issued a number of professional reports (ICAEW, 1997, 1999a, 1999b, 1999c, 2002, 2004b) addressing specific issues relating to the future of corporate reporting. Most notably, the ICAEW has suggested a framework for the comprehensive reporting of risk (ICAEW, 1997) and encouraged the directors of UK listed companies to report upon risk in greater depth (ICAEW, 1997, 1999b, 2002). Hence, stressing the importance of enhancing risk disclosure by encouraging companies to disclose their key risks, explaining how these risks are being managed and what measures are used in assessing risks. The aim is to provide investors with practical forward looking information that will assist them in making more accurate investment decisions. Disclosure of forward-looking financial and non-financial risk information is considered as key information by investors, as it aids them and improves their decision-making (Cabedo and Tirado, 2004; Solomon et al., 2000; Hermanson, 2000; Lev and Zarowin, 1999; ICAS, 1999). The absence of forward looking information may lead investors to make inaccurate investment decisions based on other inaccurate information sources.

Epstein and Palepu (1999) found that financial analysts are not satisfied with the amount of information they receive on strategies and risks. Similarly, Solomon et al. (2000) concluded that institutional investors perceived the level of risk disclosure to be insufficient. Furthermore, institutional investors acknowledged the importance of risk disclosure as it aids them in assessing the risk profile of a company. Beattie and Pratt (2002) examined users' views in relation to a comprehensive set of 130 disclosure items. The authors provided evidence on users' preferences for

disclosure of financial items, board objectives and strategy, together with some management discussion and analysis items, background items, risk items and innovation value driver items. Beattie et al. (2002) analysed over 6000 narrative texts units and found little disclosure on non-financial performance measure, analytical discussion and forward-looking information. Clarkson et al. (1999) provide evidence on the relation between forward-looking information disclosure and future corporate performance suggesting that forward-looking disclosure provide credible information. Walker and Tsalta (2001) documented a positive association between the quality of forward-looking information and analysts forecasts. Mak (1996) found a positive relationship between disclosure of future earnings and the extent of information asymmetry. Furthermore, the author concludes that this type of disclosure is affected by the level of agency cost. Deumes and Knechel (2008) found that the extent of voluntary internal control reporting is positively associated with indications of information and agency problems. Their results reveal strong evidence that managers provide relatively more disclosure on internal control if information problems and agency conflicts are high.

Thus, if companies fail to meet user demand, the reporting gap between preparers and users will be high. As a result, companies may face a higher cost of capital (Botosan, 1997; Hail, 2002). In addition, there is also the risk of adverse economic consequences that may arise. The following section examines these issues further.

2.2.4 Information Problems

Investors demand information from companies in which they are interested due to the fact that management has greater knowledge of both the firm's current and future performance, certainly more so than outside investors (Jensen and Meckling, 1976; Fama and Jensen, 1983). There exist many positive reasons for additional disclosure. For example, disclosure enables investors to make more accurate investment decisions

(Hermanson, 2000; ICAS, 1999; Cabedo and Tirado, 2004; Solomon et al., 2000), and also reduces the level of information asymmetry between managers and investors, thereby reducing the firm's cost of capital. Disclosure is, however, influenced by a diverse range of supply and demand forces (Craswell and Taylor, 1992). These forces have created what is called "the information gap" between those who prepare financial reports (managers) and those who use the reports (investors), hence an increased demand for information by users in the face of information asymmetry and agency conflict between company managers and investors. Quintessentially, there is a concern among those who prepare reports that disclosure of confidential and sensitive information may be used by competitors, thereby potentially damaging their own business. In addition, litigation might reduce directors' incentives to disclose additional information. However, this should not outweigh the benefits of disclosure to users. Such an imbalance between demand and supply inevitably fuels the information problems.

In modern corporations, the separation of ownership and control adds to the potential conflict of interest between the principals (investors) who invests their money in the business and managers (agents) who are charged with acting responsibly on behalf of the principal in managing the business (Brealey and Myers, 2000, 2003). Since both management and investors are acting to maximise their own benefits and have conflicting incentives, agency problems most often occur when management are encouraged to act against the interest of investors by withholding some information. When agents (managers) hold relevant information about the current and future performance of the business, but withhold this information from owners (investors) (for various reasons including commercial sensitivity and uncertainty about measurements), this leads to an information problem between insiders and outsiders of the business, known as information asymmetry. This is a key issue in corporate disclosure and a serious problem that could potentially disturb the

operation of the capital markets leading to their partial or complete breakdown (Akerlof, 1970; Lev, 1988).

Whilst it is not possible to resolve such information problems completely by means of private collection and analysis of data due to the costly nature of accessing such resources coupled with the knowledge required to effectively do so, and known only by a small number of investors. Information asymmetry between firms and investors may produce the problem of adverse selection (Akerlof, 1970) leading to the removal of uninformed investors from the market, resulting in higher transaction costs, lower trading volume, and liquidity problem or even total market breakdown (Lev, 1988). Thus, voluntary disclosure has become an important issue to the extent that it has aroused the attention and interest of regulators, accounting institutions and other interested groups who have vested interests in corporate reporting. The next section provides an overview on the role of UK regulators, accounting setters, and accounting organisations in promoting corporate disclosure to improve the level of transparency and disclosure in companies' financial reporting.

2.3 Theoretical Literature and Policy Developments: An Overview of the Role of Accounting Regulation, Accounting Bodies and Accounting Institutions in Promoting Corporate Disclosure

It is evident from the above review that there appears to be a growing support for the view that the present financial reporting package with its backward focus is not enough to satisfy investors' demands for information. This has consequently roused interest among regulators, the accounting profession and academics worldwide in the quality of financial reporting. The accounting profession has witnessed significant criticism from various bodies including the accounting profession itself, academics, governments and regulatory bodies. There was a significant drive and urgency for developing an aggressive program designed to enhance the relevance, reliability, and cost-effectiveness of corporate reporting in

order to provide users (investors) with more rational information that may facilitate their investment decisions. UK Companies are bound by different regulations and norms, at national and international levels, which oblige them to report on risk. The following sections review the role of the regulators in corporate disclosure law. The sections review relevant regulations and accounting standards, and the growing literature of corporate governance. Further, the sections highlight the efforts of accounting institutions in enhancing corporate reporting. Throughout the discussion, the review focuses on the key issue of concern, namely risk reporting disclosure (which is considered as part of forward-looking information).

2.3.1 The Regulatory Development

The regulators have been actively considering how to promote better disclosure by listed companies in order to increase transparency of financial reporting, hence restoring investors' confidence. This is achieved by considering new general rules and formats, that is, mandatory disclosure, and also by encouraging companies to follow best practice in their reporting by way of voluntary disclosure in order to help users understand current and expected future conditions of the company.

Of late, risk reporting required mainly from listed companies has been under a long chain of regulatory and professional debate. In the UK, the regulations that govern financial reporting prepared are drawn from an assembly of different regulatory bodies including the Financial Reporting Council, the Financial Services Authority and company law.

The corporate report 1975 (ASSC, 1975) was published by the Accounting Standards Steering Committee (ASSC) to consider the usefulness of published financial statements and sought to satisfy the information needs of users. The report identified several users of information and stressed

that companies should provide information which is deemed to be relevant, reliable, comparable, understandable, complete and objective.

In 1993, the Accounting Standards Board (ASB), the operating body of Financial Reporting Council, has recognised the need of users for quality information and introduced a non-mandatory statement Operating and Financial Review (OFR), the equivalent of the Management Discussion and Analysis (MD&A), to encourage the wider use of reviews within the annual report. The ASB suggests that an OFR should include the following: a discussion of the business as a whole, trends and factors that have affected the results, a separation between trend and factors that are not expected to continue and those that are expected to have an impact on future performance (para 3). The discussion should be objective and balanced, balancing good and bad news. The ASB also recommended UK listed companies to discuss principal risks and uncertainties. In addition, companies are encouraged to comment on the approach to managing these risks, and in qualitative terms, the nature of the potential impact of the results. The ASB encouraged disclosure of events, trends and uncertainties that are expected to have an impact on the business in the future, and recommended listed companies to disclose the dynamics of the operations related to the principal risks and uncertainties within the OFR. Thus, while the OFR statement encourages disclosure of forward-looking information, companies are not required to provide forecast disclosures or any other disclosure that may harm their business. The intention here is to assist users in making their decisions.

Indeed, the introduction of the OFR was an important shift that emphasised the importance of narrative disclosure and represented a major innovation in UK financial reporting. It provided evidence of the regulators' recognition of the importance of qualitative, non-financial information disclosures. Since it was launched in 1993, the OFR has been a feature of the annual report of many listed companies and was subject to extensive discussion. Following a period of consultation with various

preparers and users (Weetman et al., 1996), the ASB had emphasised a desire for general voluntary consensus rather than regulation (ASB, 1992), thereby encouraging the development of best practice (Weetman, 1999). Notably, the statement is strongly user-oriented.

The Final Report produced by the Company Law Review Steering Committee, released in July 2001 took the view that OFR should be mandatory (DTI, 2001). A revised version of the OFR statement was issued in January 2003 by the ASB (ASB, 2003), providing a broader framework for the discussion of business performance than its predecessor in 1993. The statement set out the principles that directors should follow when preparing an OFR. Reflecting the power of Company Law, the statement gives emphasis to the need for the provision of information about the business objectives and strategy, the expected effect of known trends, the potential effect of risks facing the businesses and the key performance indicators used by management.

The UK regulation initially introduced a new requirement [S.I 2005/1011- (“the March Regulations”) the Companies Act (Operating and Financial Review and Director Report etc.) Regulation, 2005] in the Companies Act 1985 (“the 1985 Act”) which came into force on 22 March 2005 for all listed companies to publish an OFR on or after 1st April 2005 which complied with a standard to be issued by the ASB. The Regulations (“the March Regulations”) also expanded into an enhanced business review the existing requirements for companies to include a fair review of their business in Directors’ Report. These requirements were a specific implementation of the EU Accounts Modernisation Directive². Following the requirements, a Reporting Standard (RS) 1 ‘the Operating and Financial Review’ was issued by the ASB on May 2005 (Companies House, 2006) which, in the main, following the requirements of the Final Report. The standard superseded the revised OFR that was issued in 2003.

² The Directive requires directors to provide, among other things, a description of the principal risks and uncertainties facing the company.

The intention was that directors of companies should focus on the information needs of users rather than follow a rigid list of items to be disclosed. The requirements for publishing an OFR extended the requirements of the Directive in order to provide greater disclosure for shareholders. The mandatory OFR intended to include disclosure relating to all areas has been seen as a focus for narrative reporting disclosure generally. However, on 28th November 2005, the Chancellor of the Exchequer (Gordon Brown) announced the Government's intention to remove the statutory requirements on listed companies for the new mandatory OFR which came into force in April 2005. Regulations to repeal the requirement [Statutory Instrument, SI, No. 205/3442] were laid in Parliament on 15th December 2005 and came into force on 12th January 2006 (DTI, 2006; FRC, 2006).

The government concluded that it was not practical to regulate the OFR by law, and decided to abolish the mandatory requirements. The chancellor's decision surprised and shocked the business community. Perhaps the government decided to diminish the corporate red tape burden (Grant, 2006) and provide safe harbour protection for directors. It was left to the ASB to change the status of RS 1, and in 2006 the ASB issued a Reporting Statement, replacing the RS 1, providing best practice guidance rather than a statutory requirement. The ASB recommended, among other things, that "the OFR should include a description of the principal risks and uncertainties facing the entity together with a commentary on the directors' approach to them" (ASB, 2006: Para 52). Companies' directors should also provide a discussion of the issues that have affected the performance of the business during the period and those that are expected to affect its future performance and financial position. It was also recommended that forward-looking orientation should be included in the statement in order to help shareholders understand and assess the company's strategies. In general, the ASB emphasised on providing quality

information rather than a large quantity of information which may result in significant issues becoming vague.

While the statutory requirements for publishing an OFR have been abolished the requirements to include “business review” in the Directors’ Report remain. The business review, identified as part of the Directors’ Report, requires “...a description of the principal risks and uncertainties facing the company...a balanced and comprehensive analysis of the development and performance of the business of the company during the financial year, and the position of the company at the end of the year...analysis using financial key performance indicators...and where appropriate analysis using other key performance indicators, including information relating to environmental matters and employees matters” (Companies ACT, 2006, Item 417). All UK companies, except those which qualify as small companies, have to include a business review in their Directors’ Report (DTI, 2006).

Ultimately, companies producing an OFR do not have to produce a separate business review as the mandatory OFR would have fulfilled the new business review requirements (DTI, 2006). Thus, after the statutory OFR has been abolished, it is now the decision of companies’ directors whether to produce an OFR statement or a business review statement as required by the European Accounts Modernisation Directive. The two statements include similar requirements. Quoted companies preparing statutory OFR in line with the requirements in S.I. 2005/1011 would have also fulfilled the requirements for a business review (DTI, 2006).

UK firms with a US listing are also facing additional risk reporting requirements under the Securities and Exchange Commission (SEC) regulations. The SEC regulations require foreign securities registered in the U.S. to reconcile financial statements from their domestic accounting standards to U.S. accounting standards and submit this via a form 20-F. For example, the instructions for form 20-F require that “the document

shall prominently disclose risk factors that are specific to the company or its industry” (SEC 2008, p. 11, Item 3D). UK firms are not required to disclose this additional information within their UK annual reports, however, the information made available to investors in other markets give rise to a stock market expectation that the same information must not be held back from investors in the UK (Abraham and Cox, 2007).

In addition, UK companies (and other foreign companies) with a US listing, are required to comply with the reporting requirement of the Sarbanes-Oxley Act (2002). For example, companies are required to report on internal controls under sections 302 and 404 of the Act. The Act also emphasised disclosure requirements of risks without referring to companies’ management. For example, section 401 (under title “IV-Enhanced Financial Disclosure”) requires enhanced disclosures on risks involved in off-balance sheet special purpose vehicles.

The EU directives, modernisation directive and transparency directive, require the reporting of the main risks and uncertainties. The requirements are not limited to financial risks only, rather the disclosures should cover all different types of risks.

2.3.2 Accounting Rules (Accounting Standards) Related to Risk Disclosure

At the national levels of individual countries, risk disclosure has been underpinned by the development of national accounting standards in different countries. Examples include Financial Reporting Standards (FRSs) issued by the Accounting Standards Board (ASB) in the UK, accounting rules issued by Financial Accounting Standards Board (FASB) in the US; German Accounting Standards (GASs) issued by German Accounting Standards Board (GASB) in Germany; Australian Accounting Standards (AASs) issued by Australian Accounting Standards Board (AAAB) in Australia, and so forth.

In the US, FASB, through a number of rules, tackled the reporting of risks associated to financial assets within the financial statements (e.g., FASB No. 133 (SFAS 133), Accounting for Derivatives Instruments and Hedging Activities aims to achieve the objectives of reporting all derivatives in balance sheet at fair market value and to increase the transparency of derivatives activities; SFAS 5 requires information on contingencies). Likewise, the SEC (through its FRR No. 48) established compulsory rules on listed companies obliging them to disclose the market risk arising from adverse changes in interest and foreign exchange rates, and in stock commodity prices.

At the international level, risk disclosure is encountered in the international accounting standards/international financial reporting standards (IASs/IFRSs) adopted/issued by the International Accounting Standards Board (IASB). For example, the International Accounting standards Board (IASB) adopted/issued a number of rules to establish the compulsory disclosure of market risks arise from the use of financial assets (e.g., IAS 32, IAS 39, and IFRS 7 deal with capital instruments; IAS 24 deals with related party disclosures; IAS 37 is related to risk as it deals with “provisions, contingent assets and contingent liabilities”; derivatives are largely dealt with in IAS 39).

The EU required all its listed companies to begin applying IASs/IFRSs from January 2005. Therefore, UK listed companies are required to prepare their consolidated financial statements in accordance with IAS/IFRS from 2005 onward. Table 2.1 provides examples of the UK accounting standards and its IAS's/IFRS's equivalents that tackled risk disclosure.

UK Standard	Relevant IAS	Topic	Purpose
SSAP 25	IAS 14***	Segmental reporting	SSAP 25 requires major companies to disclose information regarding the different classes of business and the different geographical areas in which they operate. It is designed to aid users identifying the risk inherent in any segment of the business.
FRS 5	No direct equivalent	Reporting the substance of transactions	FRS 5 has the effect of providing a better indication of the riskiness' of an enterprise by bringing certain assets and liabilities on to the balance sheet that might have been treated as off balance sheet.
FRS 8	IAS 24	Related party disclosures	FRS 8 identifies transactions carried out on non-commercial terms.
FRS 12	IAS 37	Provisions, contingent liabilities and contingent assets	FRS 12 ensures that a provision is recognized only when it is actually exists at the balance sheet date.
FRS 13*	IAS 32	Derivatives and other financial instruments	FRS 13 helps in identifying risks arising from the use of financial instruments.
FRS 25**	IAS 32	Financial instruments: Disclosure and presentation	FRS 25 helps to understand factors that affect the amount, timing and certainty of an entity's future cash flows relating to financial instruments and the accounting policies applied to those instruments. Also, the nature and extent of an entity's use of financial instruments, the risks associated with them, and management's policies for controlling those risks.
FRS 26	IAS 39	Financial instrument: Measurement	FRS 26 set down principles for recognizing and measuring all types of financial instruments except some items.
FRS 29	IFRS 7	Financial Instrument: Disclosure	FRS 29 helps to understand nature and extent of risk arising from financial instruments by requiring disclosures specifically related to the way the entity manages and monitors risks.

Table 2.1: Accounting Standards Relating to Risk Disclosure

* On January 2005, the reporting requirements of FRS 13 was replaced by FRS 25/ IAS 32.

** From 1 January 2007 the reporting requirements of FRS 25 was replaced by the requirement of FRS 29/IFRS 7

*** IAS 14 is replaced by IFRS 8 "Operating Segment" effective for annual periods beginning 1 January 2009

The UK accounting standards presented in Table 2.1 above represent the UK risk-relevant reporting standards that UK companies should comply with given the period of analysis in this research study (i.e. 1998-2004). For UK listed companies, the requirement of the EU to comply with

IASs/IFRSs beginning January 2005 means that there are implications for risk disclosure published in their annual reports.

Accounting rules have been developed in response to the increasing needs of users for relevant risk information. For example, Financial Reporting Standard (FRS) 13 “Derivatives and other Financial Instruments” issued by the ASB in 1998 to tackle the perceived high disclosure attached to derivatives and other financial instruments. FRS 13, which came into force in March 1999, obliges companies to disclose narrative and numerical details about the use of all financial instruments, held or issued, in order to provide information about their impact on the entity’s risk profile. FRS 25 was issued to tackle “Financial Instruments: Disclosure and Presentation”, and FRS 26 tackles “Financial Instrument: Measurement”.

The UK and IASs/IFRSs rules are roughly comparable and most of national accounting standards are based on the relevant IASs or IFRSs. For example, FRS 25 issued in the UK is equivalent to IAS 32; FRS 26 is equivalent to IAS 39. Likewise, Australian Accounting Standard Board (AASB) 132 “financial Instrument: Disclosure Presentation” is equivalent to IAS 32 “Financial Instruments: Presentation” issued by the International Accounting Standards Board (IASB). AASB 1033 is equivalent to IAS 39 “Financial Instrument: Recognition and Measurement” issued by IASB. AASB 7 “Financial Instruments: Disclosure” is equivalent to IFRS 7 “Financial Instruments: Disclosures”.

However, most regimes followed a piecemeal approach – accounting rules are aimed at specific risk categories as opposed to requiring comprehensive risk reporting. Accounting rules do not tackle any other risks related to non-financial risk and financial risk other than those stated in the standards (Cabedo and Tirado, 2004; Dobler, 2008). A notable exception to the above is Germany which has a separate standards GAS 5 requiring a comprehensive and self-contained risk report (e.g., Beretta and

Bozzolan, 2004; Dobler, 2008) located in the management report (equivalent to MD&A report in the US annual report; and to the OFR statement in the UK annual report). Although there appears to be a movement towards a more comprehensive risk reporting there is, however, difficulty in how to incorporate information on risk in the present model of disclosure (Cabedo and Tirado, 2004).

2.3.3 The Development of Corporate Governance (CG)

In modern corporations where shares are widely held, the management of company is delegated to directors who are not major shareholders of the corporation. The 'ultimate responsibility' of the directors is to manage and run the company in a way that maximises the long-term returns to shareholders (i.e., maximise the company's profit and cash flow). The separation of ownership and control in corporations leads to agency relationship between shareholders (principals) and management (agents). However, there is a potential conflict of interest, arising from both an information and power imbalance, between principals (investors) who invest their money in the business and management (agents) who are responsible in acting on behalf of principals in managing the business (Brealey and Myers, 2000, 2003). This results in the principals (shareholders) being vulnerable to risk whereby management potentially act more in self interest than corporative interest.

This emphasised the need for the system of corporate governance (defined as the system by which companies are controlled and managed) that aims at providing the means to ensure that companies are managed in the interests of their owners, that directors are managing the business at best and maximising returns to shareholders, and that business risk is minimised to a reasonable level. The system defines the distribution of responsibilities amongst the board and managers so a director or a board of directors do not become detriment of the shareholders.

The UK framework of corporate governance codes and guidelines (codes of best practices and related guidance) has been developed over the years in different countries. Internal control, risk management and risk reporting have been embedded in corporate governance and received a great deal of attention over the past decade. Worldwide, the attention took the form of improved guidance on developing and implementing internal control as evidenced by, for example, the COSO report (COSO, 1992, 2004) and especially the Sarbanes-Oxley Act of 2002 in the US, Cadbury report (1992), Hampel report (1998) and Turnbull (1999) in the UK, Peters committee (1997) and Tabaksblat committee (2003) in the Netherlands. Many other countries such as Germany, Italy and Canada are also well advanced in this regard.

In the UK, the issue of internal control and risk has been gaining more and more importance. The first reference to this is the publication of the Cadbury Report in 1992 by the Cadbury Committee which was taken forward by the publication of the Greenbury, Hampel and Turnbull reports. These codes provided, among other things, guidelines for companies' directors on establishing and monitoring the internal control systems, and reporting on the main risk that they face. Despite that, these guidelines are neither requirements nor accounting standards. Listed companies are expected to comply with them as non-compliance could have an adverse effect on the company's share price. Listed companies that do not comply with these requirements should include an explanation as to why they have not complied with these requirements in the statement required by the Listing Rules. Effective corporate governance structures are now considered important criteria for shareholders in selecting the company in which they wish to invest when making positive investment decisions (Müller, 2002).

The Cadbury Committee was set up in 1991 by the Financial Reporting Council, the London Stock Exchange and accounting profession issued the Cadbury Code in 1992 which included a Code of Best Practice and its

recommendations were incorporated into the Listing Rules of the London Stock Exchange. The code made proposals covering four key areas: the board of directors; non-executive directors; executive directors; and control and reporting. Under the latter, the code proposed that directors of public companies should report on the effectiveness of the company's systems of internal control.

Following Cadbury, a 'Working Group on Internal Control' was set up to assist companies complying with the Principle 4.5 of the Cadbury Code "reporting on the effectiveness of the company's system of internal control". This led to the publication of the Rutteman Report in 1994 on Internal Control and Financial Reporting. The Greenbury Report, published in 1995, adds additional requirements to those set by the Cadbury Report in regard to directors' remuneration.

The Hampel Report, published in 1998, reviewed the progress on corporate governance since the publication of Cadbury in 1992. With regard to internal control, the Hampel Report widened the concept of internal control to address business risk assessment, financial management, and compliance with laws and regulation and the safeguarding of assets, including the minimising of fraud. The report proposed that companies should report on all controls rather than just financial controls, however, without requiring directors to give opinions on the effectiveness of these controls.

The Combined Code, Principles of Good Governance and Code of Best Practice which was published in 1998 by the London Stock Exchange (LSE) required directors of listed companies to "maintain a sound system of internal control to safeguard shareholders' investment and the company assets" (principle D.2) and explain how this had been achieved. Under provision D.2.1 "the directors, at least annually, should conduct a review of the effectiveness of the group's system of internal control and should report to shareholders that they have done so. The review should

cover all controls, including financial, operational, and compliance controls and risk management". Thus, directors should include a statement to confirm that they complied with the code by conducting annual review of all controls and risk management system.

The Turnbull Guidance, Internal Control: Guidance for Directors on the Combined Code (Turnbull Report), published in 1999, resulted from an agreement between the ICAEW and LSE in order to provide guidance on implementing the internal control requirements of the Combined Code on corporate governance. The guidance underlined the importance of internal control and risk management stating that "a company's system of internal control has a key role in the management of risks that are significant to the fulfilment of its business objectives..." (1999: Para 10).

Before the publication of the Turnbull report, neither company directors nor auditors had been willing to express opinions on the effectiveness of internal controls (Solomon et al., 2000). The Turnbull Report, therefore, was a controversial proposal because it tackled this problem in an innovative way by requiring directors to identify, evaluate and manage their significant risks and to assess the effectiveness of the related internal control system (Para 18 and Para 31). Boards of directors are requested to review regularly reports on the effectiveness of the system of internal control in managing key risks. The board should state whether they have done so. In addition, the board should undertake an annual assessment for the purpose of making their statements on internal control in the annual report. Thus, the board are encouraged to express an opinion on the effectiveness on their systems.

The Guidance encouraged companies' directors to provide meaningful high-level information and encouraged them to report externally on their key risks. The Guidance indicates that "...the board should, as a minimum, disclose that there is an ongoing process for identifying, evaluating and managing the significant risks faced by the company..." (Para 35). In

addition, "The board may wish to provide additional information in the annual report and accounts to assist understanding of the company's risk management processes and system of internal control" (Para 36).

The Turnbull report requires the board of directors, among other things, to consider whether there are significant internal and external operational, financial and other risks identified and assessed on an ongoing basis.

The Higgs Report on The Role and Effectiveness of Non-Executive Directors was published in 2003 almost at the same time as the Smith Report, Guidance on Audit Committees was published by the Financial Reporting Council. The recommendations from both the Higgs and Smith reports have led to changes in the Combined Code of Corporate Governance resulting in the publication of a revised combined code in 2003. The New Combined Code on Corporate Governance applies to all companies listed in the primary market of the LSE for reporting years commencing on or after 1st November 2003.

In 2004, the Financial Reporting Council (FRC) established the Turnbull Review Group to consider the impact of the Turnbull Guidance and to determine whether the Turnbull Guidance – Internal Control: Guidance for Directors on the Combined Code - which was first issued in 1999 needed to be updated. Accordingly, Internal Control: Revised Guidance for Directors on the Combined Code was published by the FRC in 2005. The Review Group decided to retain the flexible, principles-based approach of the original guidance and made only a small number of changes. As investors consider the board's attitude towards risk management and internal control to be an important factor when making investment decisions about a company, the Review Group took investors views into account and emphasised the importance of assessment of risks facing business and also reiterated the great importance of embedding risk management and internal control systems within the business process.

When communicating with investors the board should include in the annual report a meaningful information statement, as the board considers necessary, to help shareholders better understand the risk and control issues facing the company, the main features of the company's risk management processes and system of internal control, and should not give a misleading impression (Para 33). Table 2.2 provides a summary for the development of Corporate Governance codes and guidance in the UK.

Code	Requirement related to internal control, risk management, and risk disclosure
Cadbury Report (1992)	Requires directors of public companies to maintain a system of internal control (Para 4.31). and also recommends directors to report on the effectiveness of their system of internal control and that the auditors should report thereon (Para 4.32)
Hampel Report (1998)	The board should maintains a sound system of all internal control include operational and compliance controls, and risk management (Para 2.19 and 2.20) but the board are not required to give opinions on those controls.
Combined Code (1998)	The board should maintain a sound system of internal control (Para D.2) and for the audit committee to maintain and explain how this had been achieved (Para D.3). The company directors should conduct a review of the effectiveness of their annual control systems and should report this information to shareholders (Para D.2.1).
Turnbull Report (1999)	The board of directors is "responsible for the company's system of internal controland must further ensure that the system of internal control is effective in managing risks in the manner which it has approved" (Para 16). The report encourages companies to report on their key risks without making it mandatory.
Higgs Report (2003)	Provided recommendation to the combined code. The report recommended that the board review the company's internal financial control system risk management systems. The recommendation made for the revised combined code e.g., the suggested code provisions D.2.2 and D.3.1 to D.3.5. For example, the board should maintain a sound system of internal control and to review all controls, including financial, operational and compliance controls and risk management.
Smith Report (2003)	Also contains recommendations for the combined code. The directors should conduct annual review of the effectiveness of the group's system of internal control and should report to shareholders that they have done so. The review should cover all controls, including financial, operational and compliance controls and risk management.
Combined Code (revised) 2003	The board of directors should, at least annually, "conduct a review of the effectiveness of the group's system of internal controls and should report to shareholders that they have done so. The review should cover all material controls, including financial, operational and compliance controls and risk management systems" (Para C.2.1). The audit committee should "review the company's internal financial controls and the company's internal control and risk management systems.
The Turnbull Guidance (2005)	Provide guidance for the board's responsibilities on maintaining a sound system of internal control and risk management. For example, in order to comply with the Code Principle C.2, the board should disclose that "there is an ongoing process for identifying, evaluating and managing the significant risks faced by the company, that it has been in place for the year under review and up to the date of approval of the annual report and accounts, that it is regularly reviewed by the board and accords with the Turnbull guidance" (Para 34).

Table 2.2: Corporate Governance Development in the UK

2.3.4 The Role of the Accounting Institutions in Promoting Risk Disclosure

As a response to the increased calls for change, several reports, proposals and discussion papers (e.g., AICPA, 1994; ICAEW, 1997, 1999b, 2002; CICA, 2002; ASB, 1993, 2003, 2006) have challenged the present model of business reporting. They have highlighted the failure of financial reports in meeting the information need of users and also stressed the narrowing of the reporting gap between preparers (managers) and users (e.g., investors). The wide-ranging review considered the demand for more information on intangibles, future prospects and stakeholder issues to be disclosed in the annual report. In general, it supported the need for narrative user-driven information disclosure and emphasised the importance of information (other than the information with backward focus) such as the company's strategy, plans and goals, risk and uncertainties, forward-looking information, and other information that may assist in understanding the current and future performance and prospects.

In 1988, a report entitled *Making Corporate Report Valuable (MCRV)* published by the Institute of Chartered Accountants of Scotland (ICAS) encouraged companies to improve their corporate reporting in order to assist the users in gauging management performance and assessing an entity's prospects. The report made recommendations for companies to provide future-oriented information to shareholders. In the report, the view of ICAS was to meet the needs of management and investors. The report pointed to the shortening of historic cost accounting and supports the use of a current value system. Further recommendations were also made including investors be provided with future-oriented information as used by management in their planning of the business.

The American Institute of Certified Public Accountants (AICPA) published a report with the aim of improving business reporting (AICPA, 1994). The report proposed a comprehensive model of business reporting that

included more forward-looking information and placed greater emphasis on value drivers and non-financial performance measures.

The Institute of Chartered Accountant of England and Wales (ICAEW) (ICAEW, 1997) published a discussion paper entitled Financial Reporting of Risk – Proposals for a Statement of Business Risk. The ICAEW proposed that listed companies should be at the forefront of improved risk reporting in the financial statements. The Institute’s view is that directors should include quality information that may assist users to assess the company’s risk profile and make informed decisions. Recommendations were made for enhancing reporting of aspects related to future prospects. The paper emphasised that all type of risks should be considered since they have a potential bearing upon corporate performance. The ICAEW proposed that the preparation of a statement involves three stages as outlined in Table 2.3.

Stage	Purpose
Identification and prioritization stage	A company should identify and prioritize its key risks.
Risk management stage	Description of actions taken to manage each risk that is identified.
Risk measurement stage	Description of how each risk is measured.

Table 2.3: Stages in Preparation of a Statement of Business Risk

In Stage 1, ICAEW advises that when risks are identified, a company should prioritise them so that only risks deemed significant are reported. Different tools such as risk mapping or profiling were suggested. In the second stage, companies should inform on how they manage their risks and outline the methods used. The final stage involves using different measures of risks.

In 1999, the ICAEW (ICAEW, 1999b) published a report entitled No Surprises: The Case for Better Risk Reporting which emphasised the need for management to disclose appropriate information on their strategies, risk and risk management. This report reaffirmed the earlier view that

enhanced disclosures about key business risks and how each risk is managed and measured would provide practical forward-looking information and help meet investors' needs. The ICAEW argues that companies who are not prepared to disclose appropriate information should reconsider their current listing. In the view of the ICAEW, there is no justification as to why listed companies are hiding some information when they are keen to maintain a good relationship with the providers of capital. However, the institute withdrew its original view (ICAEW, 1997) on the production of a statement of business risks and modified its suggestion that information should not be incorporated within a statement.

The discussion paper entitled *Inside Out: Reporting on Shareholder Value* (ICAEW, 1999a) issued by the ICAEW and prepared by its financial reporting committee noted recognition that there is growing awareness of the limitations of the external corporate reporting. The paper stressed the importance of enhancing transparency and encourages disclosure of key information related to business strategy and information of a forward-looking nature, so investors could utilise this when making decisions about a given company.

The following sections review related literature of risk and risk disclosure. The review covers the following subjects: risk definition, risk categorisations, and previous related risk disclosure studies.

2.4 Risk and Risk Disclosure

2.4.1 The Notion of Risk

When conducting any risk disclosure study, a principle concern lies in the definition of risk. In the past, the word 'risk' has been used to reflect adverse events that have occurred. In pre-modern society, adverse events such as natural events were more likely to be viewed as an 'act of God' and

are beyond the influence of human intervention. However, followed by the industrial revolution, the ideas of risk have changed, influenced largely by the emergence of the insurance industry and the advance of probability calculations.

The notion 'risk' relates to a distribution of future outcomes (Doherty, 2000). The distribution of future outcomes is uncertain. Risk information, therefore, is defined as risk-related information on that distribution (Dobler, 2008). Businesses' activities entail a variety of risks driven by various external and internal factors or sources. These factors comprise, for example, political, economic, regulations, market, finance, business process and personnel. These factors have a potential affect on the entity's performance. From a portfolio perspective, some of the risks facing an entity such those arising from the external environment, are systematic, i.e., non-diversifiable, while others are non-systematic and diversifiable by measure of risk management.

In modern businesses, the responsibility of risk managers lies in identifying different sources of risk related to their companies, and analysing and evaluating their impact on future outcomes. Risk management is increasingly recognised as being concerned with both negative and positive aspects of risk. Risk referred to as 'uncertainty' is no longer limited to uncertainty-based view (i.e., a one-side definition such as the exposure to financial loss). Uncertainty must also be seen clearly linked to opportunity, or upside risk (i.e., a target-based view). Consequently, different definitions have emerged in the literature. A well-cited definition of risk suggested by professional reports (ICAEW, 1997; CICA, 2002; IASB, 2005) and already used in previous risk disclosure literature (e.g., Solomon et al., 2000; Cabedo and Tirado, 2004; Linsley and Shrives, 2005) defines risk as:

"...uncertainty as the amount of benefit. The term includes both potential for gain and exposure to loss."
(FRS 5, Reporting the Substance of Transactions, ASB, 1994)

In this definition, the full range of uncertainties that may affect the company's future prospects is considered including both upside and downside risks, uncertainty risk, and volatility risk. Risk is referred to as uncertainty and uncertainty is associated with both a potential gain and loss. A company's performance has only two dimensions - risk and return - and there is nothing else. In this context, risk as uncertainty refers to the distribution of all possible outcomes, both positive and negative. The company's risk profile is related to the future and, therefore, is full of uncertainty about its future cash flows. Drawing a curve would show, companies' directors, the likelihood of different cash results over a future period and provide them with a useful insight about what might happen and how likely it is to be in the future. Figure 2.2 exhibits a normal distribution with different results becoming progressively less likely in the future. The curve may be related to any venture and differs from one company to another depending on directors' behaviours and their views on risks (ICAEW, 1999b).

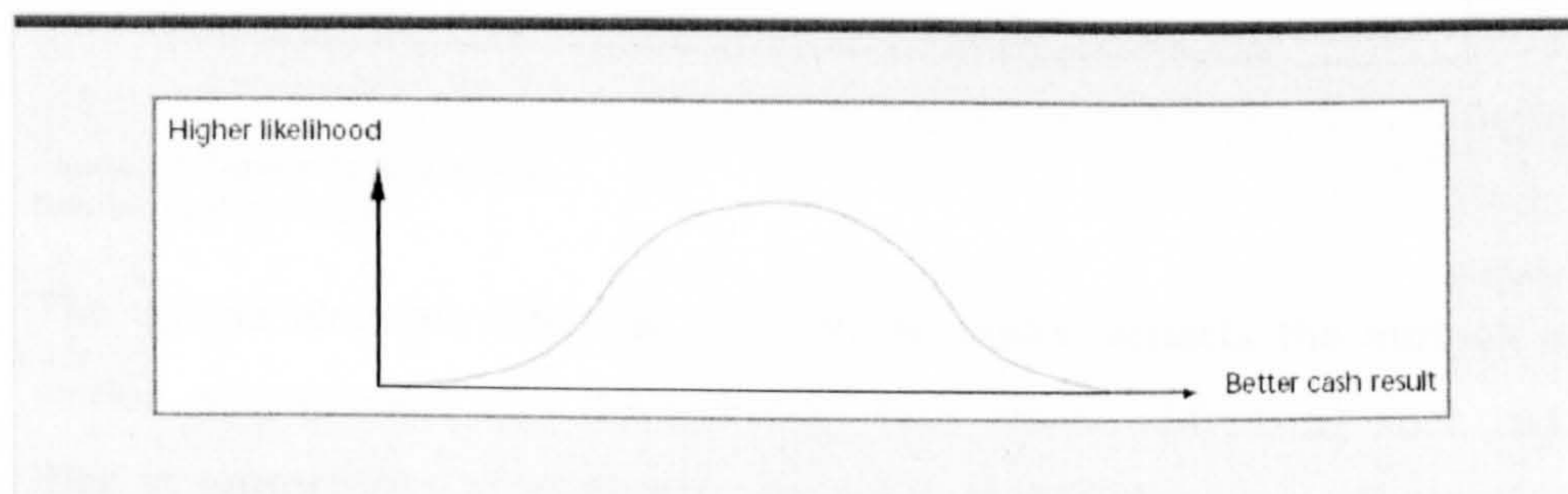


Figure 2.2: Risk Profile
Source: ICAEW 1999b

Since a company risk profile is full of uncertainty about the future, the term 'opportunity for gain and potential for loss' can be referred to as volatility risk. A potential outcome is that the actual cash flows will turn out differently from period to period and so the result will be volatile.

Risk as uncertainty may result on either upside or downside risk. Upside risk refers to potential for gain while downside risk refers to events when things go wrong. It depends, as shown in Figures 2.3 and 2.4, on where the cash breakeven line is. Figure 2.3 provides a useful explanation for an

extreme case where there is only upside risk. All the results that have any likelihood of happening give a positive net cash flow (ICAEW, 1999b).

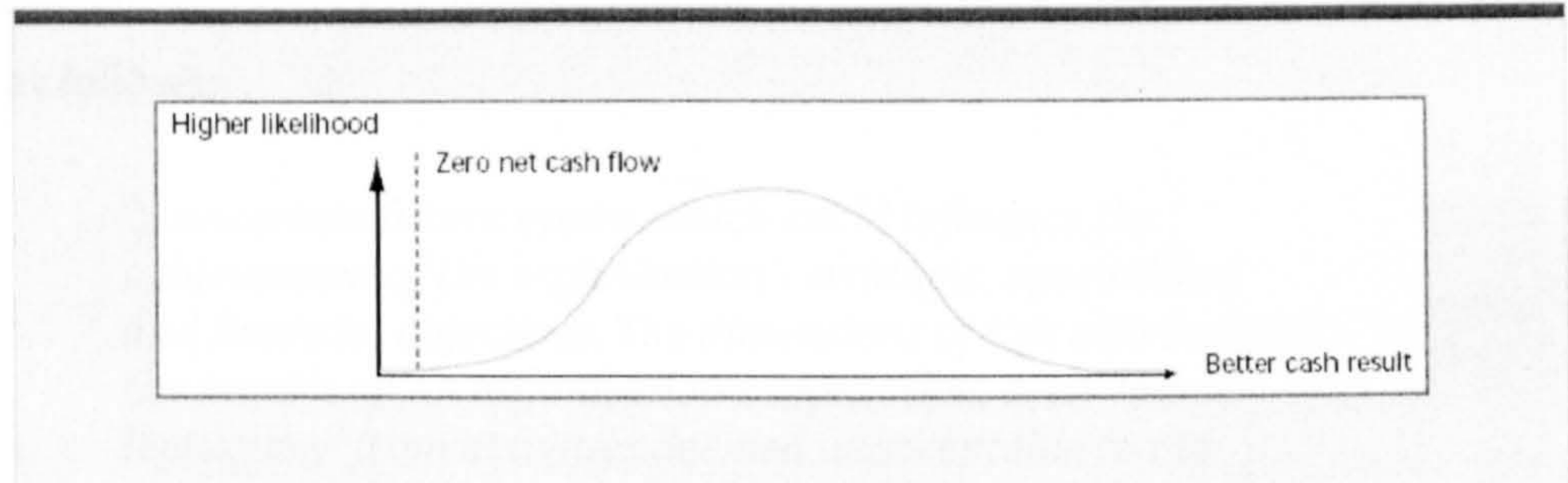


Figure 2.3: Upside Risk Profile
Source: ICAEW 1999b

Figure 2.4 shows the other extreme case where there is only downside risk so any likelihood of happening has a negative net cash flow.

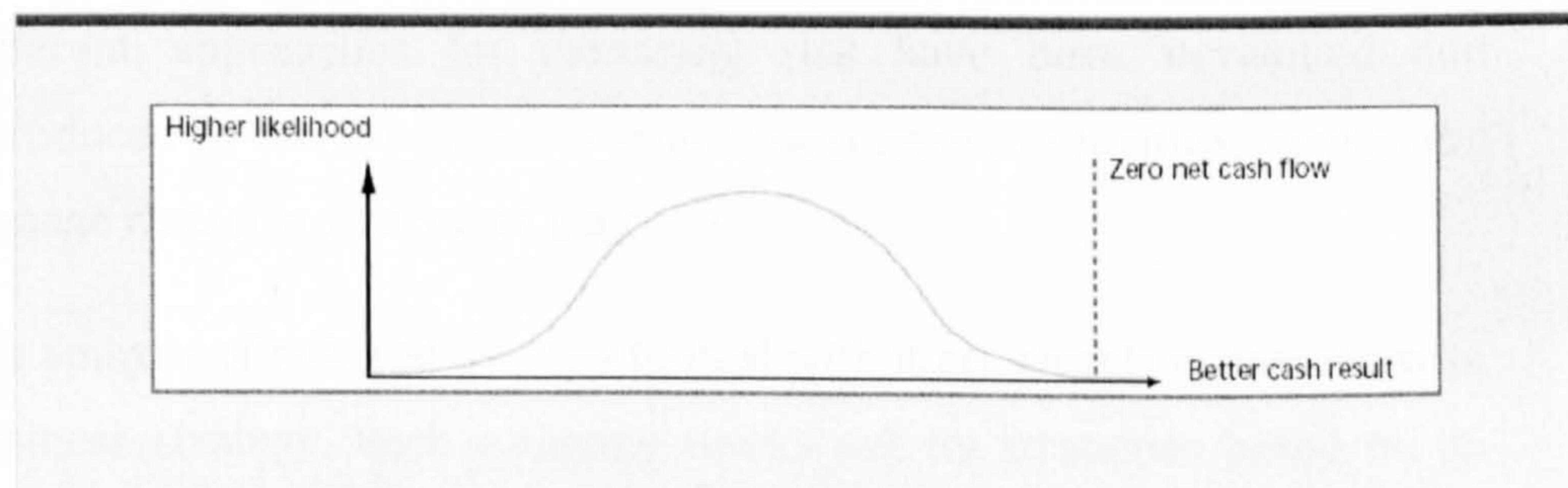


Figure 2.4: Downside Risk Profile
Source: ICAEW 1999b

The upside element refers to opportunity which reflects the outlook of senior management and the planning staff when addressing such risk. Risk as opportunity is implicit in the concept that there is a relationship between risk and return. The greater the risk, the greater the potential return and, in the same way, the greater the potential for loss. The downside element is the common element and is what managers most often mean by the term. It refers to potential negative events such as financial loss, fraud, theft, damage to reputation, injury or death, system failure or lawsuit.

Risk is also connected to business strategies, objectives and economic performance; and risk can, therefore, be understood within the broader context of a company strategy (IFAC, 1999). A business begins with the

setting up of a clear vision of the future and setting up its own strategies so as to decide on what opportunities that they are going to pursue. Then the corporate objectives to achieve this are identified. As such, risk is referred to as follows:

"...uncertain future events which could influence the achievement of the organisation's strategic, operational and financial objectives. The dimensions of risk also include the impact on an organisation's reputation, even 'loss of legitimacy' from activities deemed unacceptable to the community."
(IFAC 1999:6)

The key challenge for companies is to identify and manage these risks so as to deliver successful change and innovation to create lasting value. Different approaches for managing risk have been developed and introduced in the literature to enable businesses to identify, assess and manage risks in a structured way.

The sources of risk and the way to deal with it are closely connected with business strategy. Each company works out its strategies based on an assumption and, consequently, takes a risk. Taking risk is essential for companies in order for them to enhance performance and create value (IFAC, 1999). Shareholders who entrust their money to companies expect company directors to take risks and demonstrate that the board of directors understand, consider and manage risk well. Risk reporting would demonstrate the role of directors as being accountable toward shareholders and prospective stakeholders. Director's act to assure shareholders that risk and uncertainties are managed at best (De Loach, 2000) so as to make accountability more transparent by implementing company-wide risk management systems, and by communicating risk profile and strategies to the external investors. Figure 2.5 illustrates the intertwined nature of this four-dimensional cycle.

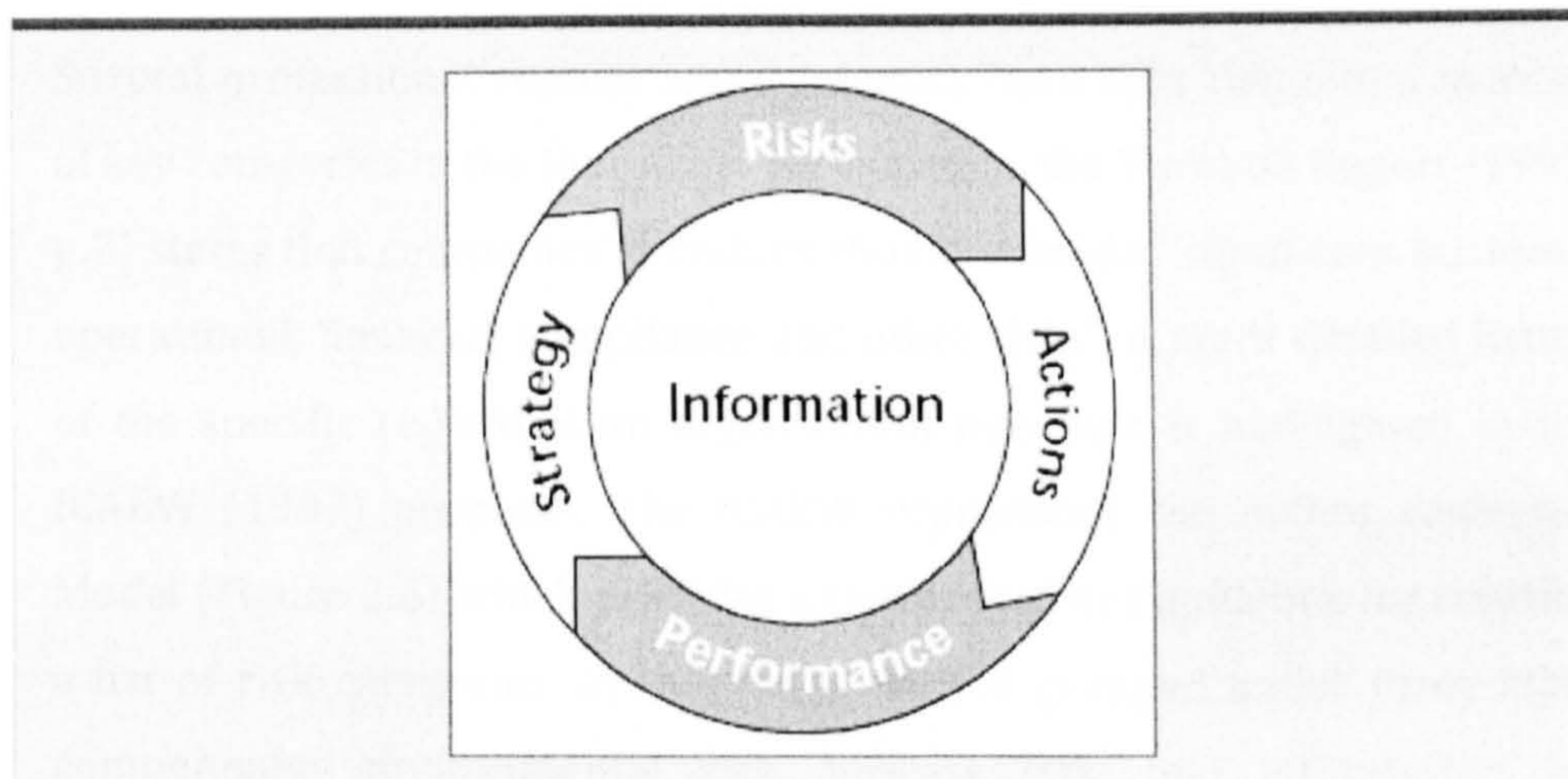


Figure 2.5: Risk Reporting Cycle
Source: ICAEW 1999b

2.4.2 Risk Categorization

In the above section, risk was referred to as uncertainty associated with both a potential gain and potential loss. In other words, it is referred to the volatility of future earnings or cash flows. Therefore, when examining risk disclosure, negative and positive outcomes (potential opportunities) are to be considered (Linsley and Shrives, 2005, Lajili and Zegal, 2005; Papa, 2007). Having defined what is meant by risk, a clear identification of the different sources of uncertainty becomes necessary. In a business context, risks arise from various internal and external factors or sources. Under corporate governance codes, for example the Turnbull Report of 1999, there is little detail concerning the sort of information companies should explicitly report, where it should be reported and in what format the reporting should occur. Businesses in different industries are facing different risks; therefore, it is difficult to establish a set of risk types that is commonly faced by organisations. While it is left to the company to identify the sources of risks that are relevant to them, there is a detailed guidance on what should be discussed and reported (Turnbull report, para 35 and 36).

Several professional reports and academics have split risk into a number of key categories in the literature. For example, the Turnbull Report (1999: p.7) states that companies' directors should consider 'significant business, operational, financial, compliance and other risks'. A more detailed listing of the specific risks that an organisation may face is highlighted in the ICAEW (1997) proposal. The ICAEW reproduces the Arthur Anderson Model (Figure 2.6) which provides a comprehensive guideline for creating a list of risk categories. In the model, risk is grouped under three main components: environmental risk, process risk; and information for decision-making risk. Under each component, the model identifies a number of risk factors, for example operational, financial, empowerment, information processing and integrity risk. Another example is the Institute of Risk Management (IRM, 2002), which provides a diagram of risk categories showing that risks facing an organisation and its operation result from factors both external and internal to an organisation. The IRM further categorises risk into different types include strategic, financial, operational, hazard, etc. IFAC (1999) considered 3 different levels of risks: level 1 refers to systematic risk including political, economic and social risks over which an organisation has little control; level 2 risks arise from factors that organisations cannot control but can influence including competitive, reputation and regulatory risk; and, level 3 varies with each industry but an organisation can have a great deal of influence over it. Examples of the latter include financial and people risks. Jorion (1997) argues that companies are exposed to three types of risk: business, strategic, and financial. Table 2.4 displays different examples of risk categorization.

Author & Year	Risk Categories
ICAEW (1997)	Reproduced the Business Risk Model which was developed by one of the professional accountancy firms. Risk is classified as in Figure 2.6.
Jorion (1997)	Differentiated between business risk; strategic risk; and financial risk.
The Institute of Risk Management (IRM) (2002)	Risk arises from external drivers and internal drivers. Risk classified into financial; strategic; operational; and hazard.
ICAEW (October 2002)	Risk grouped under the following components: strategic; operational, financial; compliance (including health and safety); and environmental.
ICAEW (November 2002)	There were 12 suggested generic risk categories. These include: accounting; economic and political environment; financial, human resources; legal / regulatory / corporate governance; management information; operations and markets; project and IT; reputation; strategic; and terrorist / criminal.
Cabedo & Tirado (2004)	Risk classified into the following groups: non-financial (business and strategic); and financial (market, credit, liquidity, operational, and legal).
ICAEW (2004a)	The suggested risk categories include: accounting; economic and political; financial; geographic; human resources; legal / regulatory / corporate governance; management information; operations and markets; project and IT; reputation; strategic; and terrorist / criminal.
Lajili & Zegal (2005)	Grouped risk into: financial, political, technology, environmental, weather, government regulations, seasonality risk, operational, cyclical, suppliers, and natural resources.
Papa (2007)	Based on ICAEW (1997) model. Three risk components (environmental risk, process risk; information for decision making). Eight risk sub-components (operational, financial, empowerment risk, information processing risk, integrity risk, operational decision making risk, business reporting risk, strategic decision making risk). 75 risk categories and 114 risk items.
Deumes (2008)	Eight risk components: macro environmental sources, industry sources, internal sources, other sources, loss and probability of loss, variance, lack of information, and lack of control.

Table 2.4: Examples of Risk Classifications

It should be noted that these categorizations are not uniform and that there is no well-accepted classification model of risk. Some classifications are convenient but are only informal wherein usage and definitions vary. Companies use different terminology when they refer to risk (Combes-Thuelin et al., 2006). Due to the fact that boundaries between categories are blurred, care needs to be taken. Some specific risks can have both external and internal drivers and therefore overlap the two areas.

The model presented in Figure 2.6 was utilised by some of the previous studies (e.g., Woods and Reber, 2003; Linsley and Shrives, 2005, 2006; Konishi and Ali, 2007). For example, Linsley and Shrives classified risk

disclosure categories into 6 categories and 37 sub-categories based on ICAEW (1997). However, for the purpose of this thesis, a new categorization was developed dividing risk disclosure into three categories: environmental risk, operational risk, and strategic risk. These categories and its contents are presented in the method chapter. The contents of these categories were pilot tested on a random sample to ensure that they are relevant and those are not relevant are omitted. Environmental risk relates to factors essentially beyond the organisation's control and comprises risks such as economic, political, social and demographic risk, legal and regulation risk, climate and catastrophic, and industry sources (e.g., competition, suppliers, customers).

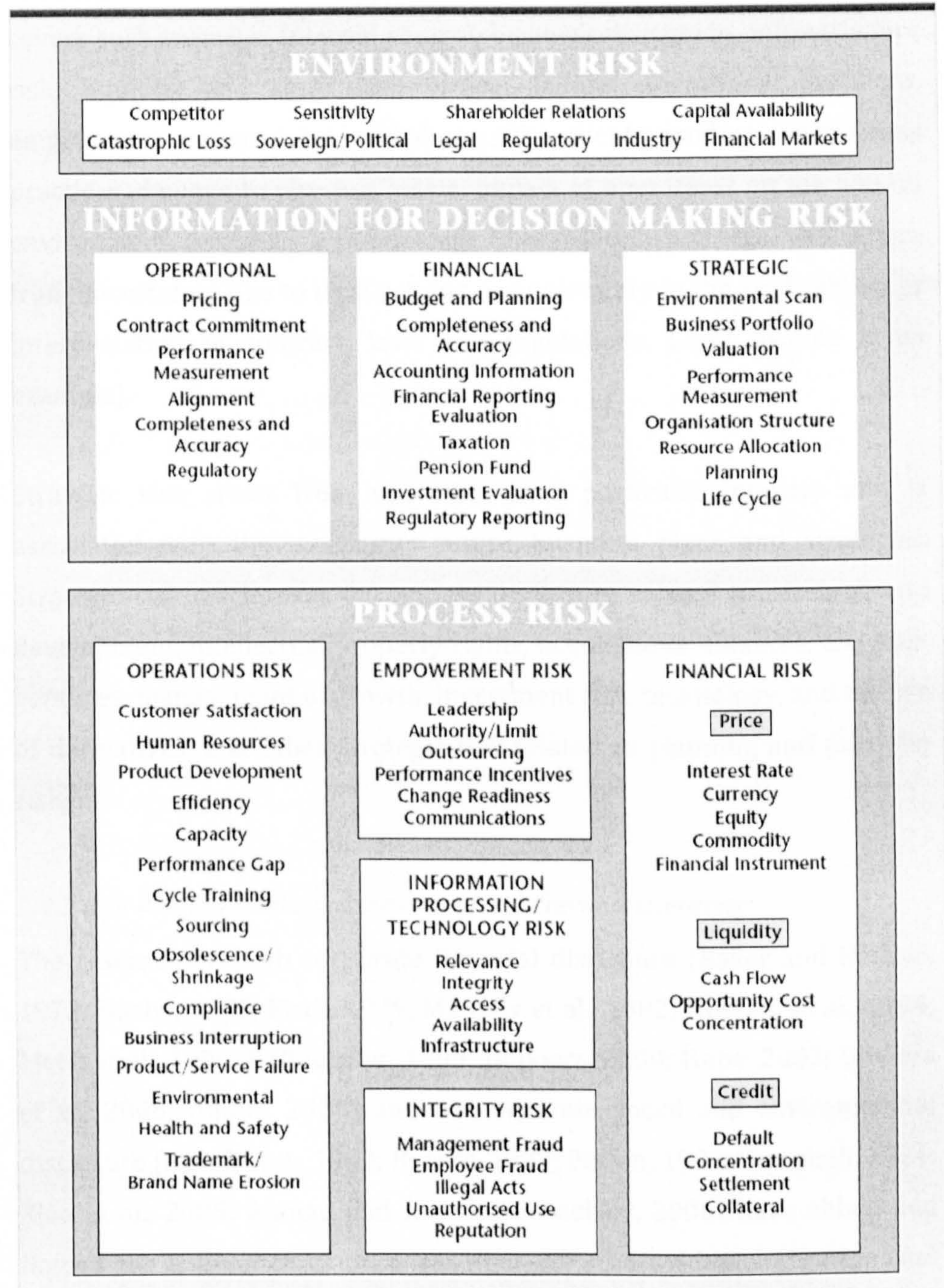


Figure 2.6: Business Risk Model
Source: ICAEW 1997

Operational risk is the probability of losses arising from the essential operation side of the firm. Definitions of operational risk vary in accordance with the business under consideration; some definitions are

limited to process (e.g., risk associated with the process and internal control); while other definitions are broader. Operational risk should covers such issues as internal control, business disruption, infrastructure risk; liquidity and cash flow, project failure, operational problems, employment practices and workplace safety; clients, product and business practices, damage to physical assets, impact of operations on the natural environment, compliance and damage to reputation, and legal risk (arises from uncertainty due to legal actions or uncertainty in the applicability or interpretation of contract, laws and regulations. Legal dispute is an example).

Strategic risk arises from operating in a particular industry and is associated with the company's future business plans and strategies. Strategic risk disclosures encompass disclosure related to research and development, intellectual property rights, acquisitions, alliances, and joint ventures, management of growth, investment risk, technology, and the use of derivatives, and other strategic risk related to planning and portfolio risks.

2.4.3 Risk-Related Disclosure: Review of the Previous Literature

The research on both corporate financial disclosure (Baker and Haslem, 1973; Buzby, 1975; Firth, 1979; McNally et al., 1982; Hossain et al., 1994; Meek et al., 1995; Raffournier, 1995; Depoers, 2000; Hope, 2003; Oliveira et al., 2006; Aljifiri, 2008) and on corporate social and environmental disclosure (e.g. , Davey, 1982; Burritt, 1997; Patten, 1991; Campbell, 2004; Xiao et al., 2005; Ahmad and Handley-Schachler, 2006) have ebbed and flowed for a number of decades. However, the evidence (Stanton and Stanton, 2002; Beattie, 2005) indicates that there is only scant research focusing on annual reports risk disclosure, which is considered as a part of the broader category of corporate financial disclosure as published in the 1990s in comparison to other types of disclosure studies in a holistic sense (Linsley and Shrives, 2006). Nevertheless, there have been several studies

on risk management and disclosure, notably on financial risk disclosure, directed mainly to the US setting. For example, following the issuance of Financial Reporting Release (FRR) No. 48 by SEC, which establishes compulsory requirements for disclosure on derivatives and market risks, a considerable strand of research (Linsmeier et al., 2002; Jorion, 2002; Rajgopal, 1999; Thornton and Walker, 2000; Roulstone, 1999; Linsmeier and Pearson, 1997) addressed compulsory market disclosures according to FRR 48 and examined the benefits of such disclosure to investors. For example, Linsmeier and Pearson's (1997) study of "quantitative disclosures of market risk in the SEC release" examined the effect of FRR No. 48 on derivatives and market risk disclosure. There are also studies focused on derivative-related information disclosure, which include Seow and Tam (2002), Li and Gao (2007) and Dunne et al. (2007). The studies reveal that these disclosures would be useful for investors to broaden their knowledge of the company derivative exposures and assets and risk situation. Studies reveal evidence consistent with an impact of risk disclosure on capital markets. However, the particular impact depends on the reporting format chosen (Dobler, 2008). Disclosure would be useful for investors when making informed decisions as it reduces uncertainty.

The increased focus and attention applied by governments, regulators and accounting institutions around the globe have resulted in an upsurge in corporate risk disclosure in recent times. The growth in risk disclosure studies is shown by a number of academic articles that have emerged lately. Some of these articles provide an analysis of a comprehensive corporate risk disclosure and focus on developing a framework for risk disclosure (e.g., Solomon et al., 2000). Some studies examine risk information disclosed in a company's annual report more comprehensively (e.g., ICAEW, 1999b; Linsley and Shrives, 2005, 2006; Abraham and Cox, 2007), while others examine risk disclosure in prospectuses (e.g., ICAEW, 1999b; Papa, 2007; Deumes, 2008). Table 2.5 provides a synthesis of the contributions of a sample of articles.

Author	Focus & Objectives	Findings
Solomon et al. (2000)	Survey the UK institutional investors to ascertain their attitudes towards risk disclosure.	There is a need to provide more detailed risk disclosures rather than generalized statement of business risk management policy.
Linsley and Shrides (2000)	Examine the merits and demerit of voluntary risk disclosure.	They conclude that few companies would disclose risk disclosure voluntarily and argued the need to mandatory requirements.
Woods and Reber (2003)	Compare the UK and German reporting practices in respect of risk disclosure post GAS 5.	Although GAS 5 served to increase risk disclosure amongst German companies, the study found higher and different reporting practices amongst UK companies.
Beretta and Bozzolan (2004)	Propose a framework for analysis of risk communication and a applied it on a sample of quoted Italian firms.	The index of disclosure quantity is not influenced either by size or industry.
Lajili and Zegal (2005)	Examine risk disclosures in Canadian companies' annual reports.	The high amount of risk disclosure found reflects both mandatory and voluntary risk disclosure. The lack of uniformity, clarity and quantification in disclosure potentially limiting its usefulness.
Linsley and Shrides (2005)	Examine risk disclosure practices in UK companies annual reports.	Companies provide an incomplete picture on the risk that they are facing.
Combes-Thuelin et al. (2006)	Ascertain an inventory of existing rules to identify the risk disclosure context faced by French firms.	There is no consensus between the different pieces of regulations. The terminology used by companies when they refer to risk is different.
Linsley and Shrides (2006)	Examine corporate risk disclosure practice within a sample of UK quoted companies.	The type of risk information disclosed and the lack of coherence in the risk narratives entails that a risk information gap exists.
Dunne et al. (2007)	Provide an empirical investigation into the disclosure of information on derivatives in annual financial statements of UK companies following the introduction of Financial Reporting Standard (FRS 13).	The results show that the implementation of FRS 13 was associated with a substantial increase in derivatives-related information published in companies annual reports.
Li and Gao (2007)	Examine the usefulness of derivative related disclosures in the Australian banking sector, by testing whether derivatives disclosures are associated with annual stock returns of the banks over the period of 1998-2004.	The preliminary results reveal that the disclosure of fair gains and losses for both trading and non-trading derivatives are significant to the stock returns, which may suggest that these disclosures contain useful information. However, the disclosure of principal amounts and credit disclosure is insignificant to stock returns.
Konishi and Ali (2007)	Examine the relationship between the level of risk disclosure available in a sample of Japanese annual reports and firm-specific characteristics.	The results show that risk disclosure is related to company size. However, no relation was found between risk disclosure and the corporate characteristics examined in the study.

Abraham and Cox (2007)	Examine corporate disclosure practices within a sample of UK quoted companies and relate disclosure level to some firms' factors.	Disclosure level found negatively related to share ownership by long-term institutions, and positively related to the number of independent directors.
Papa (2007)	Performs a quantitative and qualitative analysis of risk reporting available in IPO prospectus for a sample comprising of 12 listed Italian firms.	Much emphasis is given to external risks, whereas other sources of uncertainties are neglected. Qualitative risk disclosure dominates over quantitative risk.
Abraham et al. (2007)	Analyse the quality of business risk disclosure statements based on four themes: formulaic, specificity, capability of measurement, and evidence of measurement.	The findings reveal an overall low score for disclosure quality for the companies based on all of the four themes.
Deblor (2008)	Focuses on reviewing discretionary disclosure and cheap talk models to analyze risk reporting incentives and their relation to regulation.	The results suggest that the informativeness of risk reporting should not be overestimated even in a regulated environment.
Deumes 2008	Focuses on a sample of Dutch companies, the author examines risk information reported in the risk section of prospectuses.	The results reveal that a measure of risk extracted from the risk sections in prospectuses successfully predict the volatility of companies' future stock prices, the sensitivity of future stock prices to market wide fluctuation, as well as severe declines in future stock prices.

Table 2.5: Review of Academic Articles on Risk Disclosure

The studies selected for the review are limited to those relating to risk disclosure in the annual report. The review of other corporate accounting disclosure (e.g., financial disclosure and social and environmental disclosure) is beyond the scope of the present research and are, therefore, excluded in an attempt to keep the review of previous research studies within manageable proportions. Some of the academic articles displayed in Table 2.5 above are discussed in the following two sub-sections.

2.4.3.1 Developing a Framework for Risk Disclosure

An initial study was conducted in the UK by Solomon et al. (2000) using a questionnaire survey. The authors tried to canvas the attitude of UK institutional investors towards risk disclosure in relation to their portfolio investment decisions. Respondents of the survey did not generally favour a regulated environment for corporate risk disclosure and supported a

voluntary framework. It could be deduced that perhaps investors have learnt how to manage certain types of risk in a costless basis throughout, for example, diversification. Hence, the reduced desire for legislation. In addition, following a review of existing theory and practices, the authors developed a diagrammatic representation (see Solomon et al., 2000) of the conceptual framework for internal control, risk management and risk disclosure, which envisages a system for internal control involving several stages, where each stage would follow principal themes. These are presented in Table 2.6.

Stage	Theme	Reference to Turnbull Report and other CG Reports
Identification stage	Involve the identification and prioritisation of risks.	The board of director should consider “the nature and extent of the risks facing the company as well as “the extent and categories of risk which it regards as acceptable for the company to bear” (Para. 17).
Estimation stage	Depicts the assessment of the potential impact of identifiable sources of risk.	Consideration of “the likelihood of the risks concerned materialising” (Para 17).
Development stage	The company develops its specific risk management strategy which should be tailored to match specific risks.	The board should consider the “company’s ability to reduce the incidence and impact on the business of risks that do materialise. Also, an evaluation cost of operating particular controls relative to the benefit (Para 17).
Implementation stage	The board puts their chosen risk management strategy into operation.	N/A
Evaluation stage	Evaluating the effectiveness of implemented strategy.	“Effective monitoring on a continuous basis” (Para 27).
Internal feedback stage	Flows of report between managers and the board and also an internal audit.	Companies who do not operate an internal audit should review the need for one on a frequent basis (the combined code, D.2.2).
Disclosure stage	Reporting, to stakeholders, information relating to the company’s risk management strategy, its effects and succeeds as well as some predictive discussion of the company going concern.	Companies should, as a minimum, disclose that there is an ongoing process for identifying, evaluating and managing the significant risks faced by the company (Para. 35). In addition, the company could choose to provide additional information in the annual report and accounts to assist understanding of the company’s risk management processes and system of internal control (Para 36).
Interpretation stage	Interpretation of disclosed information to facilitate external feedback and control.	Para 35 and 36.

Table 2.6: Stages for the System of Internal Control, Risk Management and Risk Disclosure
 Source: Based on Solomon et al. (2000)

2.4.3.2 Risk Disclosure in the Company Annual Report

Table 2.5 displays several studies examining corporate risk disclosure. Some studies focus on specific risk category while others examine risk more comprehensively. The studies have provided strong evidence that companies have not been adequately disclosing risk-related information (e.g. Lajili and Zegal, 2005; Papa, 2007; Linsley and Shrives, 2005, 2006; Konishi and Ali, 2007; Woods and Reber, 2003, Abraham and Cox, 2007).

To illustrate, Linsley and Shrives (2000) reviewed risk disclosure requirements and recommendations and examined the merits and non-merits of disclosing such information in annual reports. They suggest that the most important potential benefit for enhanced risk disclosure by companies is reduction in the cost of capital. The authors concluded that the level of disclosure disclosed voluntarily by companies is not adequate and argued that if such disclosure is considered desirable then there is a strong argument for regulation. In another article, Linsley and Shrives (2005) discussed similar issues but within the context of UK non-financial firms. Furthermore, Woods and Reber (2003) conducted a pilot study of twelve UK and German companies and compare risk disclosure practices in UK and German companies' annual reports. In particular, the authors examined whether the requirements of the German Accounting Standard (GAS 5), which require German companies to report on risk for the financial years commencing after 31st December 2000, serve to enhance risk disclosure within German annual reports. Thus, the authors compared risk disclosure practices over two years, those of 2000 and 2001. The results showed an increase in risk disclosure found in German companies' annual reports and supported the assertion that GAS 5 had a positive effect upon risk reporting despite the fact that the level of disclosure remains higher in the UK than in Germany. However, given the small size of the sample used in the research, it is difficult to extrapolate or generalise on a country-wide basis.

Beretta and Bozzolan (2004) proposed a framework for the analysis of risk disclosure and an index to measure the quality of risk disclosure. The index was based on a framework which integrates all dimensions of risk, the aim of which was to evaluate risk disclosure disclosed in the Management Discussion and Analysis (MD&A) section in a sample comprising 85 Italian firms' annual reports. The framework considered four different dimensions: content, economic sign, type of measure and the outlook orientation. The results showed that firms disclose more information relating to the past and present rather than future information. Where future information is disclosed, companies avoid disclosing its expected impact, both positive and negative. However, the framework and methodology employed by the study has been criticised. There is difficulty in quantifying risk disclosure. It was argued by Botosan (2004) that the measure is not related to or influenced by the firm characteristics, e.g., size and industry, found in the prior literature to explain disclosure behaviour. The design of the index with many dimensions has limited ability to operate in a large sample either across firms or across time (Shevlin, 2004) and confuses the reader as opposed to aiding understanding. Botosan (2004) also explained that disclosure quality is not measurable. The quality of information disclosed depends on user perception as stated by the International Accounting Standards Board (IASB) on whether or not information is useful in the decision-making process.

Lajili and Zegal (2005) examined risk information disclosures practices in Canada. The authors describe and analyse the subject matter of risk information found in 300 Canadian companies' annual reports. A high degree of risk disclosure intensity was observed. However, there appears to be lack of uniformity, clarity and quantification in the information disclosed, hence, potentially limiting their usefulness.

Linsley and Shrives (2006) examined risk disclosure practices in UK companies' annual reports and related these to firm characteristics. For

this purpose, 79 annual reports were analysed. Although the results showed a large amount of risk information disclosed by companies, there were limitations to their usefulness. The information disclosed was found to be incomplete, less specific and less detailed with limited disclosure found on risk related to intellectual capital and reputation risks. Qualitative disclosure was found to be more prevalent than quantitative disclosure. The results showed that companies' directors are willing to disclose forward-looking information disclosure. However, the study's results are not consistent with the results of previous studies (e.g., Beretta and Bozzolan, 2004; Woods and Reber, 2003).

Abraham and Cox (2007) examined risk disclosure practices within UK annual reports and related it to institutional ownership, board of directors and US dual-listing characteristics. A sample of the largest UK companies was selected for this study based on the financial year ending in 2002. The results showed a negative relationship between corporate ownership by long-term institutions and risk reporting and a positive relationship between corporate ownership by short-term institutions and risk disclosure.

Thus, the above review reveals that there is a growing body of published empirical academic articles aims at risk reporting. While some studies have investigated risk disclosure, the focus of these studies varies considerably. Some research aims exclusively at studying quantified risk disclosure in financial statements and at specific categories of risk, especially market risk (e.g., Jorion, 2002; Linsmeier et al., 2002; Rajgopal, 1999) according to FRR 48, and derivative-related disclosure (e.g., Li and Gao, 2007; Dunne et al., 2007). The empirical literature that has examined risk under its comprehensive perspectives is still limited (Papa, 2007). Some studies have examined risk reporting and disclosure domestically (e.g., Linsley and Shrives, 2006; Lajili and Zegal, 2005) while others have done so in a comparative international context (e.g., Woods and Reber, 2003; Shrives and Linsley, 2003). Most studies highlight the shortcomings

and lack of transparency in risk disclosure due mainly to the absence of standards and uniform measures for different risk components. Studies show that different countries have different risk reporting requirements. For example, Germany has, generally speaking, a more detailed domestic regulation of risk disclosure than the UK. However, the empirical analysis as shown by the previous studies, based on annual reports issued by German companies, indicates an overall poor disclosure practice (see for example, Woods and Reber, 2003). It has been argued (e.g., Lajili and Zegal, 2005) that more valuable information about a firm's total risk exposure could be inferred from the non-financial side of operations. Therefore, with the aim of contributing to the history of risk disclosure, this research examines different types of risk in the annual reports of UK companies.

The timeline of the present study lends to its importance as it comes a few years after the publication of the Turnbull report (published in 1999). Previous literature (e.g., Patten, 1992; Deegan et al., 2000) provides examples of event studies where the volume of environmental disclosure was shown to respond to the increased exposure to criticism experienced after a particular event. It will be interesting to consider how the risk disclosure enhanced over the past period in response to Turnbull and other pressures (ICAEW, 1999b). It is expected that this study will shed further light on the impact of Turnbull and other pressure on the extent of risk disclosure by companies. Any increase in risk disclosure would be seen as evidence and endorse recent efforts of corporate governance reforms (Solomon et al., 2000). It is important to keep abreast of how risk changes over time. Fast moving technology, intense competitive pressure and regulatory change can all impact the risks faced by an enterprise. The study also has its advantage as it offers investors an objective assessment of the current reporting practices. Indeed, any increase in risk disclosure will attract the attention of users (Solomon et al., 2000). This research is therefore expecting to find evidence that companies are responding to

Turnbull and other pressures by enhancing the amount of risk disclosure over the years. The theory and evidence reviewed so far suggest the following hypothesis:

H₁: There is a significant difference in risk disclosure over the period under examination, from 1998-2004.

2.5 Summary and Conclusion

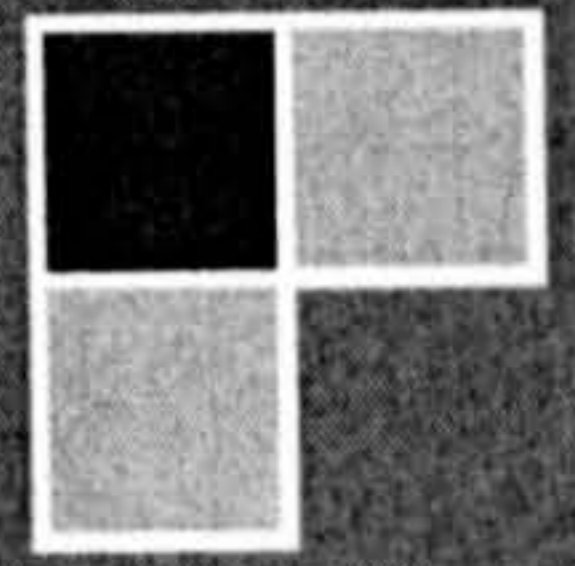
In closing, this chapter provides a review of key literature relevant to the research questions.

After reviewing the literature, it can be surmised that there are several internal and external factors affecting a firm's activities and reporting. The rapid increase of internationalisation in economic activities and the growing globalisation of financial markets has inevitably exposed companies to a much wider audience, an audience with greater interest in any given company's activities.

Moreover, there has been a growing demand for company information by users. The research highlighted in this chapter suggests that companies are not disclosing enough information to serve the needs of the various user groups. Since disclosure is critical for the success of capital markets, the gap in reporting between companies and users is a cause of real concern for politicians and economists. Companies were put under pressure to disclose reliable and relevant information in order to reduce investor uncertainties, hence, improving the efficiency of resource allocation in the economy.

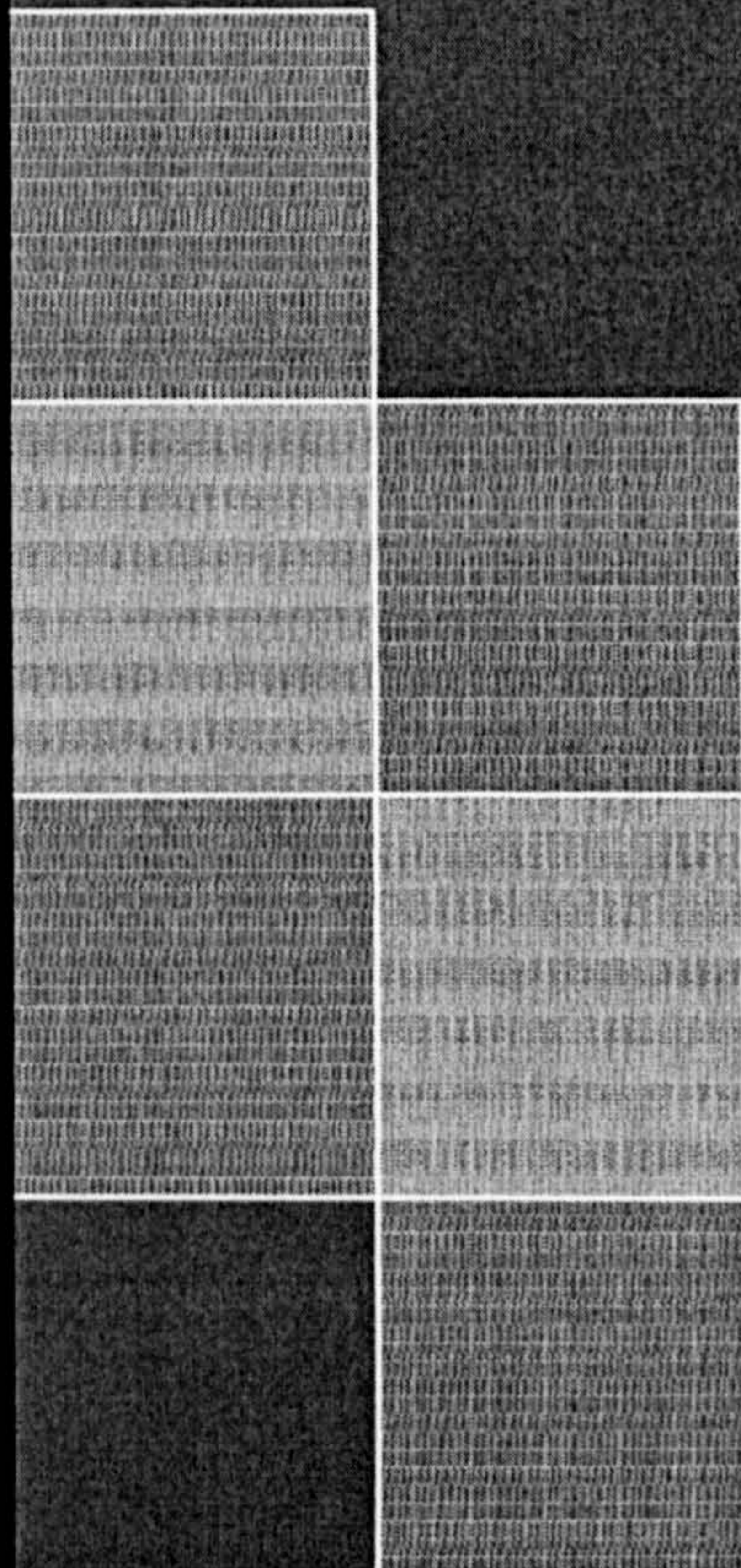
The debate and development within the accounting profession and accounting regulations, including corporate governance, was discussed alongside an examination of risk notion and risk categorization. In addition, research addressing the issue of corporate risk reporting from various angles were explored and discussed in the present chapter.

The literature review in the present chapter, in addition to the review in the following chapter, provides a framework for the current research and serves as a link between previously published literature to the general problem of the current study. It is considered that this will aid in developing the research hypotheses and methodology for this study.



Chapter 3

Incentives for Disclosure: Disclosure and the Cost of Equity Capital



3.1 Introduction

In corporate reporting literature, the issue of corporate disclosure has been developed into a main area of studying and investigation. Research on the subject of corporate disclosure is extensive (Marston and Shrives, 1996). The majority of previous disclosure studies have examined three different areas. The first is about what motivates companies to disclose more information beyond the level required by the legislation. The second concerns the factors affecting the level and type of information disclosed, and the third concerns the empirical consequences of disclosure.

Firms must have incentives to reveal information to the public for many reasons. A number of theoretical perspectives have been applied by researchers to explain the phenomena of disclosure and to explain what motivates companies' managers to reveal more information than is necessitated by legislation. However, there is no single theory available to explain disclosure phenomenon completely, and, to date, researchers tend to select whichever theory articulates best with their hypothesis (Linsley and Shrives, 2000).

It has been argued that enhancing corporate disclosure (including risk disclosure) is of great benefit to both stakeholders and the companies. From the stakeholders' perspective, disclosure will enable them to better assess the financial performance of the company and to assure them that the managers are managing companies at best. From the companies' perspectives, disclosure conveys significant messages about business performance and puts companies in direct contact with investors, which increases their confidence, and hence reduces the cost of capital (e.g., Botosan, 1997). If disclosure affects the company's cost of capital, this should put the market in a better position by keeping it informed, and hence facilitating its functioning.

The present chapter provides a discussion on the theoretical literature of corporate disclosure. The chapter reviews the previous theory and evidence in order to form the remaining research hypotheses. The chapter commences by discussing the type and nature of corporate disclosure. This is followed by a section devoted to explaining the incentives for disclosure. Next, disclosure benefits and costs are explained and discussed. Then, four explanatory disclosure variables that represent the most common firm's characteristics tested in previous research are discussed. These factors (i.e., firm-specific characteristics) may determine the level of corporate risk disclosure. Afterward, the chapter discusses the prior literature on disclosure and the cost of equity capital. Previous studies are discussed, summarised, and presented in the chapter. Research hypotheses will be developed throughout the chapter.

3.2 Information Disclosure: Nature and Type

The term disclosure, in its broadest sense, encompasses the revelation of any piece of information about a particular company. It encompasses everything contained in the company's annual report, interim report, information announcements, general meeting, press releases, magazine stories, and newspapers. Recently, the internet has become an additional medium of communication. The 'level of disclosure' refers to the quantity of information disclosed by the firm to the public. Disclosure of information is publicly communicated by companies to various user groups who have an interest in the business. Companies must disclose financial information to satisfy the users' different needs (FASB, 1978, 2001; IASC, 1989). There is no doubt that the information disclosed by an entity is for the interest of shareholders (investors) since they are regarded as the main providers of capital to the company. However, there are other groups for firms to consider including lenders, employees, customers, suppliers, government and the public.

Disclosures in corporate reports are often distinguished based on whether they are mandated (required by legislation) or suggested, or whether they are voluntary. Mandatory disclosure refers to information disclosure required by authorities. Some items will also be suggested often by the GAAP of a particular country (Gernon and Meek, 2001). Voluntary disclosure refers to the level of information disclosed beyond what is necessitated by accounting and legal legislations. There are also financial and non-financial disclosures, which are both very important.

Previous disclosure literature examined different areas in disclosures including financial disclosure, segmental disclosures, financial forecasts disclosure, and social and environmental disclosure.

Companies' managers have a superior understanding of the future prospects of the firm since they have access to private information. Shareholders (investors), the main providers of capital, and other users need information for different purposes. Companies must disclose information to satisfy the needs of users. Not everything needs to be disclosed otherwise a reader can easily get confused with all of the information. Disclosure is a substantive issue, since information disclosed may potentially affect people's decisions and actions. Undisclosed information does not have that potential (Gernon and Meek, 2001). Thus, managers have discretion when deciding what to disclose since this is not an easy decision to make. The decision of not disclosing information means that managers have decided to keep some information secret from users. Some amount of voluntary disclosure is needed by users since the information revealed has the potential to influence their (i.e., users) decisions. Moreover, there are potential benefits of voluntary disclosure including improving a company's reputation and a lower cost of capital, and higher liquidity of the firm's stocks. However, disclosure could adversely harm the firm by damaging its competitive position. Thus, a firm has to trade off the positive and negative effects of voluntary disclosure (e.g., Tsakumis et al., 2006; FASB, 2001; Edwards and

Smith, 1996; AICPA, 1994; Oliveira et al., 2006). In the following sections, the incentives for disclosure and its benefits and costs will be discussed.

3.3 Incentives for Disclosure

In corporate disclosure research, the issue of understanding the motivations for disclosure has attracted considerable attention. Firms must have incentives to provide additional disclosure. Researchers on corporate disclosure have been applying a number of theoretical perspectives to their studies to explain why firms engage themselves in different levels of disclosure. However, there is no single theory available to explain the phenomenon of disclosure as a whole, and researchers, to date, tend to select whichever theory articulates best with their hypothesis (Linsley and Shrivies, 2000). The most common theories employed in previous disclosure research to interpret and explain disclosure practices are agency theory, signalling theory, capital need theory, political cost theory, stakeholder theory, proprietary cost theory, and cost benefit theory. The explanations for these theories are as follows.

3.3.1 Agency Theory

Agency theory, proposed by Jensen and Meckling (1976), may help to explain managers' incentives for voluntary disclosure. Agency theory conceives that the role of monitoring managers on behalf of the owners has been delegated to the board of directors. Agency theory conceives an inherent moral hazard between shareholders (principals) and managers (agents) that gives rise to agency cost. Agency cost is one element of contacting costs (other elements include transactions costs, information cost, renegotiation costs and bankruptcy costs). Jensen and Meckling (1976) identify two classes of agency conflict, namely owner manager (compensation contracts) and owner debt-holder (debt contracts). Thus, agency theory (e.g., Jensen and Meckling, 1976; Kelly, 1983) posits disclosure as a mechanism which decreases these conflict costs, for example,

by producing accounting reports and increasing the amount of information contained in these reports (Morris, 1987; Marston and Shrivess, 1996). Disclosure is a mechanism to persuade shareholders and other parties that the company is being properly managed and is accountable to them. It is also a mechanism to reduce agency cost and investors' uncertainty. In other words, disclosure increases the confidence of shareholders, and hence reduces information asymmetry.

Several studies (e.g., Salamon and Dhaliwal, 1980; Leftwich et al., 1981; Chow and Wong-Boren, 1987; Cooke, 1989a, 1989b, 1991, 1993; Hossain et al., 1994; Craven and Marston, 1999; Abd-Elsalam and Weetman, 2003; Oliveira et al., 2006) have analysed the existence of differential disclosure levels, and agency theory has been employed to explain some of these differences in disclosure.

The research of identifying financial accounting and reporting are affected by a variety and a diverse of supply and demand forces (Craswell and Taylor, 1992). Financial reporting is designed to meet the demand of various user groups, which is to provide useful information to different user groups in order to enable them to make useful decisions (economic decisions and decisions for other purposes). While different users have different needs and demands of different information, certain information may be beneficial to one group of users, and harmful to another one. On the contrary, supply is influenced by existing regulation and the cost associated with disclosure, such as information collection and processing costs. If different parties are self-interestedly, these separations of demand and supply create conflicts and agency cost falling on either equity holders or debt holders (Morris, 1987), therefore, resulting in higher agency costs. These agency costs comprise residual loss, bonding expenditures by the agent (managers) and monitoring expenditures by the principals (shareholders) (Kelly, 1983).

Agency theory envisages that some annual reports' disclosure may provide a mechanism of reducing shareholder monitoring costs and also ease the

moral hazard problem (Schipper, 1981). Disclosure plays a device in reducing the adverse effects to moral hazard and adverse selection implications.

Agency theory predicts that agency costs will vary with different corporate attributes such as size, performance, gearing and listing status. For example, Fama and Jensen (1983a, 1983b) contend that large organisations with diffused ownership resolve the agency cost problem by separating internal decision management and control. Demsetz and Lehn (1985) found no difference in corporate performance as a function of ownership diffusion.

3.3.2 Signalling Theory

Signalling theory was developed by Spence (1973) in the labour market to explain the behaviour of these markets (see Watts and Zimmerman, 1986). It has been a general phenomenon applicable in any market with information asymmetry (see Morris, 1987), and has been employed by many researchers (e.g., Hossain et al., 1994; Craven and Marston, 1999; Abd-Elsalam and Weetman, 2003; Oliveira et al., 2006) to explain cross-sectional variation in voluntary disclosure levels and has also been linked to agency theory (see Morris, 1987). Akerlof (1970) states that voluntary disclosure is viewed as a form of signalling relating to information asymmetry in the market, and signalling theory can address these problems of information asymmetry and reduce this asymmetry by the party with more information signalling it to others (Morris, 1987). If information available to the market is non-specific, then share prices will reflect general perceptions of risk and, hence this may result in some mis-pricing together with the phenomenon of adverse selection (Akerlof, 1970). Beatty and Welch (1996) report a positive association between the number of risk warnings disclosed in the flotation prospectus and mis-pricing at the end of the first day of trading. Financial information may be used by firms to signify underlying reality, and to influence external users when making decisions of different purposes.

Large companies may also have the incentive to disclose information in order to send a signal to the market to avoid potential lawsuit.

Since signalling is a reaction to information asymmetry in markets, in this case, companies have information (for example, about risks and the way the risks are managed) that investors do not. In such circumstance, companies with high quality risk management systems will have an incentive to provide specific risk information to the market as a signal as this can then be used to adjust the price upwards (see, for example, Lev and Penman, 1990). However, signalling is costly and the cost of signal is higher for the bad type than it is for the good type (Spence, 1973). The incentive to make disclosures in order to differentiate a company from its rivals will only continue for as long as the resulting increase in market capitalisation exceeds the signalling cost (Morris, 1987). It is argued that only good quality firms will use this instrument, because the quality of firms can be later observed without difficulty, and firms would be punished by the market if they send wrong signals (Morris, 1987). Eccles et al. (2001, p. 192) observe “ a management team that has confidence in both its own abilities and its strategy will not shy away from telling the market its plans for the future and how well it is doing today”.

3.3.3 Stakeholder Theory

The definition of stakeholder has been developed over the past years. The definition has been limited solely to principal stakeholders since the main objective of a corporation is to maximise the wealth of its owners. A broader definition of stakeholder would include any individual or group who can affect or is affected by the achievement of the firm’s objectives (Freeman, 1984). This broader definition of stakeholder encompasses adverse groups such as interest groups and regulators.

Stakeholder theory has been extensively employed in accounting disclosure literature to explain the phenomenon of, for example, corporate social and

environmental disclosure (e.g., Gray et al., 1995a, 1997; Deegan, 2000). Stakeholders who exist in a society are generally concerned with the way that an organisation is managed. Therefore, this theory is based on the assumption that an organisation needs the support of its stakeholders for its activities and needs their approval for its activities to ensure its continuous operation (Gray et al., 1997). Corporations require resources for their operations. However, these resources are affected (directly or indirectly) by the control power of stakeholders. The more powerful the stakeholders, the more the company must adapt (Gray et al., 1995a). Thus, the power is determined by the level of control they have over the resources. The stakeholder-corporation power relationship is not generic across corporations. Moreover, there are different forms of power that stakeholders may exercise including the command of limited resources (finance, labour), access to influential media, ability to legislate against the company, or ability to influence the consumption of goods or services (Deegan, 2000). When stakeholders exercise their control power, the company is likely to react in a way that satisfies the demands of the stakeholders (Ullmann, 1985).

However, this theory faces the criticism of being flawed because it focuses on the way a corporation manages its stakeholders. The theory also discriminates as attention is given to each group of stakeholders based on its potential benefits to the organisation.

3.3.4 Political Cost Theory

Voluntary disclosure may also be targeted to reduce political costs. This theory (hypothesis), used by positive accounting theory (e.g., Watts and Zimmerman, 1978; Glosten and Milgrom, 1985; Jensen and Meckling, 1976; Leftwick et al., 1981), suggests that political costs (such as taxes and regulation) may influence the managers on the selection of the adequate accounting policy. This hypothesis is based around the notion that companies may develop procedures that eliminate or minimise political

interference. Voluntary disclosure may be one of these procedures (Lim and McKinnon, 1993).

Political cost theory may also contribute to the explanation for voluntary disclosure. According to political cost theory, larger companies are politically visible and subject to higher political cost (e.g., taxes and regulations imposed by politicians upon companies) than smaller companies. Companies' directors may, therefore, reveal information in order to reduce the chance of more detailed and, perhaps, more costly requirements being introduced by law, accounting standards, or stock exchange requirements.

3.3.5 Capital Need Theory

Capital need theory has also been employed in accounting literature (e.g., Abd-Elsalam and Weetman, 2003) to explain variations in voluntary disclosure. The notion of 'capital needs' has been referred to by a number of previous studies (Meek and Gray, 1989). Companies in the capital market are competing with one other to raise capital through offering different types of shares (Meek et al., 1995). The theory posits that the need to raise capital is a principal motive for disclosure (Abd-Elsalam and Weetman, 2003). Companies reveal information voluntarily with a desire to raise capital at the lowest possible cost (Craven and Marston, 1999).

Better disclosure should lead to more efficient allocation of capital within the market and, therefore, help stock market to evaluate and price the shares more accurately. Consequently, it is expected that more disclosure will increase the number of capital providers and allow companies to attract new shareholders, thus enabling companies to enjoy a healthy demand for shares with liquidity market (Craven and Marston, 1999) and increase the ease by which new capital can be raised (Cooke, 1993; Marston and Shrivess, 1996). It is also assumed (e.g., Choi, 1973; Firth 1980; Cooke, 1993) that more information disclosure will increase transparency and reduce information asymmetries between the companies' management and market participants;

therefore, reducing investors uncertainty about the timing and expected future cash flow and thereby enabling investors to make investment decisions, and by doing so capital may be raised cheaply.

One of the principal factors affecting the cost of capital is the perceived risk attached to the enterprise and its future cash flows. Under market uncertainty and information asymmetry, enterprises that are regarded as more risky generally have to pay a higher rate of interest to borrow funds and have a lower price/earnings ratio for their shares. Also, the risk premium required by investors on their investments will be high, hence increasing the cost of capital. It is difficult for research to pinpoint the precise impact of risk disclosure on the cost of capital (ICAEW, 1997), nevertheless, the evidence (Botosan, 1997; Hail, 2002) supports a lower cost of capital for companies with a high disclosure level. Sengupta (1998) found a correlation between increases in disclosure and reductions in the cost of debt. Selva (1995) shows a strong correlation between financial analysts' perceptions of risks and companies price/earnings ratio.

3.3.6 Proprietary Cost Theory

A firm's decision to make public disclosure can damage its competitive position in the product market (Verrecchia, 1983; Darrough and Stoughton, 1990) because competitors may make strategic use of information disclosed to their advantage (Edwards and Smith, 1996; Linsley and Shrivs, 2005; Tsakumis et al., 2006). This may lead to the imposition of a proprietary cost, hence putting a company at a competitive disadvantage and affecting the company negatively. Therefore, in the presence of proprietary costs, a firm has to trade off the positive and negative effects of voluntary disclosure. However, there are other factors determining the decision for disclosure. These include the type of market competition and threat of entry of new firms to the market (Darrough and Stoughton, 1990).

3.3.7 Costs and Benefits Theory

Benefit-cost theory may explain cross-sectional variation in voluntary disclosure levels. The decision regarding whether to reveal information is evaluated by the costs and benefits involved, thus companies tend to provide disclosures when the benefits exceed the cost of disclosure (both direct and indirect costs). These costs include not only the costs of preparing and disseminating information but also “the cost associated with disclosing information which may be proprietary in nature, and therefore potentially damaging” (Verrecchia, 1983, p181). Verrecchia states that “firms in highly competitive industries may regard public disclosures of any kind as potentially costly in the assistance it renders competitors. Firms in less competitive industries may see no costs associated with making public disclosures” (p191). Disclosure benefits and costs are discussed further in Section 3.4.

Thus, it could be argued that these theories are relevant for explaining risk disclosure (see, for example, Woods and Reber, 2003; Linsley and Shrives, 2000). Agency theory might be relevant and powerful when considering disclosure of risk and uncertainty. Risk disclosure would enable investors to deal more effectively with risk diversification. The results of the study survey conducted by Solomon et al. (2000) indicate that almost a third of the surveyed institutional investors agreed that increased disclosure would help them in their portfolio investment decision-making. Most investors would surely demand to know what managers are doing about the company’s biggest risk. “Investors would not expect professional managers to shrug their shoulders and say that such risks defy analysis and that managers cannot be expected to take account of political consideration” (ICAEW, 1999b, p41). Thus, disclosure may act to reduce shareholders interference by publishing additional information. In addition, it can be argued that by providing greater disclosure, companies attempt to reduce the cost of capital by reducing investors’ uncertainty.

Signalling theory may explain the motivation behind the risk disclosure as companies would gain the benefits from making additional risk disclosure. In the current complex business environment, companies may choose to disclose additional information to send signals to the market that additional requirements are not needed. If signalling theory is applicable in this case, then it is expected that companies have already disclosed additional information about risk that go beyond current requirements (Linsley and Shrivs, 2000). By disclosing information about risk and its management, companies can convey significant messages about their performance. Disclosure will put companies in direct contact with the capital market, and hence companies could achieve the best price for their shares. This will be reflected in the stock price and funding cost of the firm. Since prior research suggests a negative association between disclosure and the cost of capital (e.g., Copeland and Gali, 1983; Glosten and Milgrom, 1985; Gray and Roberts, 1989; AICPA, 1994; ICAEW, 1997, 1999b; see also Botosan (1997) and Hail (2002) for evidence), risk disclosure, as a signal to the market, may reduce risk and cost of capital appeared in the capital market.

Political cost may also contribute to the explanation of risk disclosure; it could be argued that companies may wish to disclose extra risk-related information in addition to statutory disclosure in order to signal that the feared regulation is not needed. Rather, they disclose the information to stave off perceived threats of more burdensome regulation.

Stakeholder theory may also offer some insights into the reasons for annual report risk disclosure. The attitudes of some of external stakeholders can exert an important pressure in views about risk (Hellier et al., 2001). Companies disclose risk information in order to meet the demand of shareholders. Research has also shown that disclosure provides a way of controlling and minimizing conflict of interest among stakeholders (Chow and Wong-Boren, 1987).

In addition to the disclosure theories discussed above, there are also other theories including legitimacy theory (e.g., Patten, 1992; Deegan and Gordon, 1996; Deegan and Rankin, 1996; Guthrie and Parker, 1989) and media agency setting theory (Brown and Deegan, 1998; Ader, 1995). Regulation also affects the amount and quality of disclosure (e.g., Fields et al., 2001; Healy and Palepu, 2001).

Legitimacy theory has come to stress how companies will react to community expectations (e.g., Tilt, 1994; Patten, 1992). Companies may offer to disclose more information to legitimise their past behaviour.

Media Agency Setting theory argues that an increase in media attention to an issue will increase the community concern so that the media provide to shape rather than reflect public priorities.

Regulation can also play as a mechanism to increase disclosure. There is a need for regulation in the imperfect and incomplete market. In the perfect and complete market there is no need for accounting regulation. Disclosure rules deal with information gaps in the market to ensure that investors can make informed decisions founded on quality information, and that market participants are able to access up-to-date information relating to current and potential investments (O'Shea et al., 2008). Disclosure regulations improve the efficiency of market (Healy and Palepu, 2001) and influence, although arguably, the credibility of financial disclosure and, hence, public confidence in the capital market increases. However, although regulations are efficient in increasing the level of disclosure, the evidence found no impact in the quality of information (see Konishi and Ali, 2007; O'Shea et al., 2008; Rajgopal, 1999).

Thus, although some theories may explain the phenomenon of risk disclosure, the reasons for information disclosure are nevertheless a complex issue.

3.4 Corporate Disclosure: Benefits and Costs

In spite of increasing regulations (created by company law, accounting standards, and stock exchange requirements) that require companies to disclose information, the current rules are ambiguous and depend on managers' willingness to actively disclose the right information. Companies may choose to disclose information exceeding the level mandated by regulation or in advance of compliance date (i.e., voluntarily). The above section discussed a number of theories offered in the literature to explain disclosure phenomenon.

Voluntary disclosure represents a range of free choice on the part of a company management to provide accounting and other information deemed important to users of corporate financial reports (Meek et al., 1995). The benefits and costs have been considered regularly by accounting setters, accounting regulators, accounting institutions (e.g., AICPA; ICAEW) and academics. Corporate disclosure literature provides theoretical and practical evidence on the potential benefits that disclosing firms can reap from revealing more information to the users in the market (e.g., O'Shea et al., 2008; Healy et al., 1999; Healy and Palepu, 2001; Botosan, 1997; Hail, 2002; Gray and Roberts, 1989). Although stock market considerations often dominate the disclosure decision, it is likely that companies will also disclose information for a variety of reasons. For example, it has been argued that voluntary disclosures reduce agency costs (e.g., Jensen and Meckling, 1976; Chow and Wong-Boren, 1987), lower information asymmetry among informed and non-informed market participants (e.g., Petersen and Plenborg, 2006; Leuz and Verrecchia, 2000; Healy et al., 1999; Diamond and Verrecchia, 1991), reduce a company's cost of capital (e.g., ICAEW, 1997, 1999b; Botosan, 1997; Hail, 2002) and improve the market price of securities (e.g., Gray and Roberts, 1989). In addition, disclosure may also be made with the aim to reassure public and government, hence reducing any potential political cost or altering their perceptions. Moreover, disclosure improves the company image and reputation, and facilitates investment

decisions by investors. While promoting corporate risk disclosure in the annual report, the ICAEW argues that “enhanced information about what companies do to assess and manage key business risks of all types will: provide practical forward looking information; reduce the cost of capital; encourage better risk management; help ensure the equal treatment of all investors; and improve accountability for stewardship, investor protection and the usefulness of financial reporting” (ICAEW, 1997, p 3).

However, the extent to which increased disclosures benefit companies (e.g., reduces information asymmetry or company’s cost of capital) depends on the degree of usefulness of this disclosure. Since managers have incentives to make self-serving voluntary disclosure, it is unclear whether additional disclosure is credible (Healy and Palepu, 2001). For example, although there is a common proposition that forecasts disclosures are exceptionally relevant and provide useful information for investors, the problems of credibility arising from the non-verifiable nature of forecasts cannot be ignored (Dobler, 2004).

While there are many potential benefits for disclosure, disclosure is not without costs. Revealing information to the public bring costs on companies. There are three types of costs associated with disclosure: non-proprietary costs, proprietary costs, and litigation costs. There is also the cost of possibility of intervention by government agencies, taxation authority and others.

Non-proprietary costs are the direct costs associated with creating and distributing timely and accurate information, and include the costs of collecting, preparing and processing, and auditing financial information.

The second type of disclosure cost is litigation costs. Some disclosure (e.g., some forward-looking information) may create litigation or invite regulatory intervention (Richardson, 2001; Field et al., 2003). Litigation might deter companies to provide certain types of disclosure, for example, directors

would withhold negative information (particularly those related to the future) when they feel this is necessary to avoid excessive legal costs or reputation concerns (Skinner, 1994). Therefore, it is unlikely that directors would release forward-looking information without safe-harbour protection and when disclosures are deemed too commercially sensitive (Linsley and Shrives, 2005; Armitage and Marston, 2007).

Proprietary costs are imposed when managers perceive that some information is private and may be regarded as potentially costly because it may assist a company's competitors (Verrecchia, 1983; Healy and Palepu, 2001). Thus, managers will probably withhold some information deliberately if the competitive pressures and proprietary costs associated with such disclosure are significant. Proprietary information costs arise from the negative outcome of proprietary information disclosure. Proprietary costs (usually referred to as 'competitive disadvantage costs' because it cannot be observed directly (Foster, 1986)) arise when competitors observe the information available in the market and use it to detriment the disclosing company. Disclosure of favourable information (e.g., forward-looking information including those related to risks and uncertainties) could encourage competitors to enter the market while disclosing other information could be used by current competitors to increase their market share. Verrecchia (1983, 1990) suggests that traders tend to act less negatively in response to undisclosed information within a more competitive industry because they are aware of higher associated proprietary costs. The Jenkins committee (AICPA, 1994, p 41) referred to the competitive disadvantage notion of proprietary costs as "disclosure that would weaken a company's ability to generate future cash flows by aiding its competition is not in the interests of the company". The committee identified the competitive disadvantage arising from additional disclosure as an important constraint on expanding the scope of financial reports. The committee stated that "disclosing competitively sensitive information is a major concern for companies; for many, it is the single largest concern about the Committee's

recommendations. Companies are concerned that competitors would gain new insight from business reporting under the Committee's model and use that insight to a company's competitive disadvantage. To a lesser extent, companies are concerned that suppliers and customers also would gain new insights from improved reporting, thereby enhancing their relative bargaining position in price negotiations" (AICPA, 1994, chapter 5). Similarly, directors of UK companies have also expressed their concerns on this issue as presented in the ICAEW discussion reports (ICAEW, 1997, 1999b). The institute, while encouraging companies' directors to improve their disclosure on risks and uncertainties, has acknowledged the concerns expressed by directors. Companies' directors are concerned that such disclosure on risks and how they are managed may place them at a competitive disadvantage against companies based in countries with less stringent disclosure requirements (ICAEW, 1999b).

Thus, the indirect cost (i.e., litigation costs) and the cost of competitive disadvantage are the two primary costs and concerns for businesses' managers when considering information disclosure. Managers will have a high concern of indirect costs when they consider the decision of disclosing private information or commercially sensitive information.

The Jenkins committee agreed that management should not be required to report information that would harm a company's competitive position significantly. Thus, a firm has to trade off the positive and negative effects of voluntary disclosure. Costs and benefits decisions must be made. However, the restriction limiting disclosure of competitively sensitive information should not be used as a reason to avoid producing meaningful disclosure (AICPA, 1994). Business reporting must be enhanced to make it relevant. The market should be kept well informed. The ICAEW are aware that commercial sensitivity should not be a major objective barrier to enhance risk disclosure. Directors need to be satisfied that disclosure would adversely impact shareholder value before they claim a commercial sensitivity exemption (ICAEW, 1999b). Difficult cost-benefit decisions

should be made when a company concludes that the risk of competitive harm outweighs the expected benefit from making voluntary disclosure (FASB, 2001).

3.5 Companies' Characteristics and Disclosure Level

Prior research suggests that several firm-specific attributes (factors) (including financial factors, non-financial factors, and social responsibility factors) may determine a firm's disclosure policy. Previous studies have tried to model the voluntary disclosure decision by relating disclosure to these various factors. These factors include size of firm, leverage, ownership structure, the need for capital, size of auditing firm, listing status, type of industry and others. Some relations are, however, weak. The most important and commonly used factors include firm size, leverage, industry type and foreign listing. In this research, these four factors are investigated.

3.5.1 Firm Size

Size is an important determinant of disclosure level and has been used in many disclosure studies (e.g., Singhvi and Desai, 1971; Firth, 1979; Chow and Wong-Boren, 1987; Hossain et al., 1994; Meek et al., 1995; Raffournier, 1995; Botosan, 1997; Abd-Elsalam and Weetman, 2003; Depoers, 2000; Abraham and Cox, 2007; Ratanajongkol et al., 2006; Aljifri and Hussainey, 2007; Aljifri, 2008) that tested the association between disclosure and company size. Although most previous studies support a positive relationship, there is an unclear theoretical basis for such a relationship. The direction of association may be either positive or negative. Some previous studies found a negative association between size and the level of corporate disclosure (e.g., Aljifri, 2008; Aljifri and Hussainey, 2007; Kou and Hussain, 2007; Deloitte, 2006; Mak, 1996; Gray et al., 1995a; Roberts, 1992; Davey, 1982; Ng, 1985; Stanga, 1976). These studies, therefore, did not support a positive relationship between size and disclosure.

Size is supported by agency theory and capital need theory. Disclosure costs, such as the cost of accumulation and dissemination of information, are higher for smaller firms (Lang and Lundholm, 1993). Smaller firms may not possess the required resources for gathering and presenting the extensive array of information (Buzby, 1975). However, this argument may not hold true in all cases especially when considering the fast growth in information technology systems. The proportion of outside capital tends to be higher for larger companies and agency theory suggests agency costs (monitoring costs) increase with the amount of outside capital (Jensen and Meckling, 1976). Thus, larger firms may have greater incentives to disclose more information in order to reduce agency cost (Firth, 1979; Chow and Wong-Boren, 1987), and hence reduce information asymmetries between managers and shareholders (Firth, 1979; Chow and Wong-Boren, 1987; Inchausti, 1997) and create a strong demand for their securities (Buzby, 1975). The demand for information by analysts could be greater on larger firms (Firth, 1979; Schipper, 1991; Hossain et al., 1994).

Larger listed firms have stronger incentives to disclose more information to improve their corporate reputation and public image since non-disclosure may be interpreted as bad news that could affect firm value (McKinnon and Dalimunthe, 1993; Schipper, 1991; Barry and Brown, 1986).

Size is also a reflection of political cost theory because larger companies attract the interest of public and governmental bodies. Disclosure could be a mechanism by which to alleviate public criticism or governmental intervention (Firth, 1979; Chow and Wong-Boren, 1987; Raffournier, 1995). The discussion so far suggests the following hypothesis:

H2a: The level of risk disclosure is positively related to company size.

3.5.2 Industry Variable

Industry can also be an important factor in explaining corporate disclosure (Beretta and Bozzolan, 2004). The very industry a company operates in may have the potential to influence the amount and nature of information disclosed. The influence of industry has been proposed by political cost and signalling theory (e.g., Inchausti, 1997). Companies in sensitive industries will attract the attention of public and governmental bodies concerns (e.g., Adams et al., 1998). Disclosure will, therefore, play a key role in ensuring public concerns are answered. From signalling theory perspective, if a firm within an industry does not keep up with the others, this may be interpreted as a bad market signal, which may indicate that the firm is hiding bad news (Craven and Marston, 1999). Beretta and Bozzolan (2004) suggest that company risk profile is deeply influenced by the technological and market constraints exerted by the competitive industrial environment on the business models. Although many studies support a positive association between industry and disclosure (Abraham and Cox, 2006; Roberts, 1992; Paten, 1991; Cooke, 1989), some studies do not find an association between the two variables (e.g., Aljifri and Hussainey, 2007; Inchausti, 1997; McNally et al., 1982; Wallace et al., 1994). Based on the above argument, the following hypothesis is stated:

H2b: Companies in certain industries (more industrial) are disclosing more risk information than others.

3.5.3 US Dual Listing Factor

Listing factors have been proposed by many studies in accounting disclosure as an important factor in explaining disclosure practices. It is a major determinant of disclosure. Evidence (e.g., Ball, 1995; Nobes, 1998) show that 'equity' financed countries have a rich disclosure environment compared to 'debt' financed countries. Ball et al. (2000) argued that equity-financed countries (e.g., common law countries) have more extensive accounting standards and better financial disclosure than debt financed countries (e.g.

code law countries). Listing in foreign stock exchanges gives firms an opportunity to raise capital (perhaps at a lower cost) in the foreign capital markets. Larger firms will be motivated to provide more disclosure to create demand for their securities (Buzby, 1975). Another reason that has been put forward for additional disclosure is that the foreign stock markets may require extra disclosure. For example, companies listed in the US had to follow US reporting rules (e.g., SEC regulations that require additional risk disclosure); the annual reports prepared under the UK rules are not the same ones for US listing. This suggests the following hypothesis:

H2c: Firms with a US-dual listing disclose more information than firms without a US-dual listing.

3.5.4 Leverage

It has been proposed that the capital structure of a firm is related to agency cost (Jensen and Meckling, 1976). Agency costs (e.g., incurred by monitoring costs) are higher in highly leveraged firms (i.e., more debt in the capital structures) because a large proportion of debt allows greater potential wealth transfers from debtholders to shareholders (Jensen and Meckling, 1976). Thus, agency theory predicts that corporate disclosure is expected to increase with leverage. Also, highly geared firms have a wider obligation to satisfy the needs of their long-term creditors for information compared to lower geared firms. However, the empirical evidence on this hypothesis is contradictory and produced inconsistent results. For example, Konishi and Ali (2007), Abraham et al. (2007), Oliveira et al. (2006), Haniffa and Cooke (2005), Linsley and Shrivies (2005), Wallace and Naser (1995), Inchausti (1997), Craswell and Taylor (1992), Chow and Wong-Boren (1987), Ahmad and Nicholls (1994), Hossain et al. (1994), Meek et al. (1995), and Raffournier (1995) found no significant relationship with disclosure, whilst others (e.g., Malone et al., 1993; Huafang and Jianguo, 2006; Naser et al., 2002; Hossain et al., 1994; Bradbury, 1992) found a positive association.

Belkaoui and Kahl (1978) found a negative relationship. The above argument suggests the following hypothesis:

H2d: There is a positive relationship between risk disclosure level and leverage.

3.6 Disclosure Quality and the Cost of Capital: Review of Previous Research

The association between disclosure and the cost of equity capital is an important topic and a matter of considerable interest in today's economic environment (Hail, 2002) especially to the financial reporting community. Since economic theory and anecdotal evidence suggest a negative relationship between the two variables, the empirical evidence on this relationship is confronted with major methodological drawbacks – neither disclosure level nor cost of equity can be observed directly and has documented somewhat confronting results so far (Botosan, 1997; Hail, 2002; Leuz and Verrecchia, 2000). More importantly, prior research fails to directly estimate the cost of capital. The cost of capital is a very technical issue and its estimate for an investigation of the impact of disclosure on cost of equity capital has never been easy to measure. The testing requires long-term testing periods.

Prior theoretical research supporting a hypothesis of a negative association between disclosure level and the cost of equity has followed two distinct lines of research: stock market liquidity and an estimation risk perspective (Botosan, 1997). The first stream of research suggests that companies tend to increase disclosure to overcome the reluctance of potential investors for holding their shares, thereby enhancing stock market liquidity and reducing cost of equity capital either through reduced transaction costs or increased demand for a firm's securities (Botosan, 1997). This stream of research includes Copeland and Galai (1983), Glosten and Milgrom (1985), Amihud and Mendelson (1986), Diamond and Verrecchia (1991), and Bloomfield and

Wilks (2000). For example, Diamond and Verrecchia (1991) construct a model in which they show that revealing information can increase demand for securities by investors, thereby improving liquidity and reducing information asymmetry, hence reducing the cost of equity capital. Bloomfield and Wilks (2000) also show that greater disclosure attracts increase demand for shares at a higher price from investors, thereby implicitly reducing the cost of capital and increasing liquidity. Amihud and Mendelson (1986) argue that the cost of equity is higher for securities with larger bid-ask spreads because investors require compensations for additional transaction costs.

The second stream of research suggests that firm enhancing disclosure is an attempt to reduce the cost of equity capital by reducing non-diversifiable estimation risk (Botosan, 1997). This second stream of research is represented by Klein and Bawa (1976), Barry and Brown (1985), and Clarkson et al. (1996). Handa and Linn (1993) in their Arbitrage Pricing Theory model show A Bayesian investor attributes more systematic risk to an asset with poor information disclosure than to an asset with high information, resulting in lower demands and prices than under complete information. Klein and Bawa (1976) prove that estimation risk has an effect on the optimal portfolio choice. Barry and Brown (1985) suggest that higher information about a security could lower estimation risk.

It is difficult, therefore, for the research to pinpoint the precise impact of disclosure on the cost of capital (Hail, 2002). This is why prior research has adopted an indirect approach when examining the relationship between the impact of disclosure and variables that are expected to be related to the cost of capital but not on the cost of equity capital itself. For example, Welker (1995) examines the association between the information asymmetry (using bid-ask spreads as the observable measure of market liquidity to identify the perceived level of information asymmetry) and the average disclosure score for an eight-year period. He finds that a useful disclosure policy reduces

information asymmetry, and, consequently, increases liquidity in equity markets. Lang and Lundholm (1996) provide evidence that the potential benefits of increased disclosure include reduced estimation risk and reduced information asymmetry. Selva (1995) documents a strong association between financial analysts' perceptions of risk and a company's price/earning ratio. Healy et al. (1999) find that greater analysts' disclosure ratings are negatively related to information asymmetry, as measured by the bid-ask spreads. For a sample of German firms, Leuz and Verrecchia (2000) examine the association between disclosure policy of firms that adopt either IAS or US GAAP in contrast to firms that employ German domestic standards and cost of capital (using proxies of bid-ask spread, trading volume, and share price volatility). The mixed US evidence found in a rich disclosure environment such as US has motivated the authors to examine German environment. They found, as hypothesised, that firms with an international reporting strategy enjoy a lower bid-ask spread and a higher share turnover. However, contrary to expectations, German firms with an international reporting strategy have a higher share price volatility. Schrand and Verrecchia (2004) find that disclosure is negatively associated with proxies for a firm's information asymmetry, including the bid-ask spread, subsequent to the IPO. Petersen and Plenborg (2006) examine the impact of voluntary disclosure on information asymmetry. The sample includes 36 industrial firms and is limited to one industry and covers the span of a three-year period between 1997 and 2000. The findings show that voluntary disclosure is negatively associated with both proxies for information asymmetry (e.g., bid-ask spread and share turnover).

However, Botosan's (1997) was probably the first attempt to establish a direct empirical connection between disclosure level measured by her own index (self-constructed index) and cost of equity capital based on accounting-based equity valuation technique. For her sample, which comprises 122 US manufacturing firms, she finds that the disclosure level is negatively and significantly related to the cost of equity capital. However,

her results hold only for firms with low analysts' following, whereas for firms with high analysts following she finds no such relationship.

Botosan and Blumlee (2002) extend Botosan's (1997) research by investigating further the relationship between the expected cost of equity capital and three different types of disclosure provided by AIMR (annual report, quarterly and other published reports, and investors relation disclosure) for a larger sample over several years, and representing 43 different industries. They employed four alternative methods to measure the cost of equity capital. However, the results of the study are mixed. They find that greater annual report disclosure is associated with a lower cost of equity capital after controlling for firm size and market beta. Contrary to expectation, they find a positive relationship between the level of more timely disclosure in other publications such as quarterly report and the cost of equity capital. They explain these surprising results with the opinion of managers' claiming that more timely disclosure could attract transient investors who trade aggressively on short-term earnings, therefore increasing stock price volatility and consequently causing an increase in the cost of capital. Finally, they find no association between the cost of equity capital and the level of investors' relations activities. They conclude that the relationship between disclosure and the cost of equity depends on the type of disclosure.

Richardson and Welker (2001) study the relationship between financial and social disclosure and the cost of equity capital for a sample of Canadian firms. They find a negative relationship between financial disclosure and the cost of equity capital for firms with low analysts following, which is similar to Botosan's (1997) findings. Contrary to expectation, they find a significant positive relationship between social disclosures and the cost of equity capital. They speculate that this conflicting result may be due to the poor economic conditions that characterize their sample period.

Hail (2002) examines the relationship between disclosure level (using an disclosure index developed by the Swiss Banking Institute) and the cost of equity capital (estimated by residual income model) in a lower disclosure environment compared for example to US and UK disclosure environments. The studies use a cross-sectional sample which comprises 73 non-financial Swiss companies. The findings show a negative and significant association between the cost of equity capital and annual report disclosure after controlling for firm size and market beta.

Kothari and Short (2003) examine the impact of disclosure made by different sources (corporate management, analyst and business press) on the cost of equity capital estimated with the Fama and French three-factor model (an ex post proxy for the cost of equity capital). They use a very large content database of disclosure contents published in print medium and apply content analysis. In addition to segregating the sources of disclosure, the authors separate favourable and unfavourable disclosure. Overall, they find evidence that favourable disclosure reduces the cost of equity while unfavourable disclosure increases the cost of equity capital. The impact varies depending on who is making the disclosure. They find that positive news made by corporate management and business press do not materially affect cost of capital while negative news does. In contrast, they find that disclosure of both negative and positive news made by analysts does not have any significant impact on the cost of equity capital. The research suggests that analysts suffer from lack of objectivity and have a credibility problem or their responses to market changes are not on time (after market changes have taken place).

Chen et al. (2003) studies the effects of disclosure level and other corporate governance mechanisms on the cost of equity capital in a relatively lower disclosure environment compared to the US. They find that the disclosure score provided by Credit Lyonnais Securities Asia (CLSA) significantly reduces the cost of equity while the score provided by Standard and Poor's

does not. They find the scores on the non-disclosure corporate governance mechanisms (provided by CLSA) have a more pronounced effect in reducing the cost of equity capital. Finally, country-level investor protection also impacts the cost of equity negatively.

Gietzman and Ireland (2005) find a negative association between timely disclosure and the cost of equity capital. The study results contradict the findings of Botosan and Blumlee (2002).

Armitage and Marston (2007) examine the views of senior executives (primarily finance directors) on the cost and benefits of corporate communications, with the aim of ascertaining their views about the link between disclosure level and the cost of equity capital. Based on semi-structured confidential interviews, the main findings indicate that directors do not believe there is a clear link between disclosure and the cost of equity, perhaps because their companies already provide at least a good practice level of disclosure.

A summary of academic articles on the relationship between disclosure level and the cost of equity capital is presented in Table 3.1.

Author	Focus & Objectives & Sample	Findings
Welker (1995)	To examine the impact of disclosure on the information asymmetry. A sample consisting of 427 firms in 28 industries was selected. 1639 firm-year observations were analysed.	Finds that a useful disclosure policy reduces information asymmetry, and, consequently, increases liquidity in equity markets (the coefficient on disclosure is negative (-2.024) and significant at a 1% level).
Botosan (1997)	To investigate the relationship between self-constructed disclosure score and the cost of equity capital. A sample of 122 firms from the machinery industry in 1990 was selected.	Finds a significant negative association between the cost of equity and disclosure level for firms with a low analyst following. However, such a relationship was not found for firms with a high analyst following.
Healy et al. (1999)	To examine the stock performance and intermediation reaction to sustained increase in disclosure. The sample covers 97 firms in 23 industries.	Find that greater disclosure is positively related to higher stock returns, high institutional share ownership and high analyst coverage. Find that disclosure is negatively (marginally significant) related to information asymmetry as measured by the bid-ask spread.

Botosan & Blumlee (2002)	To extend the study of Botosan (1997) by including a larger sample over several years. The sample includes 3618 firm-year observations from 1985 to 1996.	The results are mixed. Annual report disclosure reduces the cost of equity. However, more timely disclosure (such as disclosure made in quarterly reports) increases the cost of equity capital. No association was found between the level of investor relations activities and the cost of equity capital.
Leuz & Verrecchia (2000)	To examine whether German firms can reduce their cost of equity by switching to IAS or US GAAP. The sample comprises 102 firms in the DAX 100 index during 1998.	Find that firms with an international reporting strategy enjoy a reduction in bid-ask spread and an increase in share turnover. However, German firms with an international reporting strategy have a higher share return volatility, which is contrary to expectations,
Richardson & Welker (2001)	To examine the relationship between financial and social disclosures and the cost of equity capital. A sample of Canadian firms was examined.	Financial disclosure is significantly and negatively related to the cost of capital. However, environmental disclosure is positively and significantly related to the cost of equity, which is contrary to expectation.
Hail (2002)	To examine the relationship between disclosure quality and the cost of equity capital. The sample includes 73 non-financial Swiss firms.	Finds a strong negative and significant relationship between disclosure quality and the cost of equity capital. He concludes that the lower overall disclosure level in Switzerland compared to US may provide an explanation for such a strong relationship.
Kothari & Short (2003)	To examine the impact of disclosure made by corporate management, analysts and print medium on the cost of equity capital. 887 firms from 1996-2001 from four sectors.	The findings, overall, show that favourable (unfavourable) disclosure reduces (increase) the cost of equity capital. Specifically, negative news made by corporate and print medium reduces the cost of equity while positive news does not. The results show that the impact of disclosure made by analysts was less significant suggesting that analysts have a credibility problem.
Chen et al. (2003)	To examine the effects of disclosure level and other corporate governance mechanisms on the cost of equity capital.	Greater disclosure is associated with a reduction in a company's cost of equity capital.
Petersen & Plenborg (2006)	To examine the impact of voluntary disclosure on information asymmetry measured by bid-ask spread and share turnover in the context of Denmark. This study includes 36 industrial firms from one industry during 1997-2000.	The results indicate that the disclosure index is negatively associated with the bid-ask spread and the turnover ratio, both proxies for the information asymmetry.
Froidevaux (2004)	To examine the disclosure level of information in the investor relation section of corporate websites and its effect on the company cost of equity.	The findings show, for a cross-sectional sample of 141 US non-financial firms, a negative and significant association between the level of internet investor relation disclosure and the cost of equity capital.
Armitage & Marston (2007)	To examine the views of finance directors on the cost and benefits of corporate communications, with the aim of ascertaining their views about the link between disclosure level and the cost of equity capital.	The main finding indicates that finance directors do not support a negative relationship between disclosure level and the company cost of equity capital, perhaps because their companies already provide at least a good practice level of disclosure.
O'Shea et al. (2008)	To examine the effect of firm specific disclosure on stock price	The results indicate that the amount of disclosure has significant influences on stock volatility and that these are relatively greater for

	volatility of 340 metal and mining industry entities listed on the Australian stock exchange over the period 2005-2007.	small and mid-sized firms than large firms.
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Table 3.1: Review of Academic Articles on the Relation between Disclosure Quality and the Cost of Equity Capital.

Based on discussion so far, it is acknowledged that the anecdotal evidence, economic theory, and empirical research suggest that a greater disclosure level should improve investors' capabilities in forecasting the company's future developments and thereby reduce the estimation risk and an information asymmetry component of a firm cost of capital. While the relationship between financial and environmental disclosure and the cost of capital has been examined in prior literature, evidence on the direction of the relationship between the variables is mixed. The conflicting results may be due to the fact that the research studies dealt with differing experimental units – in terms of countries selected, sample selection, time and year of study, and different measures for variables including disclosure quality and cost of equity variables.

The focus of this research is to examine specific types of disclosure (i.e., information on risks and uncertainties). Evidence on the link between risk disclosure and the cost of equity capital is quite limited if non-existent. It is suspected that risk disclosure can play a similar role to other types of information disclosure examined in the previous literature, and reduces the cost of equity capital by reducing transaction costs and/or reducing estimation error. If information about risk is relevant to and useful in assessing the firm's prospects, then enhanced disclosure of risk has the same effect, and then improving risk disclosure will have the same effect as improved disclosure of other types of information. This leads to the following hypothesis:

H3: There is a negative association between risk disclosure and the company's cost of equity capital.

3.7 Summary and Conclusion

In closing, this chapter provides a comprehensive review of the literature. Examination of the relevant literature provides background and understanding into the dynamics of the present study. The present chapter has covered different areas including the nature and type of disclosure, the incentives for making information disclosure, disclosure costs and benefits, firm-characteristics affecting the level of information disclosed, and the impact of disclosure on the company's cost of equity capital.

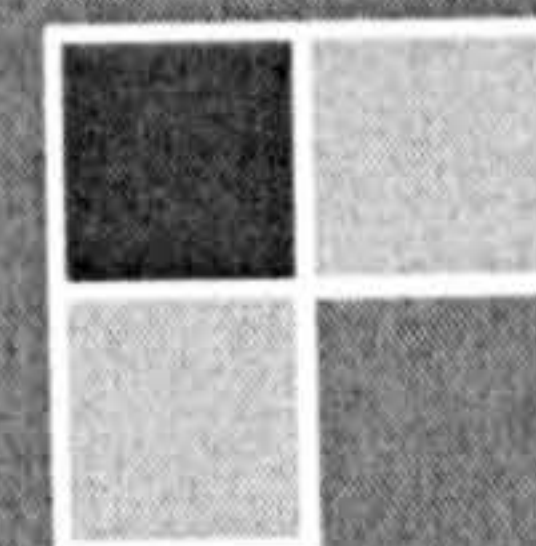
Disclosure theories which have been developed in the literature to explain disclosure practices were discussed in the present chapter. These theories include agency theory, political cost theory, signalling theory, capital need theory, benefit cost, and other theories. These theories in some senses emphasise different standpoints and assumptions of the phenomena to be explained and to this extent are not mutually exclusive (Morris, 1987). The theories are blurred in the sense that all of them seem logical and acceptable and none could be articulated to explain the research phenomena sufficiently. The theories overlap and there are no clear boundaries between them. To date, researchers tend to select whichever theory articulates best with their hypothesis. The relevance of these theories to risk disclosure and the cost of equity has been discussed throughout the present chapter.

The present chapter examines various aspects of disclosure practice, such as its association with firm-specific characteristics. The underlying firm factors (e.g., size, leverage, industry, and listing) that may determine risk disclosure level were discussed and hypotheses were developed.

The relevant previous studies that examined the relationship between disclosure and the cost of equity capital have been discussed and presented in the present chapter. The literature provides mixed results. It was noted that previous research that examines the relationship between disclosure and the cost of equity capital suffers from the well-known limitation of the

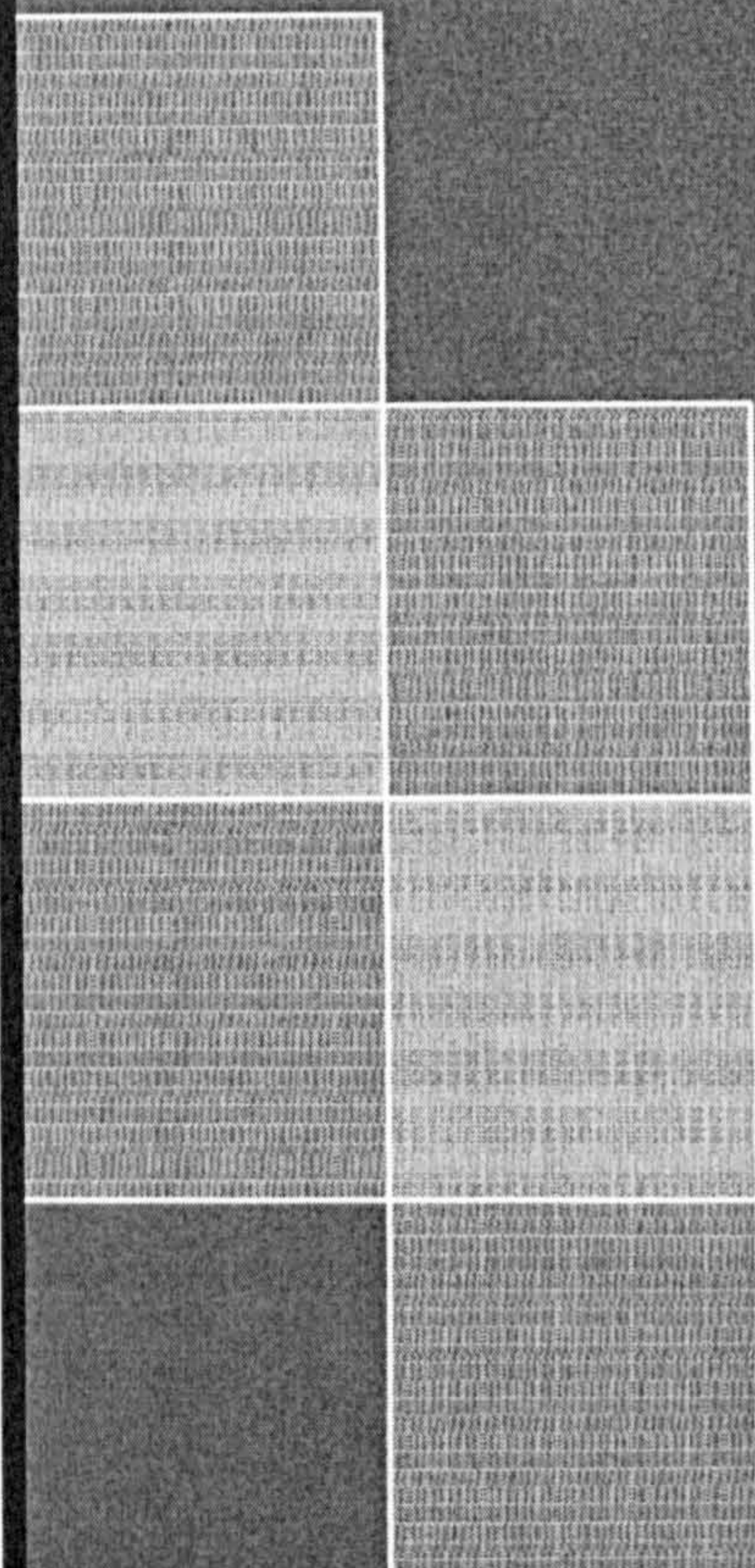
validity of disclosure measure, and cost of equity capital measure. The testing requires long-term testing periods.

To achieve the research objectives (which have been presented in the first chapter), the next chapter will be devoted to explaining the research methods employed to conduct such a study.



Chapter 4

Research Methods & Sample Selection



4.1 Introduction

The previous chapters explored the corpus of literature related to corporate risk disclosure. The literature review shows that pressure from a variety of sources has come to bear on companies to report openly on the risks and uncertainties that they face, hence, increasing their financial reporting transparency. The present research is a contribution to the burgeoning literature that attempts to investigate corporate risk disclosure practices in companies' annual reports. Specifically, the research has three main objectives (see Chapter 1). Firstly, to investigate corporate risk disclosure practices in three different time periods (1998, 2001 and 2004) to determine whether differences exist in the extent and variety of risk disclosure among companies. The second objective is to explain variation in risk disclosure, more specifically, to empirically explore the underlying factors that may affect the extent to which risk information is disclosed. Finally, the research examines the extent to which risk disclosure in the company's annual report is associated with a reduction in the company's cost of equity capital. The research sample is extracted from the UK FTSE-100 index and covers three different time periods (1998, 2001 and 2004) and encompasses different industry sectors.

In this chapter, the research methods used in the study and the sample selection procedures are discussed. The empirical models are stated. The measurement methods for the main research variables (i.e., risk disclosure level and the cost of equity capital) are explained alongside other explanatory variables. The remainder of this chapter is organised as follows: in section 4.2, a comparison is made between primary and secondary research. Next, the research questions and research hypotheses are briefly highlighted in section 4.3. This is followed by section 4.4 which presents the empirical models. The sample selection procedures which cover descriptions of the sample selection process, selection of the sample

period and justifications for the selection of the sampled firms and sample period are explained in section 4.5. The research assumption of using the annual report as a disclosure medium is explained in section 4.6. The methods for measuring risk disclosure level (e.g. using the content analysis approach) in the annual reports are discussed and explained in section 4.7. Section 4.8 is devoted to reviewing the measurement methods for the cost of equity capital. Descriptive statistics for the sample are displayed in section 4.9. Finally, the chapter concludes with section 4.10 which provides a summary and conclusion.

4.2 Primary and Secondary Research

Once the research objectives have been set out, the following stage is to decide whether to collect new information or whether existing data are suitable to answer the research questions. Thus, one of the two paths (or both paths) can be undertaken as it is appropriate to the research objectives of a given study, primary and secondary research. Secondary research involves collecting information and data which are already available with reference to the research objectives at hand. In contrast, primary research is the purposeful collection of new information and data as part of the research project to fulfil its objectives for which there is insufficient information within the secondary research.

In the present research, primary research was followed. The subject of this research is the affect of the content of company reports on stock market behaviour and this research directly employs the materials from company reports and stock market data from reliable sources. Companies' annual reports were sought, collected, and analysed to measure corporate risk disclosure. More specifically, unaudited narrative sections (mainly the chairman statement, CEO report, OFR, directors' report and corporate governance section were analysed). The analysis is confined to these sections because these sections are suitable and convenient medium for making voluntary disclosure (Oliveira et al., 2006).

4.3 Research Questions

Three main research questions have been presented in the first chapter of this thesis. These questions are investigated on the basis of three hypotheses developed in previous chapters. Hypothesis 1 was developed in Chapter 2 while both hypotheses 2 (covering the following sub-hypotheses 2a, 2b, 2c, and 2d) and 3 were developed in Chapter 3.

4.4 Empirical Models

The statistical analyses performed in the present research includes the use of multiple linear regression models to examine the relationship between annual report risk disclosure level and the influencing factors referred to in Chapter 3. Prior research suggests that several factors (e.g., financial factors, non-financial factors, and social responsibility factors) may determine a firm's disclosure policy. In the present research, four variables were selected for investigation. These include firm size, leverage, industry type, and US-dual listing. These factors are the most commonly used independent variables in the accounting disclosure literature (Aljifri, 2008; Branco and Rodrigues, 2008; Aljifri and Hussainey, 2007; Linsley and Shrivess, 2006; Huafang and Jianguo, 2007; Oliveira et al., 2006; Haniffa and Cooke, 2005; Raffournier, 1995; Hossain et al., 1994) and will be used here for testing with risk disclosure. The following model (1) will be tested:

$$\text{Risk Disclosure} = \beta_0 + \beta_1 \text{size} + \beta_2 \text{listing} + \beta_3 \text{leverage} + \beta_4 \text{industry} + \varepsilon$$

Next, this research tests the relationship between annual report risk disclosure and the company's cost of equity capital. Following previous research on disclosure and the cost of equity capital (e.g., Botosan and Blumlee, 2002; Hail, 2002; Froidevaux, 2004; Chen et al., 2003; Petersen and Plenborg, 2006; Botosan, 1997) the cost of equity capital (IRR) is regressed on market beta (Beta), firm size and the risk disclosure score

(risk disclosure). I control for firm size and beta in line with prior research. This leads to the following regression model 2:

$$\text{IRR} = \beta_0 + \beta_1 \text{Risk disclosure} + \beta_2 \text{Size} + \beta_3 \text{Beta} + \varepsilon$$

Content analysis is used to measure the firm's risk disclosure level (risk disclosure level is a dependent variable in model 1; and an independent variables in model 2) disclosed in the annual reports. Since companies communicate their information throughout different channels, the annual report may not provide a powerful proxy for overall disclosure level especially when analysts play a significant role in the communication process.

A company's cost of equity capital was directly measured using a four-stage dividend growth model. In addition, bid-ask spread, is used as proxy for information asymmetry (a component of the cost of capital) (e.g., Petersen and Plenborg, 2006; Leuz and Verrecchia, 2000). Stock volatility is also another proxy used (O'Shea et al, 2008; Leuz and Verrecchia, 2000).

In model (2), the control variables (e.g., size and beta) were selected based on previous literature (e.g., Petersen and Plenborg, 2006; Chen et al., 2003; Froidevaux, 2004; Botosan and Blumlee, 2002; Hail, 2002; Botosan, 1997). Beta and size were included in the analysis because prior research controlled for them when testing the relationship between disclosure level and the cost of equity capital. Total turnover at the year end (logged) has been calculated to proxy for company size and included in the model to control for the richness of the firm's information environment, whereas Beta is included in analysis to control for systematic risk because systemic risk is one of the major factors, which influences the cost of equity capital. Beta is the most accepted systematic risk measure used in the literature (Froidevaux, 2004) even though there is doubt about its validity as a measure of systematic risk (Fama and French, 1992; Gebhardt et al., 2001).

4.5 Sample Design

This study is based on a sample extracted from UK listed companies and drawn from FTSE-100 index. Taking into consideration research question number 1, the sample comprises the annual reports of 52 companies and covers three different time periods (1998, 2001, and 2004). Thus, in total 156 annual reports were sought, obtained and analysed.

The decision to choose this time span was taken for the following reasons. First, with recent accounting regulatory development and other pressures in mind (highlighted in Chapter 2), there would be a research interest to assess whether these developments have influenced risk reporting. More importantly, the publication of Turnbull report in 1999 is considered to be a significant event that would have an influence on companies risk disclosure practices. At the late 20th and early 21st century, there has been an episode of significant stock market decline and volatility which caused a high risky business environment. Companies have been urged to place greater attention on risk reporting, and the topic 'risk reporting' has attracted the interest of regulators, accounting institutions, academics and other interested parties. Therefore, examining disclosure trends would be interesting so as to demonstrate ebbs and flows in interest at a time when discussion of this topic is still emerging. Thus, investigating corporate risk disclosure practices in UK annual reports over a six-year period, with the other research objectives in mind, makes a contribution to the literature. Finally, the years are recent enough to ensure reasonable access to firm corporate reports yet still ensure other post-sample data would be available.

Three years intervals were selected because firms' disclosure is unlikely to change rapidly from one year to another (Ratanajongkol et al., 2006; Botosan, 1997). This would also allow for more companies to be examined in each period than a lesser number of companies over the full six-year

period. In addition, the time span of six years would give greater time coverage for the analysis, hence allowing more in-depth examination of trends. It is likely that the changes in disclosure over the six-year period would reveal interesting insights.

Large companies are chosen because the theory suggests that they are more likely to disclose information. The largest companies have also a significant impact in the economy. The choice is also consistent with previous literature (e.g., Abraham and Cox, 2007; Linsley and Shrives, 2006; Hall, 2002; Dunne et al., 2007). However, the sample choice may suggest a positive bias in disclosure level since disclosure is size-specific. Disclosure costs are decreasing in large firms and the information environment is assumed to be richer for large firms attracting high analyst followings and high media coverage (Hail, 2002). A positive association between disclosure level and firm size has been observed in prior literature (e.g., Oliveira et al., 2006; Botosan, 1997; Hail, 2002; Meek et al., 1995; Raffournier, 1995). Disclosure is also industry-specific (e.g., Haniffa and Cooke, 2005; AIMR, 1997). Manufacturing companies disclose more information than non-manufacturing firms (e.g., Cooke, 1992; Raffournier, 1995). However, as long as cross-sectional variation in the disclosure remains, the empirical analysis should not suffer from the deficit. The sample covers different industries, so this will reduce the negative effect of the size on the sample choice. Different industries are likely to display different pattern of disclosure, therefore this would allow for comparison between industries (Botosan, 1997).

A UK-based sample was chosen because this would reflect the extensive accounting development, and specially the work promulgated by the ICAEW on risk management and disclosure. There are also advantages of searching companies in a developed, active, and well regulated stock market.

In view of the fact that many initiatives for encouraging risk disclosure have taken place in different countries, the selection of the sample from the FTSE-100 index will ensure that the sample encompasses companies with multiple listings, and that all companies are subject to approximately equivalent levels of disclosure pressures arising from various regulatory and capital market regimes.

Several data sources have been explored to obtain the FTSE-100 index list. Examples of sources include the Stock Exchange Year Book, Financial Times, Yahoo website, Guardian, etc. The FTSE-100 index selection was based on Yahoo finance website because it represented the most recent list at the time of selection.

The collection of the sample reports proceeded as follows. Out of 100 firms, 23 financial firms were excluded from the sample primarily because of the different regulatory requirements that apply and because their businesses differ heavily from other industries. This is in line with previous research (e.g., Haniffa and Cooke, 2005; Linsley and Shrivess, 2005, 2006; Dunne et al., 2007; Konishi and Ali, 2007). Following the date (post the fiscal year of 2004) at which the FTSE-100 list was obtained, some companies were found to be formed as a result of mergers during the past years (i.e., companies were not in existence either in 2001 or 1998), others were merged together (e.g., Boots and Alliance Unichem), or taken over by other companies (e.g., Exel) at a later date, and some other were demerged (e.g., GUS). Some companies could not provide copies of earlier reports (i.e., for the year 1998 or 2001) since they came to exist at a later date. Taking all of the abovementioned reasons together, an additional 25 companies were dropped from the sample. The sample selection yields a final sample of 52 non-financial firms. The sampled companies are summarised in Table 4.1 and listed in Appendix 1. In detail, 156 annual reports (related to 1998, 2001, and 2004) prepared by 52 non-financial firms were sought and collected. Each company website was

checked first, and if annual reports were not available, a request was sent to each company requesting copies of their annual reports.

	Number of Observant
Total firms at the beginning	100
Financial firms dropped	23
Other firm excluded (merger, demerger, take over, access denied)	25
Total firms researched	52

Table 4.1: Companies included in the Sample

The sample is not restricted to companies from one industry although some companies were excluded. Companies span a wide range of businesses. The 52 companies were broken-down into eight industry categories, based on London Stock Exchange (LSE) classification: namely, resources (RE), basic industries (BI), general industries (GI), non-cyclical consumer goods (NCCG), cyclical services (CS), non-cyclical services (NCS), utilities, (UT), and information technology (IT). To make comparison easier, information technology is consolidated with CS because it has only one constituent company, Sage. Thus, this reduces industry categories to seven categories. Table 4.2 displays the sampled companies classified according to industry sectors.

Categories	Number of Observant
Resources (RE)	4
Basic Industries (BI)	5
General industries (GI)	2
Non-cyclical consumer goods (NCCG)	9
Cyclical services and information technology (CS&IT)	22
Non-cyclical service (NCS)	4
Utilities (UT)	6
Total	52

Table 4.2: The Companies Sample Classified by Industry Groups

4.6 Research Assumption: Annual Report as a Disclosure Medium

Organisations use a number of mediums to communicate to their stakeholders. The annual report is one medium. Other mediums include quarterly reports, press releases, conference calls, internet sites, and corporate news letters. The annual report has been the basis for the majority of previous accounting disclosure studies (e.g., Guthrie and Mathews, 1985; Chow and Wong-Boren, 1987; Guthrie and Parker, 1990; Patten, 1991; Lang and Lundholm, 1993; Hossain et al., 1994; Gray et al., 1995a; Hackston and Milne, 1996; Deegan and Gordon, 1996; Deegan and Rankin, 1996; Botosan, 1997; Depoers, 2000; Abu-Baker and Naser, 2000; Hail, 2002; Deegan et al., 2002; Unerman, 2003; Haniffa and Cooke, 2005; Oliveira et al., 2006; Linsley and Shrivess, 2006; Abraham and Cox, 2007; Dunne et al., 2007; Huafang and Jianguo, 2007; Aljifri and Hussainey, 2007; Branco and Rodrigues, 2008; Aljifri, 2008). In recent times, corporate reporting on the internet has gained importance (IASB, 1999) and has become an important medium of choice for companies and investors alike. Reporting on the internet has also received researchers' attention (Froideveaux, 2004; Ettredge et al., 2002; FASB, 2000, Williams and Pei, 1999) lately due to its recent rapid development. There also exist some studies that examined corporate disclosure in press releases (e.g., Ramaswami, 2001), interim reports (e.g., Mangena, 2004; Schadewitz, 1994), and conference calls disclosure (e.g., Frankel et al., 1999).

The present study focuses on the annual report because companies' managers regard it as a significant form containing focused information covering a view of a company's performance and operation to the public (Hines, 1988; Neimark, 1992). The company annual report has a substantial editorial input into it and is widely read (Deegan and Rankin, 1996). The annual report is considered the most comprehensive document available to the public and is therefore the main disclosure vehicle (Marston and Shrivess, 1991), is presented in an easy-to-read format, and is

automatically sent to all stakeholders (Adams et al., 1998). The annual report is deemed as an important source of information and is regarded as the most preferable source of certain information for a number of stakeholders (Tilt, 1994; Deegan and Rankin, 1997; RSA, 1998; Epstein and Palepu, 1999); and contains more desirable information for individual investors (Epstein and Freedman, 1994). The annual report is also one of the least costly, but most effective, means of communication for most companies (e.g., Holland and Foo, 2003). It possesses a degree of credibility not associated with any other forms of communication (Neu et al., 1998) and is, therefore, regarded by both preparers and users as an important medium of communication.

There are numerous other reasons for choosing the annual report as a medium of communication. Most proposals that required companies to enhance their risk reporting have recommended the annual report as the vehicle for improved risk disclosure (e.g., ICAEW, 1997, 1999b, 2002; ASB, 1993, 2003, 2006). For example, the ICAEW writes "...we remain committed to the idea that listed companies annual reports should contain information about risks in the broader sense, about actions to manage them and relevant measures" (ICAEW, 1999b, p. 3). In view of the fact that the annual report is a statutory report produced on a regular basis by all enterprises (Wilmshurst and Frost, 2000; Tilt, 1998), using it as a basis for analysis will make comparisons between the years relatively easy. It will also enable comparison to other studies that examined the same issue (Brown and Deegan, 1998; Guthrie and Parker, 1989). While the analysis excludes other communication avenues, it is assumed (e.g., Lang and Lundholm, 1993) that disclosure levels found in the annual reports are correlated positively with the amount of disclosure provided by other media. However, it should be noted that the focus on annual report alone may result in an incomplete picture of reporting. Nonetheless, the length of the sample period, from 1998-2004 could be a relevant point here.

The present study focuses on the analysis of risk disclosures made in the OFR, Chairman Statement, CEO Report, Directors' Report, and Corporate Governance Report. These are the parts in which companies are encouraged to enhance their reporting voluntarily. The contents of these parts are not required to conform totally to accounting conventions. The current rules indeed depend on the willingness of managers to actively disclose the right information. For example, although companies are required to give a description of the principal risks and uncertainties that they face in a 'Business Review' section identified as part of Directors' Report (Companies Act, 1985), the regulations provide no further guidance on preparing a statutory 'Business Review'. This lack of guidance allows company directors a large degree of freedom to discuss what is significant to their businesses and encourages them to follow modern best-practice communication. Company directors are also permitted to express their judgment when applying the requirements of corporate governance. The debate on the OFR reflects an important recognition for the need of narrative disclosure, even where this was not capable of audit verification. Many organisations (e.g., ICAEW, 1997, 1999b, 2002; CICA, 2002; IASB, 2005; and AICPA, 1994) around the world have issued recommendations encouraging companies to discuss and report risks and uncertainties in the sections outside the financial statements. For example, the UK recommendations encouraged the publication of an OFR where risks and uncertainties could be reported, while other countries (e.g., Germany, Italy, Canada, US) required companies to report risks in the management report (in the case of German companies) and in the 'Management Discussion and Analysis' (MD&A) report for other countries. Both the 'Management Report' and 'MD&A' are the counterparts of an 'OFR' in the UK.

There are also several reasons why the focus is on these sections. There is evidence (e.g., Eccles and Mavrinac, 1995; Bartlett and Chandler, 1997; ProShare, 1999) that these narrative sections are deemed to be very

important for investors when they make their own investment decisions. For example, Eccles and Mavrinac (1995) provide support that investors and analysts value non-financial information (reported in the narrative sections) and that they do not favour mandating disclosure. Other evidence includes Solomon et al. (2000). The needs for information by users was also recognised by accounting regulators and other organisations (e.g., AICPA, 1994; ICAEW, 1997, 1999b, 2002; DTI, 2001; ASB, 2002, 2003, 2006) to promote better disclosure by listed companies. Woods and Reber (2003) compare risk disclosure found in 'Management Report' of German companies' annual reports and in 'the OFR statement' of the UK companies' annual reports. Beretta and Bozolan (2004) focused on the MD&A report of Italian companies' annual reports.

4.7 Measuring Risk Disclosure Level

The level of annual report risk disclosure is one of the two main variables (the second main variable is the company's cost of equity capital) that needed to be measured in this research.

Empirical research chooses between two alternatives paths through which content analysis has been used to date, namely disclosure indices and frequency of risk items' occurrence. Previous studies (e.g., Branco and Rodrigues, 2008; Botosan, 1997; Kent and Ung, 2003; Botosan, 1997; Singhvi and Desai, 1971; Meek et al., 1995) have used disclosure indices to measure the extent and quality of information that is disclosed by firms. The construction of a disclosure index involves the selection of a number of information items. Once an index has been developed, the next step is to choose between different approaches available in the literature. A commonly used method is to score items in a disclosure index according to whether or not they are disclosed in a weighted or an un-weighted approach. The un-weighted approach (e.g., Cooke, 1989a, 1992; Rubin and Austin, 1992; Wallace and Naser, 1995; Hossain et al., 1994; Branco and

Rodrigues, 2008) uses a dichotomous procedure in which an item scores 1 if it is disclosed and 0 if it is not, while the weighted one (e.g., Singhvi and Desai, 1971; Buzby, 1975; Malone et al., 1993) applies a weighted disclosure index where qualitative items are rated according to their degree of importance. However, both approaches have limitations (Rubin and Austin, 1986; Chow and Wong-Boren, 1987; Marston and Shrikes, 1991). The un-weighted approach, for instance, assumes that every information item is equally important for all users of annual reports. However, information relevance is harder to define since potential users of annual reports may have extremely different interests. The weighted approach, on the other hand, entails subjective judgment in its construction which cannot be completely removed (Marston and Shrikes, 1991). An additional drawback occurs in replicating the analysis and/or making comparisons (Marston and Shrikes, 1991).

Instead of detecting the presence or absence of information items, the alternative approach taken in the present study is a multi-dimensional coding, to quantify the level of risk disclosure (the approach known as content analysis). This is justified in order to classify and analyse the different aspects of risk disclosure, and investigate its characteristics. This approach will also ensure that all relevant risk topics are checked and analysed, and that a valuable insight into the way the information is disclosed can be provided. It is also an appropriate approach for examining differences and analysing trends. This is what is not achieved by disclosure index.

The approach of content analysis has been widely used in accounting disclosure literature (e.g., Guthrie and Mathew, 1985; Zegal and Ahmad, 1990; Mathews, 1993; Adams et al., 1995; Neu et al., 1998; Milne and Alder, 1999; Hall, 2002; Woods and Reber, 2003; Campbell, 2004; Beretta and Bozolan, 2004; Lajili and Zegal, 2005; Linsley and Shrikes, 2005, 2006;

Abraham and Cox, 2007; Dunne et al., 2007; Deumes and Knechel, 2007; Papa, 2007; Deumes, 2008; Williams, 1999; Tsang, 1998).

Content analysis is an approach to the analysis of documents and texts (printed or visual) that seeks to identify content in terms of predetermined categories and in a systematic and replicable manner (Bryman and Bell, 2003). Probably a well-known definition is the one provided by Holsti (1969) as “a research technique for making inferences by objectively and systematically identifying specified characteristics of message”. Weber (1985, 1988) described it as a method of codifying and categorising the text (or content) of a piece of writing into various groups or categories depending on selected criteria. Content analysis code the texts (which is measured by word or sentences or any other units of measurement) against a particular schema of interest (Wolfe, 1991).

Having reviewed the above definitions, it is striking that the above definitions contain some qualities including objectivity and being systematic. Objectivity is attained when certain rules are clearly specified before assigning the content (text) to categories (or groups). This allows the procedures being followed to be transparent, hence reducing the analyst’s personal biases to as minimum level as possible. The quality of being systematic means that the application of the rules is undertaken in a consistent manner so that bias is repressed (Bryman and Bell, 2003). As a result of these two qualities, anyone else repeating the analysis would categorize the unit in the same way (i.e., reliability).

Content analysis involves different stages. An essential element is the selection and development of categories into which content units can be coded and classified. Beresford and Cowen (1979) indicate that the themes (categories) defined are a description of what has happened in the past years (and how), as well as a benchmark to evaluate the changes and progress in reporting. A review of mainstream literature was carried out

in order to draw up a list of these categories and items. Several empirical studies in the area were of great utility (e.g., ICAEW, 1997; ICAS, 1999; IFAC, 1999; CICA, 2002; IASB, 2005; Woods and Reber, 2003; Beretta and Bozzolan, 2004; Linsley and Shrives, 2005; Abraham and Cox, 2007; Lajili and Zegal, 2005; Papa, 2007; Deumes and Knechel, 2007; Deumes, 2008). In the mainstream literature, risk has been defined as “uncertain future events which could influence the achievement of the organisation’s strategic, operational and financial objectives” (IFAC, 1999). Uncertainty refers to either potential gain or potential loss as in the following definition “the uncertainty associated with both potential for gain or exposure to loss” (ASB, 1994). In other words, risk referred to the volatility of future expected earnings or cash flows which is dependent upon both diversifiable and non-diversifiable risk. Furthermore, the definition encompasses both negative and positive outcomes. Therefore, the potential opportunities disclosed will be taken into consideration when examining risk information (Lajili and Zegal, 2005; Linsley and Shrives, 2005; Papa, 2007). Having defined what is meant by risk, the next step is to recognise what causes different type of uncertainties. In other words, what are the different sources of risk? The report by ICAEW (1997) reproduced the Arthur Anderson risk disclosure model TM (presented in Chapter 2). In this model, a distinction is made between three main components (e.g., environment risk, information for decision-making, and process risk). Each component referred to general classes (for example, process risk refers to operational, financial, empowerment, information processing and integrity risk). Finally, within each class, there are a number of categories and items. Although the model was considered very complicated, it has been of great utility for previous studies (e.g., Woods and Reber, 2003; Linsley and Shrives, 2005, 2006). For example, Linsley and Shrives (2005, 2006) use a framework comprising 6 categories and 37 sub-categories. For the purpose of this thesis, a new classification was developed, dividing risk disclosures into the following three categories:

1. *Environmental risks;*
2. *Operational risks; and,*
3. *Strategic risks.*

These categories and its contents (items) (risk sources and types) were drawn from previous literature in the area. These categories and items were pilot tested on a random sample of twenty annual reports (the sample was part of the final sample) to ensure that they are relevant and those that are not relevant are omitted.

Environmental risk arises from factors essentially beyond the organisation's control and comprises disclosures relating to economic risk (e.g., interest rate, currency risk, price and commodity risk, inflation, taxation, credit risk), political risk, social risk, legal and regulation risk, climate and catastrophic risk, and industry sources (competition, suppliers, customers).

Operational risk is the probability of losses arising from the essential operation side of the firm. Some definitions are limited to the process (e.g., risk associated with the process and internal control) while others are broader. Operational risk covers such issues as internal control, business disruption, infrastructure risk; liquidity and cash flow, project failure, operational problems, employment practices and workplace safety; clients, product and business practices, damage to physical assets, risks arising from the impact of companies' operations on the natural environment, compliance and damage to reputation, and legal risk (arising from uncertainty due to legal actions or uncertainty in the applicability or interpretation of contract, laws and regulations - legal dispute is an example).

Strategic risks arise from operating in a particular industry and are associated with the company's future business plans and strategies. Strategic risk disclosures encompass disclosure related to research and

development, intellectual property rights, acquisitions, alliances, and joint ventures, management of growth, investment risk, technology, and the use of derivatives, and other strategic risk related to planning and portfolio risks. A full list of categories including sub-categories and items are included in Table 4.3.

Environmental Risks	Operational Risks	Strategic Risks
Economic risk	Internal control	Product market
<i>General economic condition</i>	<i>And information system</i>	Research and development (R&D project choice)
<i>Currency risk</i>	Risk management policies	Intellectual property rights
<i>Interest rate</i>	Liquidity and cash flow	Acquisitions
<i>Price and Commodity</i>	<i>Capital availability</i>	Alliances
<i>Inflation</i>	<i>Funding and refinancing</i>	Joint ventures
<i>Taxation</i>	Infrastructure	Management of growth
<i>Credit risk</i>	<i>Millennium</i>	Investment
Political risk	<i>Euro</i>	Use of derivative
Social risk	Project failure	Technology
Regulation and legislation	Product failure	Other strategic planning
Industry sources	<i>Product liability</i>	
<i>Competition</i>	<i>Product deficit</i>	
<i>Potential entrants</i>	Operational problem	
<i>Suppliers</i>	Operational disruption	
<i>Substitutes</i>	<i>Supply chain</i>	
<i>Strategic partners</i>	<i>Manufacturing</i>	
<i>Customers</i>	<i>Service delay</i>	
<i>Dependent on clients</i>	Health and safety	
<i>Market acceptance</i>	Impact of operations on the natural environment	
<i>Changing client requirements</i>	Compliance and reputation	
<i>Change in demand</i>	Legal dispute	
<i>Level of activity</i>		
<i>Changes in customer preference</i>		

Table 4.3 Risk Disclosure Categories and Items

Another essential element of content analysis is the selection of the ‘unit of analysis’. This requires an important consideration (Bryman and Bell, 2003; Unerman, 2000; Gray et al., 1995b; Krippendorff, 1980) as it will

determine 'how' to capture the data (e.g., risk disclosure) in the annual report. One of two approaches can be followed: namely the number (or incidence) and the amount of disclosure (Gray et al., 1995b). The former deals with the absence or presence of disclosure, whilst the latter captures the volume of disclosure (using, for example, words, sentences, pages, number of lines etc.). Although both approaches have intrinsic value, the latter approach, although involving more work, offers the richer data set and will, in many cases, cover automatically the former (Gray et al., 1995b; Cowen et al., 1987; Guthrie and Mathews, 1985).

There is a debate about the "unit of analysis" one should use in content analysis. A number of "units of analysis" are employed in the written communication literature including: words (e.g., Deegan and Gordon, 1996; Wilmshurst and Frost, 2000; Xiao et al., 2005); sentences (Milne and Adler, 1999; Deegan et al., 2000; Woods and Reber, 2003; Linsley and Shrivies, 2006; Konishi and Ali, 2007); pages and proportions of a page (Guthrie and Mathews, 1985; Guthrie and Parker, 1990; Campbell, 2000; Dunne et al., 2007); "frequency" (e.g., Cowan et al., 1987; Ness and Mizra, 1991); "number of lines" as a percentage of total lines (Trotman and Bradley, 1981; Papa, 2007); and "high/low" disclosure (Patten, 1991). The most common and preferred units of analysis tend to be "word", "sentence", and "page" (Gray et al., 1995b). These measures are capable of generating volumetric measure of disclosure volume. However, there is no single accepted unit of capturing data in content analysis; each has their pros and cons. Although counting 'words' may provide a precise measure, individual words have no meaning to provide a sound basis for coding disclosures without a sentence or sentences for context. Thus, the extra precision that might be gained is unlikely to add to understanding (Milne and Adler, 1999). In addition, NG (1985) concludes that the results were not reliable when "word" was used as a measurement unit. Words are smaller and more numerous as a unit of measurement compared to sentences, thus using "word" is time consuming and costly, especially

when contemplating a large sample. Page or “proportion of page”, on the other hand, does not consider different print and page size (Hackston and Milne, 1996). Coding “words” or “areas of a page” (e.g. tenths or one hundredths), as a basis to obtain a disclosure measure, adds unnecessary unreliability (Milne and Adler, 1999). Moreover, “laying a plastic grid sheet over a body of text and trying to code the contents of each grid square would result in meaningless measures” (Milne and Alder, 1999, p 243). ‘Sentence’ as unit of analysis provides a high degree of accuracy and is likely to provide data which are complete, reliable and meaningful (Milne and Adler, 1999).

Thus, ‘sentence’ as a unit of analysis is used here in the present research to count the number of risk information sentences disclosed. This is in line with previous related risk disclosure studies (Woods and Reber, 2003; Beretta and Bozzolan, 2004; Linsley and Shrivess, 2005, 2006; Abraham and Cox, 2007). Hackston and Milne (1996) concluded that the measurements of average “pages” amount and number of “sentences” are correlated with a number of important variables indicating that the choice between the two methods has little impact on the results.

Furthermore, the analysis was taken one step further and three more dimensions (sometimes referred to as variables or characteristics) were considered: the nature of evidence² (qualitative and quantitative disclosure), the type of news³ (bad, good, and neutral disclosure), and time

² Disclosure classified to qualitative disclosure if it includes information that is not numerical in nature, and to quantitative disclosure if it contains and primarily relates to actual numbers of financial and non-financial nature.

³ Sentence is regarded as good news if it contains statement beyond the minimum which include (for example) specific details where these details have a creditable reflection on the company; or any statement which reflects credit on company, upbeat analysis/discussion/statements (e.g., reducing the number of incidents). Statement is counted as bad news statement if it contains any statement which reflects discredit on the company (e.g., increase number of accidents; negative impact of volatility). Sentence is counted as neutral news statement if it refers to a general policy statement or intent within statutory minimum with no details of ‘what’ or ‘how’, statement of facts whose credit/discredit to company is not obviously unaccompanied by editorializing (Gray et al., 1995b).

orientation⁴ (future, past, and non-time). Figure 4.1 summarises the final coding scheme including four stages. Each stage represents a quality dimension (variable). These dimensions are considered in order to improve the content analysis process and achieve some sense of quality of the information disclosed. These dimensions were drawn from the previous literature in the area (Linsley and Shrives, 2006; Papa, 2007; Woods and Reber, 2003; Beretta and Bozzolan, 2004; Milne and Adler, 1999; Hackson and Milne, 1996; Gray et al., 1995b; Hall, 2002).

Based on the coding scheme, each company's annual reports for 1998, 2001, and 2004 were analysed and risk disclosure was classified on an individual recording sheet as in Table 4.4. Essentially, narrative sections of the annual report were examined and risk disclosure texts (containing risk relevant information that facilitates the reader to be better informed about past and potential threats or opportunities arising from external or internal variables (Linsley and Shrives, 2005) were detected manually)⁵. Then, the texts were measured by the number of sentences and matched to categories of risk disclosure which appeared in Table 4.4. If the sentence contains two categories of disclosure, it was prorated accordingly (coding rules are presented in Appendix 2). The contents of the recording sheets were then transferred to an Excel spreadsheet in order to permit subsequent analysis and to facilitate statistical manipulation.

Typical examples of risk disclosure per category are provided in the results chapter (see Chapter 5). Examples on quality variables appear on the coding scheme (Figure 4.1) and Table 4.4 and are also provided in chapter 5.

⁴ Disclosures are classified to past disclosure' if disclosure relates to the past; future disclosure if relates to the future; and non-time disclosure otherwise.

⁵ The method does not employ a computer-aid to extract risk sentences from the report but rather uses a manual method of actually reading through the risk sections as a user of the report would do. Although computer-aid is labour-saving in terms of time and effort, human coders are better at judging the meaning of a sentence in a context.

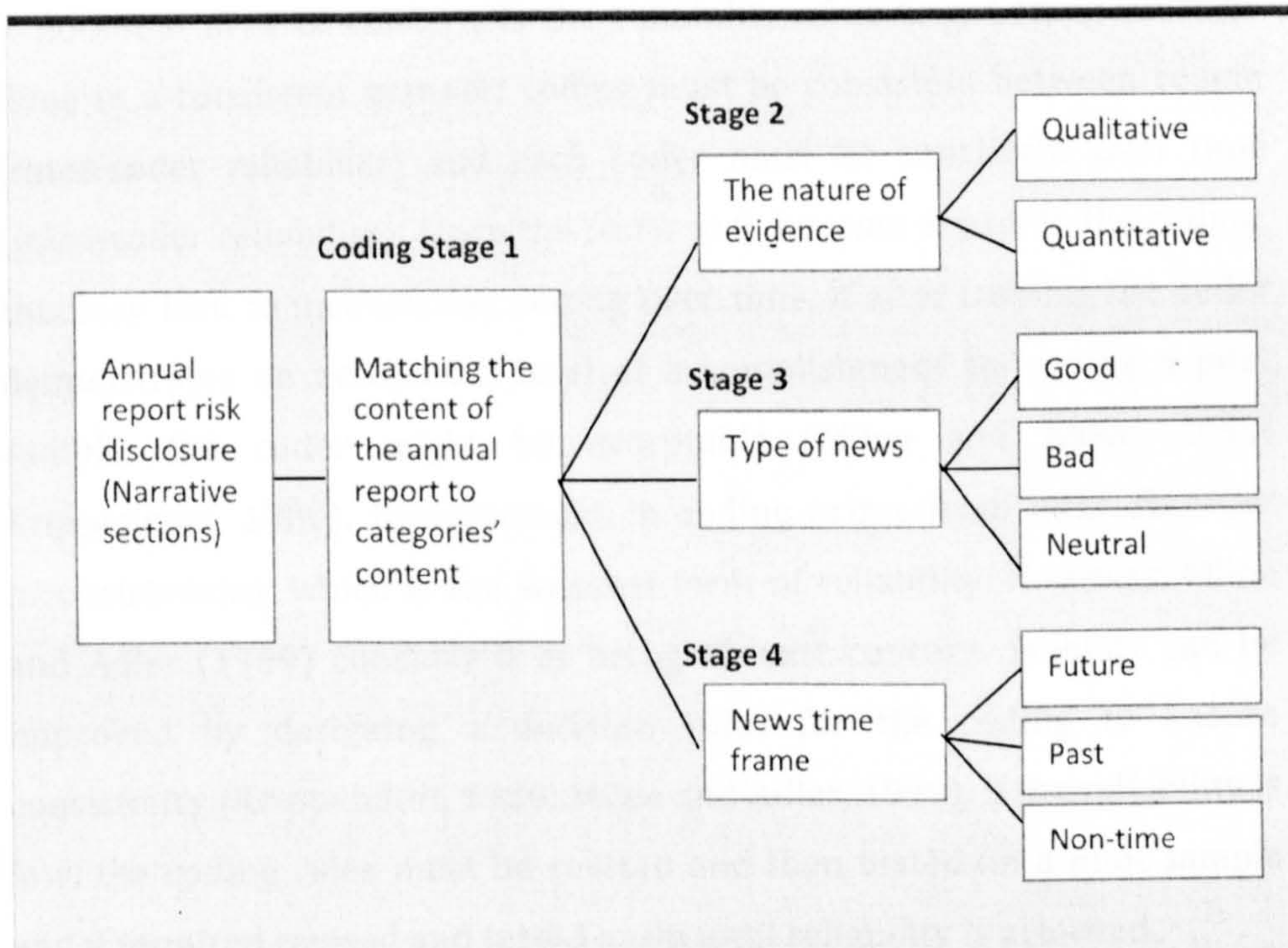


Figure 4.1: Coding Scheme

Company:	Year:																	
Category	Qualitative			Quantitative			Qualitative			Quantitative			Qualitative			Quantitative		
	Past			Past			Non-time			Non-time			Future			Future		
	G	B	N	G	B	N	G	B	N	G	B	N	G	B	N	G	B	N
Environmental risk																		
...																		
...																		
...																		
Operational risk																		
...																		
...																		
...																		
Strategic risk																		
...																		
...																		
...																		
TOTAL																		

Table 4.4: Disclosure Checklist
Key: G= good B= bad N= neutral

A potential area of concern is the reliability of coding. Coding must be done in a consistent manner; coding must be consistent between coders (inter-coder reliability) and each coder must be consistent over time (intra-coder reliability). Since the coder may become expert in the coding, this may lead to inconsistent coding over time. If after training the coder demonstrates an acceptable level of accomplishment by coding a pilot sample, the coder might be acceptable (Milne and Alder, 1999; Krippendorff, 1980). Disagreement in coding arises from inter-observer inconsistencies, which is the weakest form of reliability. However, Milne and Adler (1999) consider it as being of least concern. Stability can be improved by designing a decision rules for the coding to ensure consistency (Krippendorff, 1980; Milne and Adler, 1999). If the reliability is low, the coding rules must be revised and then tested on a pilot sample and if required revised and tested again until reliability is achieved.

The researcher discussed the coding scheme with two independent academics, and after extensive discussion, the researcher spent a sufficient amount of time practicing coding in order to become familiar with the research instrument, coding instruction and its application on the chosen sampling unit prior to commencing coding.

A preliminary coding of twenty annual reports, which were also included in the final sample, was undertaken in order to assess and refine the coding process. Some issues arose concerning some risk items (e.g. some items did not always represent fully mutually exclusive categories) and coding was refined as a result. Quality variables were then examined with an experienced academic familiar with both risk disclosure literature and content analysis. Reliability can be improved by producing a set of decision rules that the coder can refer to (Linsley and Shrives, 2006). The results of coding an initial sample were used to construct a set of decision rules (see Appendix 2). Throughout the pilot work, difficulties (if any) concerning, inter alia, the interpretation of the decisions rules can be

noted, clarified and discussed. All the conflicts were resolved following the construction of clear coding principles and decision rules. The inter-rater or inter-observer method was tested when a further sample of annual reports was coded independently by the coder and a further two independent persons, who hold permanent full-time positions and have academic experience, working under written instructions from the researcher to test that consistency of the coding was occurring. The results showed there were no significant differences between the scores.

After extensive discussion, and once agreement had been achieved, the researcher coded all annual reports by himself to ensure consistency, and by followed a set of coding rules to ensure reliability and validity of coding.

However, as with all research methods, content analysis suffers from certain limitations. Content analysis measures quantity but not quality of disclosure (Unerman, 2000) as information disclosed is counted volumetrically. Problems arise when there are repetitions of certain numbers and words in annual reports. Numbers need to be accompanied by explanatory words to provide meaning. However, a coding scheme (such as the one which was developed above) can be developed to minimise subjectivity in coding (e.g., Tilt, 1998; Campbell, 2000) and to permit further analysis (Milne and Adler, 1999), therefore suppressing the limitation and improving the quality of analysis (Hall, 2002).

4.8 Measuring the Cost of Equity Capital

Previous evidence (e.g., Botasan, 1997; Botosan and Blumlee, 2002; Hail, 2002) pertaining to disclosure quality and the cost of equity seeks to provide a further contribution to the accuracy of the cost of equity estimation. However, the major drawback of cost of equity calculation is its difficulty.

The literature includes different approaches for estimating the cost of equity capital. However, these approaches, as acknowledged by Botosan (1997), suffer quite severely in their accuracy of estimations. One of the approaches is to use past returns to derive an ex post cost of capital estimates. For example, using average realized return. However, average realized returns provide an extremely noisy measure of cost of equity capital as it has had difficulty in establishing a significant association between returns and market beta, the most widely accepted measure of risk (Fama and French, 1992). Lakonishok (1993) concludes that at least 70 years of data would be required to show that even market beta is a statistically significant risk factor if average realized returns are used to proxy for the cost of equity capital. It is unlikely, therefore, that this approach would provide a powerful test of the disclosure hypothesis, especially given the limited sample employed in this study. Another example is to use a method based on the asset-pricing model, such as the CAPM and Arbitrage Pricing theory (APT), or an empirically motivated factor model such as the Fama-French (1993) three-factor model. Although the Capital Asset Pricing Model (CAPM) is considered less noisy than realised return, Botosan (1997) concludes that CAPM does not provides a role for information and demonstrates little or no relation to market beta⁶. Prior research (e.g., Barry and Brown, 1985; Handa and Linn, 1993; and Coles et al., 1995) concludes that estimation risk⁷ is not reflected in the traditional CAPM formula for market beta (which is derived under the assumption that the parameters of the distribution are known). Fama and French (1997) conclude that there are three difficulties inherent with the use of this approach (using past return to derive an ex post of cost of capital estimates) including the difficulties in the choice of an asset-pricing model; the imprecise estimates of risk loading; and factor

⁶ As it is assumed that cross-sectional variation in market beta alone derives variation in the cost of capital. Hail (2002, pp15-16) states "The CAPM provides no role for risk factors than market beta, e.g. estimation risk, to derive variation of capital unless one assumes these factors are directly linked to market beta itself".

⁷ Since the prior research suggests that greater disclosure can reduce cost of equity capital by reducing non-diversifiable estimation risk.

risk premia. The earning-to-price ratio adjusted for growth and dividend payout is another measure that has been used by academics and practitioners to estimate cost of equity capital. However, it has been argued (i.e., Penman, 1993) that the E/P ratio may be used to estimate the cost of equity capital only in the rare situation where expected future earnings are current earnings adjusted for growth at a rate equal to the cost of capital. Penman concludes that prior research fails to find an association between the E/P ratio and measures of risk because E/P ratios reflect cross-sectional variation in the ability of firms' current earnings to predict their future earnings more than they reflect cross-sectional variation in cost of equity capital. In the line with this, using earning-to-price ratio, Botosan found no statistically significant association between the cost of equity capital estimates and market beta for her firms' sample. Average return on equity is another approach used to compute the cost of equity capital.

An alternative approach to estimate the cost of equity capital is by using the residual income model (RIM) of Ohlson (1995) or its different versions (e.g., Accounting valuation model) based on the same principles. RIM model specifies a relationship between equity values and current book values and future abnormal earnings. Residual income is net income less a charge for common shareholder's opportunity cost in generating this net income (the cost of capital). In practice, this approach encounters problems. The first problem is the assumption of risk neutrality is unrealistic in the current business environment (Feltham and Ohlson, 1999). Second, the use of dividend discount formula within the accounting-based valuation requires a quite arbitrary measure of the terminal value. Several studies (e.g., Botosan, 1997; Gebhardt et al., 1999) use different time horizons to estimate the terminal value. Thirdly, the assumption of this model is that growth rate equals to zero which is unrealistic in the current business environment.

RIM is also of limited validity (e.g., Myers, 1999; Callen and Morel, 2001). Most studies show that RIM produces too low estimates for the cost of capital. Fama and French (2001), for example, find values close to zero. Gebhardt et al. (2001) failed to document the validity of this model in estimating the implied cost of equity capital, and raise doubts about its ability to provide a valid ex ante estimate for the cost of equity capital. The authors found a positive (and not negative) relationship between the cost of capital and size. The dispersion of analysts' earnings forecasts, a measure of business risk, is significant but also with the intuitively wrong sign. There is also difficulty in applying this model due to the lack of data in the UK environment on book value of equity. The UK accounting methods mean that measure of book value are less meaningful than in the US; for example, the two factor Fama and French model which uses HML and SMB measures is not necessarily applicable therefore.

Previous studies also used 'Risk measure' as an example to proxy for the cost of equity capital estimates. They provide theoretical (e.g., Klein and Bawa 1976; Ramchand and Sethapakdi, 2000) and empirical (e.g., Prodhan and Harris, 1989; Botosan, 1997) link between risk, as measured by market beta, and the cost of equity capital.

The present research attempts to measure directly the cost of equity although there are problems in the accuracy of the estimations, as acknowledged by Botsoan (1997). A four-stage dividend growth model to directly measure the cost of equity capital is used. This uses the basic discounting methodology of Gordon (1962) but divides the future into four stages of growth. This is more realistic than using a simple, constant growth model.

Simplifying assumptions are made about the patterns of growth in dividends. Firms tend to go through different phases of growth. Dividends are expected to grow from one year to next but because of competitive

pressure, dividend growth rates tend to the norm over time. Therefore, for companies which grow very quickly or above average, the assumption is that the above average growth cannot continue indefinitely. Eventually, firms fail to keep pace with the changes in the market environment in which they operate and growth falls to below that for the average company in its sector. Thus, for corporations taken as a whole, the assumption is that, over the long term, earnings and dividends growth will decay toward normal economics growth level (real GNP plus inflation) (i.e., maturity growth).

The four stages of growth are: specific growth projections for each of the next two years, the growth trend (assumed to be continued for a further five years); a ten-year period during which the rate gradually converges to a very long maturity rate. The model was designed to mirror short, medium, and long-term expectations. The short and medium forecasts were available. It then seemed sensible to use another 10 years to assume that long-term maturity is reached. The model is as follows:

$$\begin{aligned}
 P = & D \frac{(1+g_1)}{1+K} + D \frac{(1+g_1)(1+g_2)}{(1+K)^2} + D \frac{(1+g_1)(1+g_2)(1+G^*)}{(1+K)^3} \dots\dots\dots \\
 & \dots\dots\dots D \frac{(1+g_1)(1+g_2)(1+G^*)^5}{(1+K)^7} + D \frac{(1+g_1)(1+g_2)(1+G^*)^5(1+G_1^{**})}{(1+K)^8} \dots\dots\dots \\
 & + D \frac{(1+g_1)(1+g_2)(1+G^*)(1+G_1^{**}) \dots\dots\dots (1+G_{10}^{**})}{(1+K)^{17}} + P_{17}
 \end{aligned}$$

$$P_{17} = D_{17} \frac{(1+G_m)}{(r-G_m)(1+K)^{17}}$$

Where:

- D* is the historic dividends
- g*₁ + *g*₂ are the dividend growth rate in year 1 and year 2
- G*^{*} is the annual dividend growth trend during years 3 to 7.
- G*^{**} is the average annual dividend growth during years 8 to 17.
- K* is the implied discount rate (cost of equity capital)
- P*₁₇ is the value of discounted dividends from year 18 onward.
- G*_m maturity growth (real growth plus inflation)

r a common maturity discount rate (long-dated UK bond yield + risk premium)

To implement the model, stock prices and dividends are needed. These are provided by Datastream while consensus forecast data are retrieved from Institutional Brokers' Estimate System (IBES) International database. Data were entered into an Excel worksheet and the cost of equity capital for each company was computed making use of the Excel IRR function (an example of which is shown in Appendix 3).

In addition, this research uses bid-ask spread as proxy for information asymmetry (a component of the cost of capital). The bid-ask spread is commonly thought to measure information asymmetry explicitly because it addresses the adverse selection problem that arises from transacting in firm shares in the presence of asymmetrically informed investors. Less information asymmetry means less adverse selection, which in turn means a smaller bid-ask spread (Leuz and Verrecchia, 2000).

Stock price volatility has also been used by prior research as proxy for information asymmetry (e.g., Leuz and Verrecchia, 2000). It has been claimed that increased disclosure reduces information asymmetry as it reduces the magnitude of unforeseen activities and makes a firm's stock less volatile (Land and Lundholm, 1993). However, volatility is influenced by many factors unrelated to information asymmetry, and considered the least reliable among the other proxies (e.g., bid-ask spread, trading volume) of information asymmetry (Leuz and Verrecchia, 2000). Other studies (e.g., O'Shea et al., 2008) examined the effect of disclosure on volatility. Leuz and Verrecchia (2000) found no effect on share price volatility for German firms that have switched from the German to an international reporting regime.

4.9. Descriptive Statistics for the Sample, Statistical Tests and Measurements of the Variables

The sample of 52 firms included in the present study is sufficient to increase the powerfulness of empirical analysis. It approximately equals to the number of samples used by numerous other studies (Oliveira et al., 2006; Branco and Rodrigues, 2008; Linsley and Shrivess, 2006; Hail, 2002; Hughes et al., 2001; Botosan, 1997 (subset sample), Hossain et al., 1994).

Descriptive statistics for the full sample of 52 firms are displayed in Table 4.5. Based on the literature, various measures for “size” including market value of outstanding equity (logged), total sales or turnover (logged), book value of total assets (logged), and number of employees can be used. Market capitalisation is an objective and commonly accepted criterion for size as it is based on the market value of the company. However, ‘turnover’ and ‘total assets’ can be stronger measures since market capitalization is a function of both corporate earnings and the multiple at which these earnings are valued. In some instances, fast growing companies, for example may be highly capitalized but are relatively small in physical asset terms.

The figures shown in Table 4.5 are related to the most recent year, year 2004. The missing data made it impossible to calculate cost of equity capital for 1998 and 2001 using the four stage dividend growth model. The Nat log of assets ranges from a minimum of 6.24 to a maximum of 11.89 with mean and SD values of 8.65 and 1.14 respectively. The market value of outstanding equity (logged) ranges from a minimum of 7.56 to a maximum of 11.86. Other measures for the size including log of turnover and the number of employees indicate variation in size. The results presented in Table 4.6 indicate that there are significant relationships between the size variables.

Risk is another important firm characteristic. Beta as a risk measure was used. Market beta of the stock (beta) refers to as a measure of systematic risk, and has been used in many previous studies that investigated the relationship between disclosure level and the cost of equity capital (e.g., Botosan, 1997; Hail, 2002; Botosan and Blumlee, 2002; Chen et al., 2003; Petersen and Plenborg, 2006). Beta⁸ data are collected from the Risk Measure Service (RMS) published by the London Business School (RMS, July 2005). There is another commonly used measure of risk, leverage. Leverage is used in the literature to proxy for a firm's riskiness. The higher a company's relative debt position, the most likely it will face financial distress from defaulting on interest and principal payments and therefore the riskier the stock is.

To assess a firm's disclosure environment, two variables are applied including the number of analysts following a specific firm (analysts) and my measure of risk disclosure (risk disclosure was measured by using content analysis (the results of which are presented in Chapter 5). Table 4.5 shows that the average sample firm is followed by approximately 17 analysts. The table also shows that the highest disclosure score disclosed by firms is 275 sentences and the lowest disclosure is 28 sentences (the mean and SD are 93.5 and 54.12 respectively).

Finally, the cost of equity capital estimate (IRR) ranges from 4.50 to 17.20 with a mean of 9.99. The second proxy, bid-ask spread, ranges from 0.0009 to 0.0056 with an average of 0.002. Stock volatility ranges from 15.02 to 51.31.

⁸ Beta was also estimated based on a five-year market model regression on the UK performance index and compared with RMS estimates.

	Minimum	Maximum	Mean	SD
<i>Size:</i>				
Nat log of market value (MV)	7.56	11.86	8.69	0.91
Nat log of turnover	6.57	11.98	8.46	1.23
Nat log of assets	6.24	11.89	8.65	1.14
Number of employees	539	402375	50957	69474
<i>Risk:</i>				
Leverage	1.50	527	131	106
Beta	0.15	1.67	0.92	0.33
<i>Disclosure:</i>				
Analyst following	7	42	16.53	6.98
Disclosure score (number of sentences)	28	275	93.50	54.12
<i>IRR, bid-ask spread, volatility:</i>				
IRR	4.50	17.20	9.99	2.69
Bid-ask spread	0.0009	0.0056	0.002	0.001
Volatility	15.02	51.31	26.01	7.10

Table 4.5: Descriptive Statistics for Sampled Firms

	Log of MV	Log of Turnover	Log of Assets	Employees
Log of MV	1.000			
Log of Turnover	0.794**	1.000		
Log of Assets	0.840**	0.796**	1.000	
Employees	0.333*	0.551**	0.435**	1.000
** Correlation is significant at the 0.01 level (2-tailed)				
* Correlation is significant at the 0.05 level (2-tailed)				
Market value is the market value of outstanding equity. Turnover is the Nat log of turnover at the year end. 'Assets' is the Nat log of total assets at the year end. Employees are the total number of employees. The figures are based on 2004 annual reports.				

Table 4.6: Pearson Correlations between the Size Variables

4.9.1 Statistical Tests Used in Testing the Hypotheses

4.9.1.1 Testing Hypothesis 1

Hypothesis 1 (which investigates question 1) is tested using both parametric and non-parametric tests. A non-parametric test (e.g., Wilcoxon Signed-Rank Test) has been applied on the data to determine

whether there are significant differences in risk disclosure between the years. This is a more powerful test than the sign test and involves comparisons of differences between two populations. The test is used when the experimental design is matched pairs and does not require a normal distribution of differences.

In view of the fact that parametric tests are more powerful than non-parametric tests, a parametric test (e.g., Paired-Sample T Test) has also been used to test if there is any significant difference between the mean over the three periods, 1998-2001; 1998-2004; 2001-2004. This test was performed to support the results of the non-parametric test.

A one-way ANOVA was also performed to determine whether there are significant differences in the mean risk disclosure between the seven industries groups.

4.9.1.2 Testing Hypotheses 2 and 3

Hypothesis 2 was formulated to test question 2. For the two categorical independent variables (industry and US-dual listing variables), the effects of possible individual company attributes on risk disclosure score were computed by using the Mann-Whitney U test and independent sample t test on each of the two variables in turn.

For the two continuous independent variables (e.g., leverage and size), the effects of possible individual company characteristics on risk disclosure score were tested by calculating the Person product-moment correlation coefficients. In addition, the following ordinary least square (OLS) regression model was fitted to the data in order to assess the effect of each variable on risk disclosure level.

For hypothesis 3, which was formulated to examine research question 3, both Pearson product-moment correlation coefficients and multivariate

analysis were performed on the data to test the effect of each variable on the model on the cost of equity capital (and bid-ask spread and stock volatility).

4.9.2 Measurements of Other Related Variables

The variables which were chosen to be used in the different tests are listed below. The measurement of each variable is as follows:

Risk disclosure score is the average number of risk information sentences disclosed (the results of which are presented in Chapter 5).

Size is the log of total turnover.

Leverage is the ratio of total assets to total equity.

Type of industry is represented by a dummy dichotomous variable takes the value of 1 if a firm belong to recourses, basic industries, non-cyclical consumer goods, utilities, general industries groups, and zero otherwise.

US-dual listing variable is represented by a dummy variable takes the value of 1 if a firm with either a US primary dual listing or a level II or level III ADR, and zero otherwise.

Beta was obtained from the Risk Measure Service published by the London Business School.

IRR is measured using a four-stage dividend growth model. Consensus forecast data for dividend growth expectations and stock price data were retrieved from the financial database "Datastream".

Bid-ask spread is the average bid-ask spread, that is, the absolute spread divided by the average of bid and ask. Data are collected from Datastream.

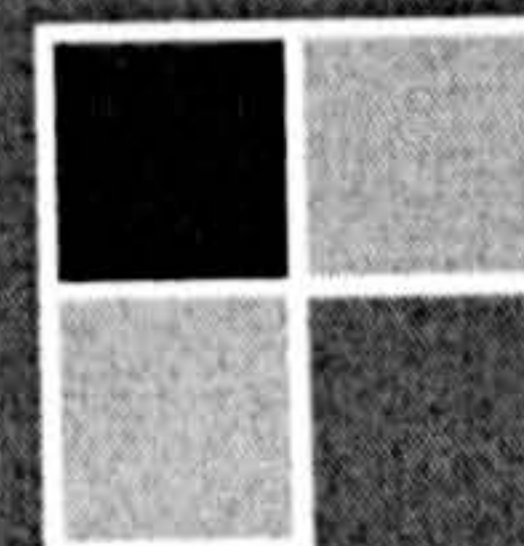
Volatility is the annual stock volatility.

Any other variables used in the analysis are defined throughout the thesis.

4.10 Summary and Conclusion

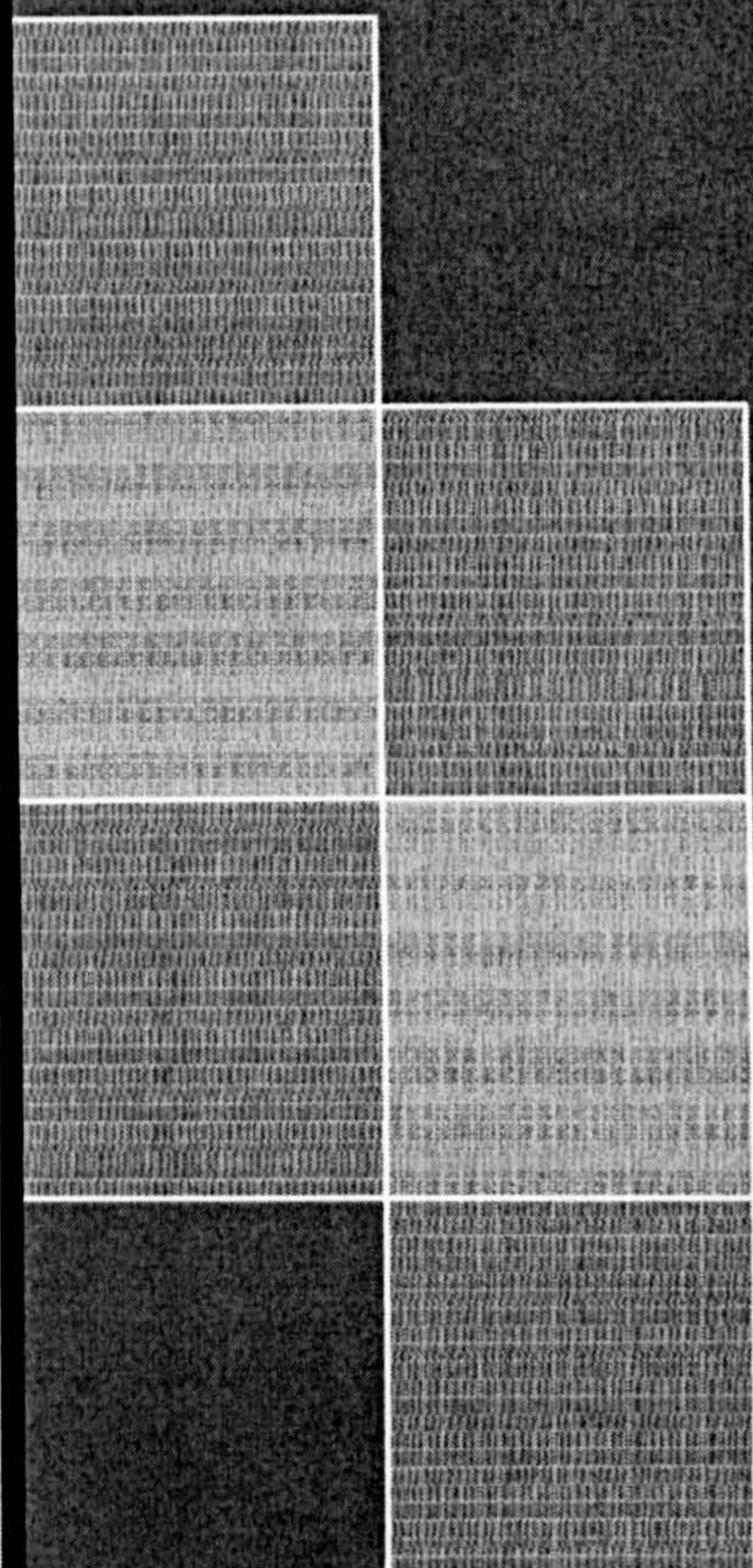
The present chapter has described the research methods and sample selection employed in the present research. The measurement methods utilised to measure the research variables including the main two variables (e.g., risk disclosure level; and the cost of equity capital) have been explained and discussed. Selection and collection of the sample have been explained in depth, and descriptive statistics for the sample have been presented.

The present chapter provided an in-depth description of the content analysis method employed, a method that will be utilised to measure the company's level of risk disclosure in three different periods, 1998, 2001, 2004. The measurement methods that are used to estimate the cost of equity were stated. A four-stage dividend growth model will be used to measure the cost of equity capital. There are other proxies used including bid-ask spread and volatility. The research assumption of using annual report as information source was discussed. Furthermore, statistical tests that are used to test the research hypotheses are discussed in the present chapter. Different data sources were of great utility for obtaining background information and other relevant information. The sources include annual reports, companies' websites, stock market data and Datastream. The research methods and statistical tests described in the present chapter will be utilised in the following two chapters to present the results of this research.



Chapter 5

Results of Content Analysis



5.1 Introduction

This chapter reports on the results of risk disclosure content analysis made in the annual reports of UK largest non-financial companies. In the present chapter, the results of the content analysis are revealed, summarised and analysed. The sample examined in the present research comprises 52 companies and is extracted from the FTSE-100 index listed in London stock exchange (LSE). The purpose is to examine the extent and nature of corporate risk disclosure in the fiscal years 1998, 2001 and 2004, in order to facilitate the analysis of trends over this six-year period. Thus, 156 annual reports prepared by 52 companies for the fiscal years 1998, 2001, and 2004 were sought and analysed. The sample choice and companies selection are explained in the previous methodology chapter (see Chapter 4).

The present chapter provides the results that show the way companies report on different types of risk. The present chapter presents the results of risk disclosure current practices and establishes its trends.

The results are displayed in accordance with the coding scheme (comprising four quality variables) developed and presented in the research method chapter. Therefore, risk disclosure sentences were classified according to four quality variables: the type of risk reported (environmental risk, operational risk, and strategic risk); the type of statement made (qualitative versus quantitative); the type of news conveyed in the statement (good, bad, neutral); and news time-frame (future, past, non-time). This will examine what risk information is disclosed and how the information is disclosed.

The disclosure score obtained from the content analysis will be used to build a disclosure measure for the level of annual report risk disclosure. This measure will be used in the following chapters, namely Chapter 6 and Chapter 7, to empirically test the relationship between disclosure level and

its underlying factors, and between disclosure level and the cost of equity capital.

The present chapter is structured as follows. First, the chapter presents the results of risk disclosures practices and establishes the overall trends over the six-year period. Then, the results of categories disclosure are presented. Next, risk disclosures evidence (nature of evidence) and disclosure according to other variables (news time-frame, type of news) are presented and explained. Furthermore, the differences in disclosure between the years are statistically tested. Thereafter, a section is devoted to examine disclosure's differences among different industries (to test for industry effect). Afterward, the results are discussed and commented upon. A summary for the chapter is given in the final section.

5.2 Trends in Total Corporate Risk Disclosure

The results of the content analysis are displayed in Tables 5.1 and 5.2. Table 5.1 displays the descriptive statistics for the results of risk disclosure content analysis. Each company's annual report for 1998, 2001, and 2004 was analysed. The number of risk disclosure sentences was matched to its relevant category and was classified and calculated. As shown in Table 5.1 (see columns three, eight, and thirteen), all companies in the sample have disclosed risk-relevant information in their annual reports. The figures shown in columns four, nine, and fourteen represent the mean (average) number of risk disclosure sentences. The third row of Table 5.1 represents the average overall disclosure score (all categories) and the following rows represent the average disclosure for each category. The rows in the middle of the table display disclosure classified according to the "news time-frame" (past, future, non-time); followed by the rows describing the "form/type of evidence" (i.e., qualitative versus quantitative disclosures). The last three rows classify risk disclosure according to the "type of news" (bad, good, neutral).

For each company's annual report, risk disclosure was analysed and classified on an individual recording sheet (comprising the four quality variables). The recording sheet is presented in the methodology chapter. Table 5.2 displays the results.

Characteristics	Code	Year 1998					Year 2001					Year 2004				
		n	Mean	Min	Max	SD	n	Mean	Min	Max	SD	n	Mean	Min	Max	SD
Quantity	Total risk disclosure	52	50.23	9	149	29.58	52	64.94	8	193	37.4	52	93.5	28	275	54.1
Content	Environmental risk	52	7.64	0	33	7.41	52	12.43	0	66	14.21	52	19.28	0	70	18.78
	Operational risk	52	34.12	7	103	21.92	52	41.50	8	115	23.13	52	60.64	14	190	33.24
	Strategic risk	52	8.47	1	26	5.88	52	11.01	0	33	9.05	52	13.58	1	41	9.91
Time-scale	Past	52	7.11	0	46	8.14	52	8.42	0	33	7.07	52	10.96	0	47	10.42
	Non-Time	52	26.43	5	57	11.92	52	38.26	8	86	16.11	52	52.21	13	121	21.10
	Future	52	16.70	1	61	14.87	52	18.25	0	143	25.47	52	30.32	0	133	34.02
Type of measure	Qualitative	52	43.40	9	130	24.75	52	58.36	8	171	33.55	52	84.10	26	250	47.58
	Quantitative	52	6.83	0	27	6.20	52	6.58	0	25	5.48	52	9.40	0	35	8.24
Type of news	Good	52	20.97	3	74	13.05	52	29.84	5	73	15.09	52	43.98	5	143	24.70
	Bad	52	2.63	0	14	3.06	52	3.39	0	14	3.59	52	3.37	0	18	3.79
	Neutral	52	26.63	4	80	17.13	52	31.71	1	156	29.01	52	46.15	8	148	38.49

Table 5.1: Descriptive Statistics

Sentence Characteristics	Year 1998					Year 2001					Year 2004							
	Operational risk		Strategic risk		Total	Operational risk		Strategic Risk		Total	Operational risk		Strategic risk		Total			
	1	2	3	1+2+3		1	2	3	1		2	3	1	2		3		
Text Disclosure Sentence Characteristics																		
Qualitative /good news/past	0.08	1.94	0.08	2.1	4.17	0.08	1.96	0.11	2.14	3.30	0.04	2.86	0.12	3.01	3.22			
Qualitative/bad news/past	1.15	0.12	0.02	1.29	2.57	1.26	0.38	0.04	1.68	2.59	0.80	0.45	0.06	1.31	1.40			
Qualitative/neutral/past	0.09	0.42	0.47	0.98	1.95	0.06	0.31	0.49	0.86	1.32	0.23	0.51	0.54	1.28	1.37			
Qualitative /good news/future	0.12	3.13	0.08	3.33	6.62	0.07	1.62	0.09	1.77	2.72	0.22	2.08	0.27	2.57	2.75			
Qualitative/bad news/future	0.53	0.1	0	0.63	1.24	0.91	0.13	0.02	1.06	1.63	0.83	0.17	0.02	1.02	1.09			
Qualitative/neutral/future	3.72	5.72	0.29	9.73	19.37	7.59	4.06	2.24	13.88	21.37	13.84	7.11	3.41	24.35	26.04			
Qualitative /good news/non-time	0.08	13.62	0.78	14.48	28.83	0.10	24.23	0.56	24.89	38.33	0.22	35.10	1.08	36.39	38.92			
Qualitative/bad news/ non-time	0.02	0.06	0.02	0.1	0.19	0.06	0.00	0.00	0.06	0.09	0.08	0.02	0.00	0.1	0.11			
Qualitative/neutral/ non-time	0.24	4.9	5.65	10.79	21.47	0.51	5.55	5.97	12.03	18.52	0.44	7.23	6.40	14.07	15.05			
Quantitative/good news/past	0.04	0.51	0.04	0.59	1.17	0.06	0.56	0.13	0.75	1.15	0.04	1.41	0.06	1.51	1.61			
Quantitative/bad news/past	0.17	0.38	0.02	0.57	1.15	0.23	0.25	0.04	0.52	0.80	0.25	0.46	0.00	0.71	0.76			
Quantitative/neutral/past	0.5	0.45	0.63	1.58	3.14	0.71	0.97	0.79	2.47	3.81	0.87	1.20	1.08	3.14	3.36			
Quantitative/good news/future	0	0.2	0	0.2	0.40	0.02	0.12	0.02	0.15	0.24	0.04	0.12	0.00	0.15	0.16			
Quantitative/bad news/future	0.04	0	0	0.04	0.08	0.04	0.04	0.00	0.08	0.12	0.04	0.15	0.00	0.19	0.20			
Quantitative/neutral/future	0.87	1.88	0.04	2.79	5.53	0.69	0.59	0.04	1.32	2.03	1.04	0.87	0.13	2.04	2.18			
Quantitative/good news/non-time	0.01	0.26	0.01	0.28	0.56	0.00	0.12	0.02	0.13	0.21	0.00	0.29	0.06	0.35	0.37			
Quantitative/bad news /non-time	0	0	0	0	0.00	0.00	0.00	0.00	0	0.00	0.04	0.00	0.00	0.04	0.04			
Quantitative/neutral/non-time	0	0.42	0.37	0.79	1.57	0.06	0.64	0.46	1.16	1.78	0.29	0.61	0.83	1.27	1.36			
Total	7.64	34.12	8.47	50.23	100	12.43	41.5	11.01	64.94	100	19.28	60.64	13.58	93.50	100			
Proportion %	15.21	67.92	16.87	100		19.14	63.91	16.95	100		20.62	64.86	14.52	100				

Table 5.2: Analysing Risk Disclosure

Figure 5.1 (based on Table 5.1, third row) displays the trends in total risk disclosure. The figure shows, in aggregate, the mean (average) number of risk disclosure sentences steadily increased across the period, rising from 50.23 in 1998, to 64.94 in 2001 and 93.5 in 2004. This provides evidence that there is an upward trend in the average number of risk disclosure sentences being published by the sample of companies over the six-year period, 1998–2004, supporting its growing importance.

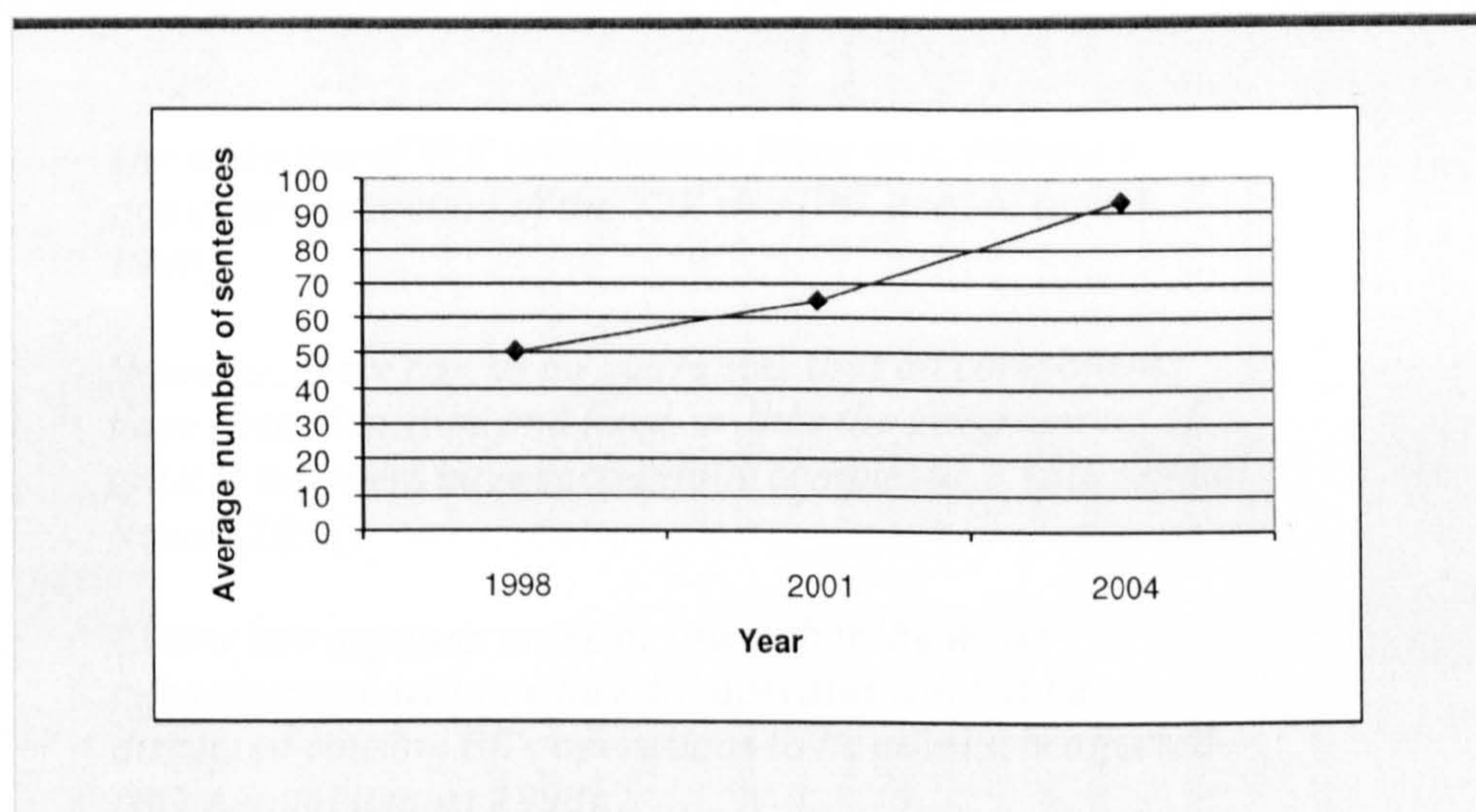


Figure 5.1: Trends in Risk Disclosure

As predicted, the results may provide clear evidence on the impact of recent regulatory and other developments (e.g., the debate on the OFR statement, accounting rules, requirements of corporate governance, and risk disclosure debate) that led to an increase in the amount of risk information disclosed by companies in their annual reports.

Of especial note is that companies disclosed information on the infrastructure risk and business interruption risk arises as a result of the millennium bug (i.e., Y2K problem) and the introduction of Euro. The Y2K disclosure refers to the year 2000 Readiness Disclosure. The Y2K issue occurs from the possibility that computer-based systems will fail correctly to process dates at the change of the millennium. Because annual reports of the fiscal year 1998 were included in the sample, there is disclosure

found on this item disclosed in the annual reports published by companies before the year 2000. This information (Y2K) is not applicable on 2001 and 2004 annual reports.

Companies have disclosed information on process risks relating to system availability risks relating to year 2000 and, in addition to that, companies disclosed risk information regarding the effect of the introduction of Euro. The following quotations are examples for these risks:

The activities of Y2K programmes focus on achieving a significant reduction of the Y2K risk (BG, annual report 1998)

However, there can be no guarantee that all components have been identified and fixed, or that the programmes of critical suppliers have successfully completed..... (BG, Annual Report 1998)

..... Nor can any guarantee be given that the wider infrastructure within which BG operates will not be disrupted causing BG's operations to be adversely affected (BG, Annual Report 1998).

The demands and risks arising from the introduction of the single currency on 1 January 1999 did not have a material effect on BG (BG, Annual Report 1998)

Table 5.3 presents the results after excluding disclosure on these two items from the year 1998 disclosure score. Based on the results displayed in Table 5.3, Figure 5.2 demonstrates that the mean disclosure shows even more clear increase and trends, rising from 34.6 average sentences in 1998, to 64.94 in 2001 and 93.5 average sentences in 2004.

Year	N	Mean disclosure
1998	52	34.6
2001	52	64.94
2004	52	93.5

Table 5.3: Average Risk Disclosure after Adjusting for 1998 Results

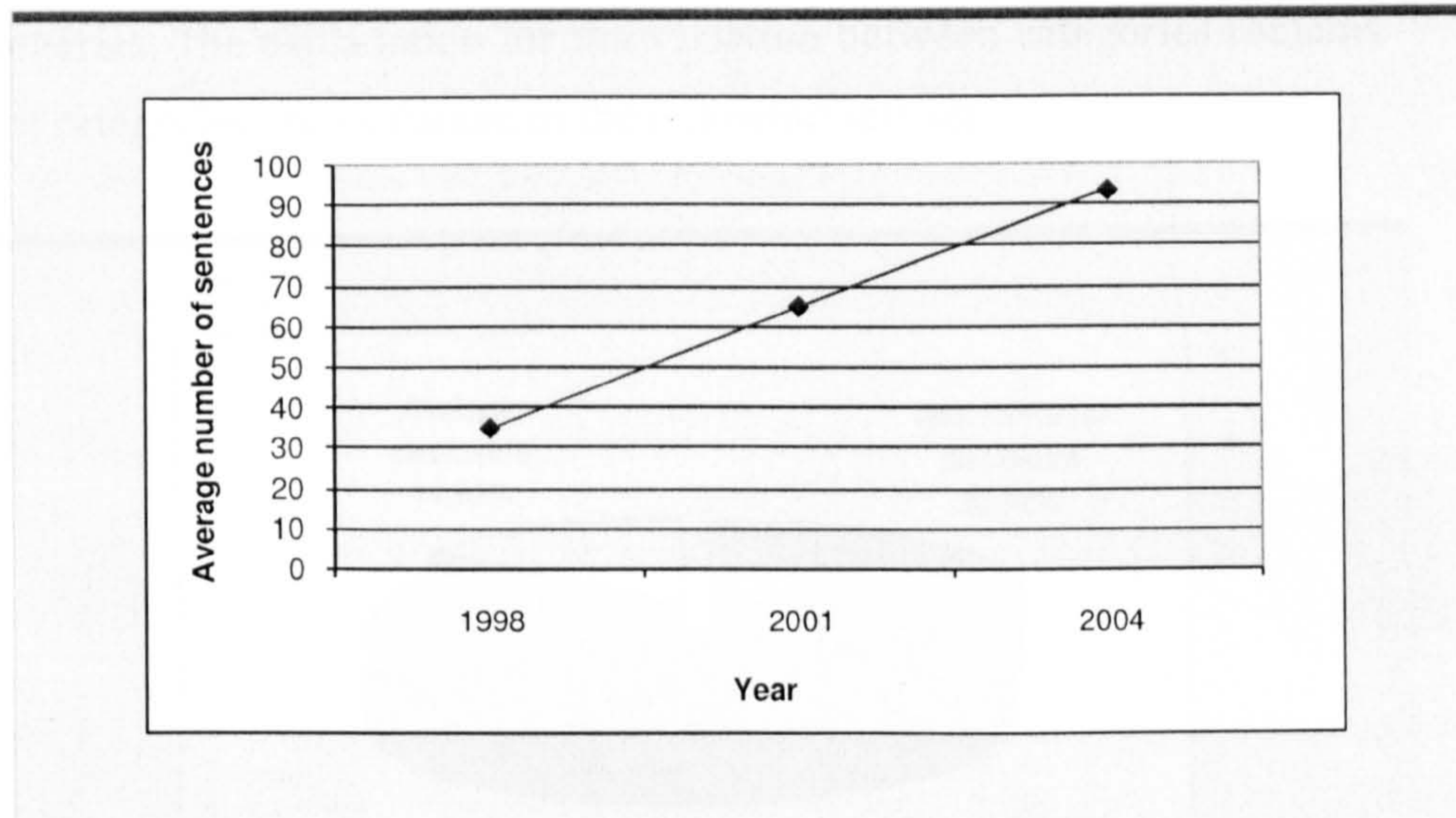


Figure 5.2: Trends in Average Risk Disclosure after Adjusting for the Year 1998 Results

Thus, the graphical interpretation reveals that risk disclosure increased from 50.23 to 93.5 over the six-year period. Table 5.1 demonstrates that the variation between the minimum and maximum disclosure is large and ranging from 140 sentences in 1998 to 247 sentences in 2004. Standard deviation is also increasing from 29.5 in 1998 to 54.1 in 2004. In the year 2004, the mean disclosure was 93.5, with a maximum disclosure of 275 sentences and minimum disclosure of 28 sentences and standard deviation of 54.1. Standard deviation is increasing from 29.5 in 1998 to 37.4 in 2001 and 54.1 in 2004 (see Table 5.1 for descriptive statistics). These results may suggest that some companies are regarding the risk disclosures issue as being more important, hence, increasingly disclosing more than others each year. However, risk disclosure is industry and company specific. Higher disclosure could be the result of a size effect and/or an industry effect, but this has yet to be tested. The standard deviations for each category, as shown in Table 5.1, indicate that they all increased.

Figure 5.3 (based on Table 5.2, bottom row) illustrates the proportion of risk disclosure attributed to each category for the most recent year, year 2004. The figure shows that operational risk dominates over the other two

categories. The explanation for the variation between categories remains until categories are explained in the following section.

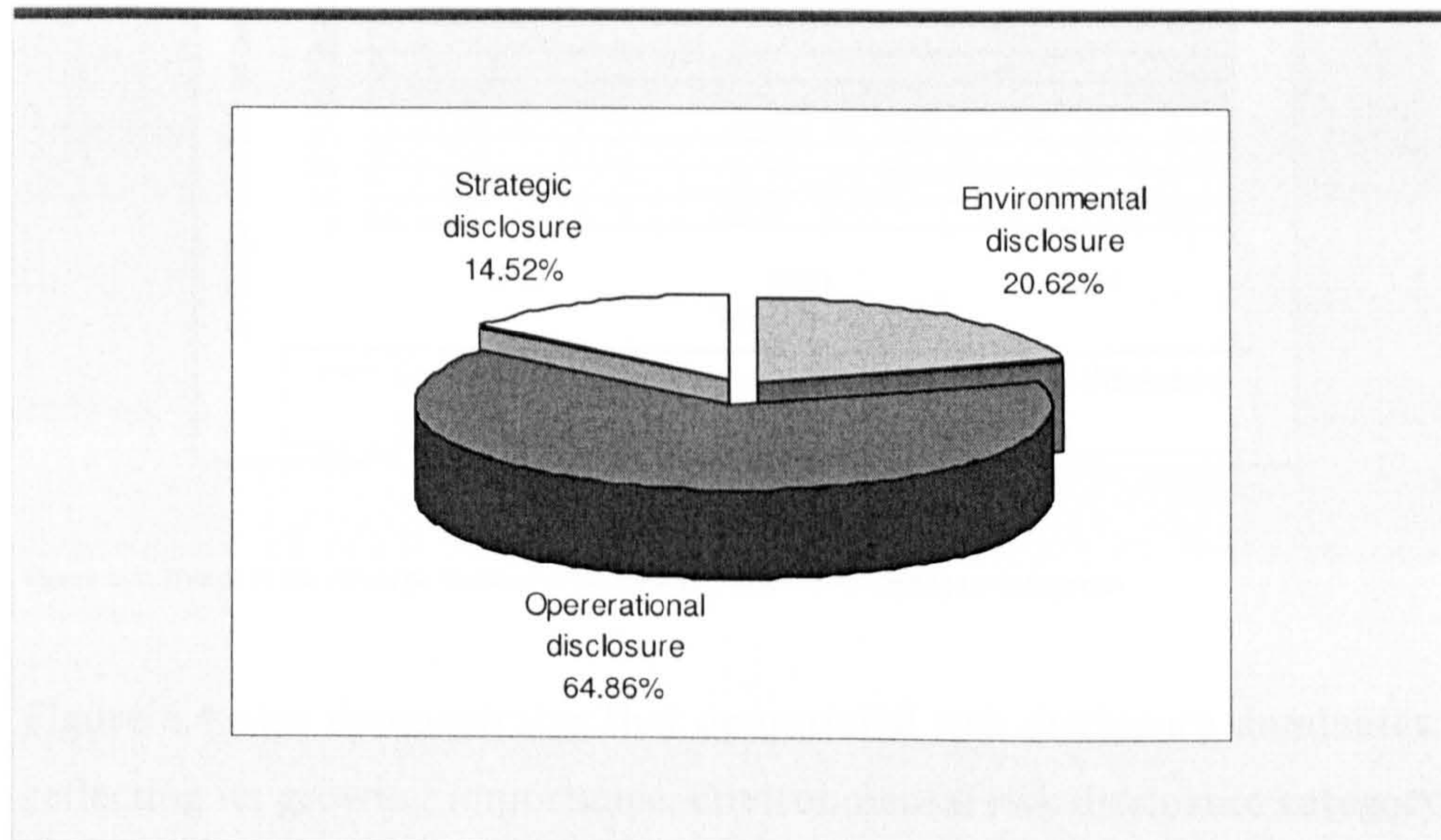


Figure 5.3: Proportion of Risk Disclosure for the Most Recent Year (Year 2004)

5.3 Risk Disclosures by Categories

As mentioned above, a multidimensional content analysis was used to enrich the content analysis data and gain some sense of quality of the information disclosed. According to the first quality variable, risk disclosure sentences were classified under three main categories: namely, environmental risks; operational risks; and strategic risks.

Figure 5.4 (based on Table 5.1) shows the differences in risk disclosure (in terms of the average number of sentences disclosed), demonstrating that there is an upward trend in disclosure which contributes to the total average of risk disclosure trends shown in Figure 5.1. This figure shows that the average disclosure differs between categories, and that there is more risk disclosure made by companies on operational risk category in comparison to the other two categories.

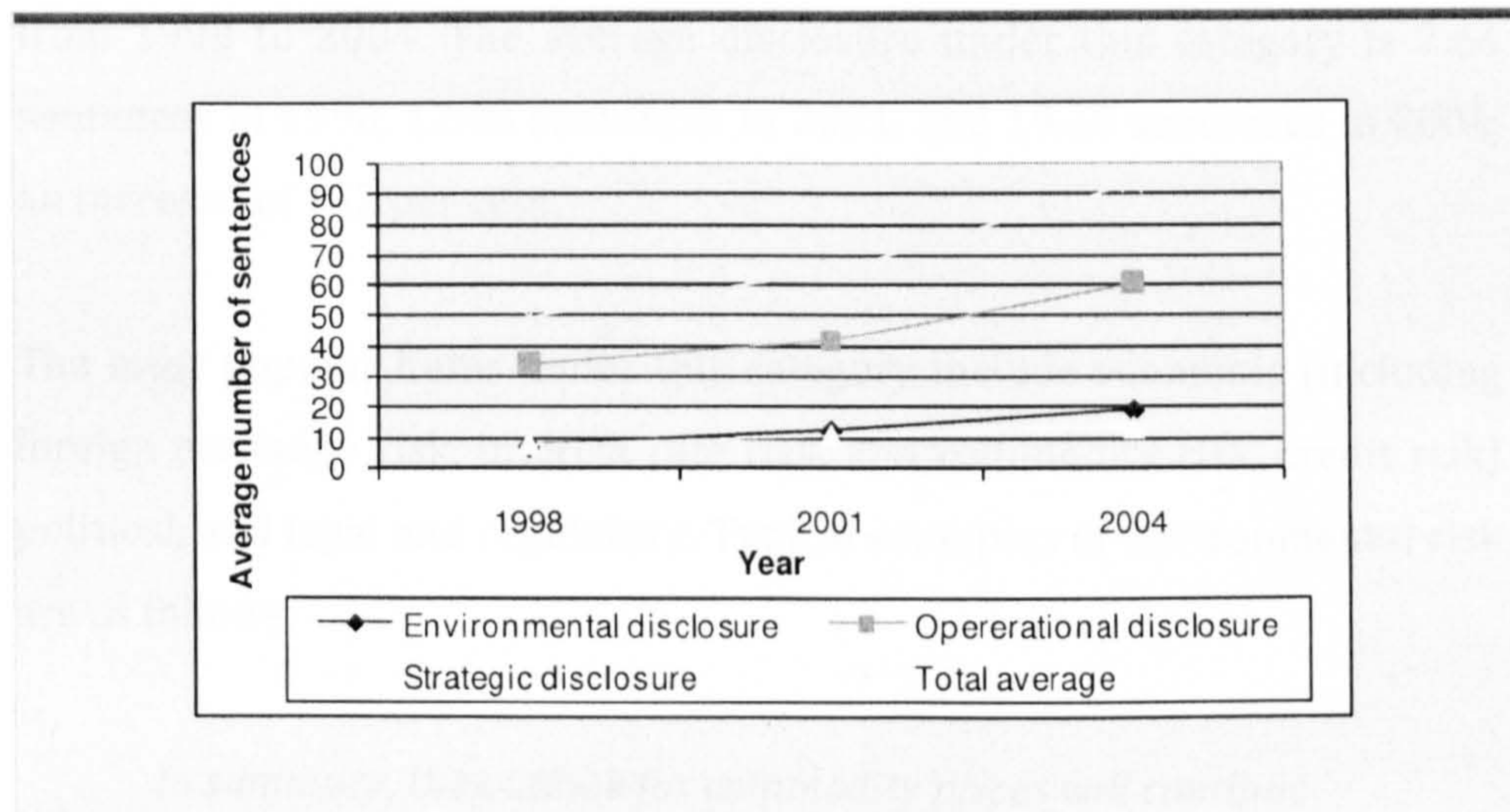


Figure 5.4: Trends in the Average Number of Sentences Disclosed According to Categories

Figure 5.4 also demonstrates that operational risk disclosure dominates; reflecting its growing importance. Environmental risk disclosure category increased over the six-year period, and reflects the trend shown by the overall average of risk disclosure sentences reflecting its significance. Both operational and strategic categories have also increased and showed an upward trend in terms of average number of sentences disclosed.

A breakdown of what disclosures were made under each category is described below.

5.3.1 Environmental Risk Disclosure

Environmental risk arises from the macroeconomic, from factors essentially beyond the organisation's control and comprises disclosures relating to economic risk (e.g., interest rate, currency exchange, price and commodity, inflation, taxation), political risk, social and demographic risk, legal and regulation risk, climate and catastrophic risk, and industry sources (competition, suppliers, customers). Under this category, companies disclose that they are subject to/ or exposed to or/facing different types of risk. Figure 5.4 shows an increase trend over the years

from 1998 to 2004. The average disclosure under this category is 7.64 sentences in 1998, 12.43 sentences in 2001, and 19.28 sentences in 2004, an increase of 152 per cent.

The most popular items under this category include economic (including foreign exchange risk, interest rate risk, and commodity risk, credit risk) political, and legal and regulatory. Typical examples of environmental risk are as follows.

In summary, the outlook for commodity prices will continue to dominate the landscape and we will do our utmost to minimise the impact on our customers and shareholders (Centrica plc, Annual Report 2004)

Following another record year in 2001, the outlook for 2002 remains uncertain with many different views on US economic prospects... (Hanson plc, Annual Report 2001)

...In the light of this, our approach is one of continuing caution and recognises that we may be faced with weakening demand in some of our markets (Hanson plc, Annual Report 2001).

Economic risks include credit risk, the effect of commodity price expectations on investment plans, price indexation of gas contracts to oil-based indices, the levy of royalties and taxes on hydrocarbon production, exchange rates, inflation rates and UK corporation tax rates (PG Group, Annual Report 2001)

The most significant economic risks are large fluctuations in the following:

- *Commodity prices, being the risk of a significant fluctuation in oil and/or gas prices;*
- *Exchange rates, in particular, the US\$: UK£ rate;*
- *US/UK inflation rates;*
- *UK corporation tax rate;*
- *UK uncontracted gas prices (PG Group, Annual Report 2001).*

Changes in business conditions, rate structures, taxes, governmental regulation and other factors may have a

material impact on the Group's ability to gain new market positions (PG Group, Annual Report 2001).

5.3.2 Operational Risk

A broad category of operational risk encompasses the failure of communication, internal control deficiencies, policies and procedures, liquidity and cash flow risk (including capitals availability and the ability to fund operations); infrastructure and business interruption; operational problems; project failure; product and service failure; product liability; health and safety ; environment risk (impact of operation on the natural environment), compliance risk, legal dispute.

Operational risk category showed a clear increasing trend from 1998 to 2004 (as shown in Figure 5.4). In 1998, the average number of sentences was 34.12 sentences, the number increased to 41.50 sentences in 2001 and dramatically increased to 60.64 in 2004, an increase of 78 percent. The most popular items disclosed under this category include internal control and accountability and risk management policies. Management must affirm its responsibility for maintaining an adequate system of internal control and assess the effectiveness of the system. Control disclosures describe the existing system or process that companies have in place to identify, evaluate and manage the significant risks they face. These disclosures are mandated under Turnbull committee which requires a description of such a system. Such items contributed to the general increase in operational risk category, and hence to the increase in overall risk disclosure trends. The other popular and significant items are those related to disclosure of corporate social responsibility risks which cover disclosure of health and safety risk and disclosure of environment risk. Such disclosure reflects the greater concerns and awareness of the public and institutions about social and environmental issues. Perhaps firms recognised the importance of such disclosure to the long-term health and value of their companies. Evidence shows that the majority of European

fund managers and financial analysts share the same view that the management of social and environmental risks has a positive impact on a company's market value over the long-term (CSR Europe et al., 2003). The disclosure on health and safety clearly contributes to the increase on operational risk disclosure category. The increased regulations on health and safety may explain this increase. Perhaps firms recognised that by disclosing information on health and safety risk they are not only improving their social accountability and enhancing their performance, but they are also attracting future employees. Examples illustrating operational risks are as follows:

The health and safety of the group employees is a matter of paramount importance. Accordingly, it is the group's policy to manage its activities so as to avoid causing any unnecessary or unacceptable risk to the health and safety of its personnel, while also reducing all other risks to the minimal level achievable through good management practice and thorough application of relevant control measures (British Sky Broadcasting plc, Annual Report 2004).

This approach involves a rigorous health assessment, during which hazards are identified, risks assessed, control measures applied and improvement actions agreed to manage residual risks to an acceptable level (PG Group plc, Annual Report 2001).

5.3.3 Strategic Risk

Strategic risk refers to risk arising from operating in a particular industry, and risks associated with the company's future business plans and strategies. Under strategic risk category, items identified are: intellectual property rights; research and development; acquisitions, alliances, and joint ventures; technology, investment risk, capital expenditure; the use of derivatives, pension funds, and others.

As shown in Table 5.1 and in Figure 5.4, there is a small gradual increase in overall disclosure identified under this category, demonstrating that there is an increase in strategic risks category contributing to the total average risk disclosure trend showed in Figure 5.1. The following quotations provide an example of strategic risks.

Wolseley has its principal operations in North America and Europe and therefore subject to specific risks of conducting business in these regions (Wolseley plc, Annual Report 2004).

The Group's operations are also subject to the risks and uncertainties attendant to doing business in numerous countries (Cadbury plc, Annual Report 2001).

The board sets the strategic objectives of the group, determine its investment policy, and agree on performance criteria and delegates to management the detailed planning and implementation of that policy, in accordance with appropriate risk parameters (SABMiller plc, Annual Report 2004).

5.4 Disclosure Classified By the Evidence Type

This section classifies risk disclosure sentences according to the evidence/form of disclosure (qualitative disclosure versus quantitative disclosure). Table 5.1 displays the results, showing that companies reveal both quantitative and qualitative risk disclosures. Figure 5.5 shows the trends in risk disclosures evidence. This figure demonstrates that qualitative risk disclosure follows a clear increasing trend from 1998 to 2004, and dominates over quantitative disclosure. In 1998, the average number of qualitative sentences disclosed was 43.40, the number increased to 58.36 in 2001, and 84.10 in 2004. Qualitative disclosure, therefore, contributes significantly to the trend in total disclosures. In contrast, quantitative disclosures do not appear to follow a clear trend as it showed a decreasing trend from 1998 to 2004: the average number of sentences was 6.83 in 1998, decreased slightly to 6.58 in 2001, and then

increased to 9.40 in 2004. Therefore, quantitative disclosures do not reflect the overall trend of average risk disclosure shown in Figure 5.1.

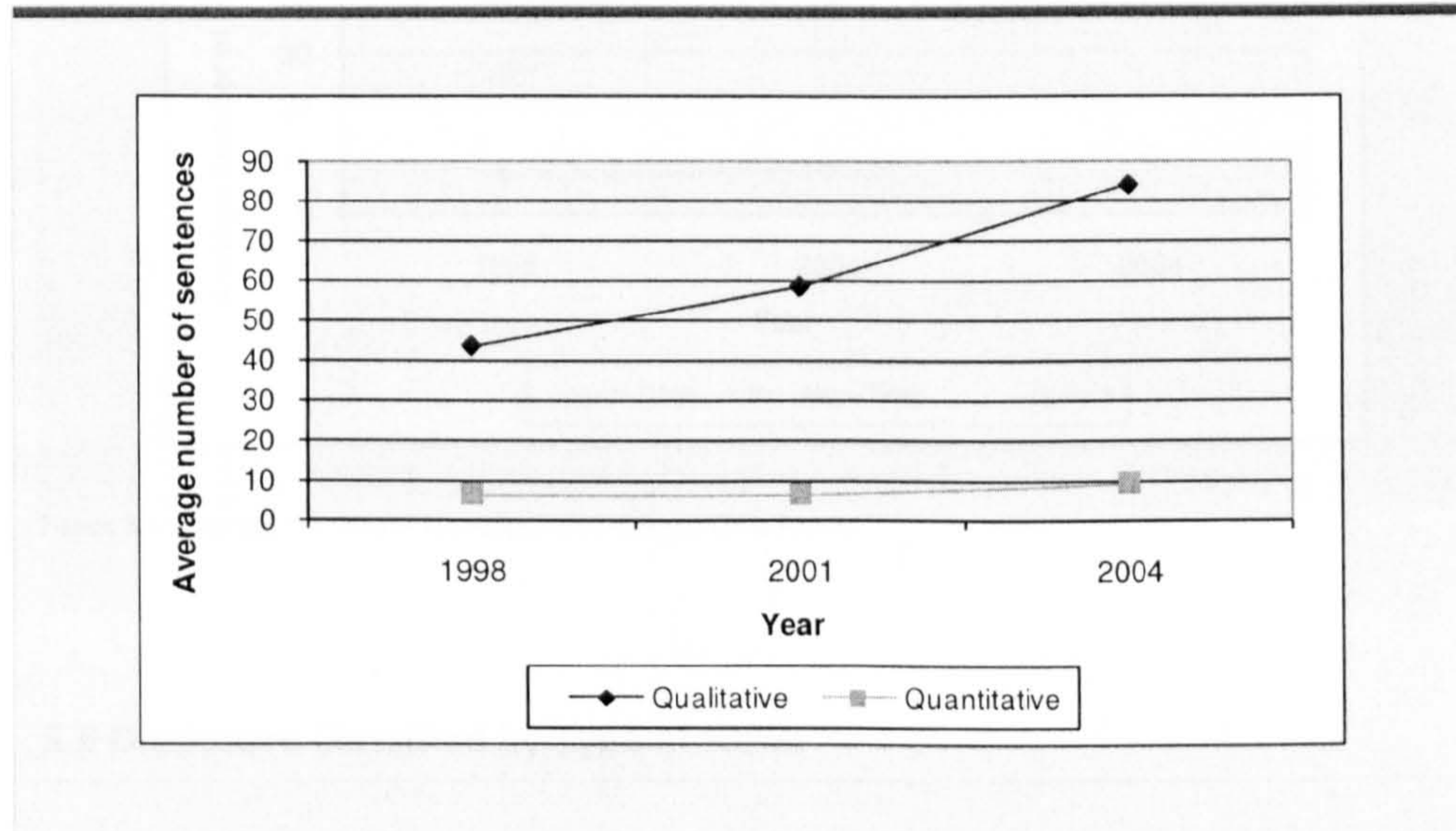


Figure 5.5: Disclosure Evidence in Terms of the Average Number of Sentences Disclosed

5.5 Disclosure Classified According to the Time-Frame

Considering another characteristic (quality variable) of information disclosed i.e., disclosure according to its time frame, Figure 5.6 shows that future, past, and non-time risk disclosures all follow clear trends of disclosure, therefore, reflecting the overall trend in the total average of risk disclosure shown in Figure 5.1. The results show that non-time risk disclosure dominates: the average number of sentences was 26.43 in 1998, 38.26 sentences in 2001, and 52.21 sentences in 2004. It was followed by future disclosures and past disclosures respectively.

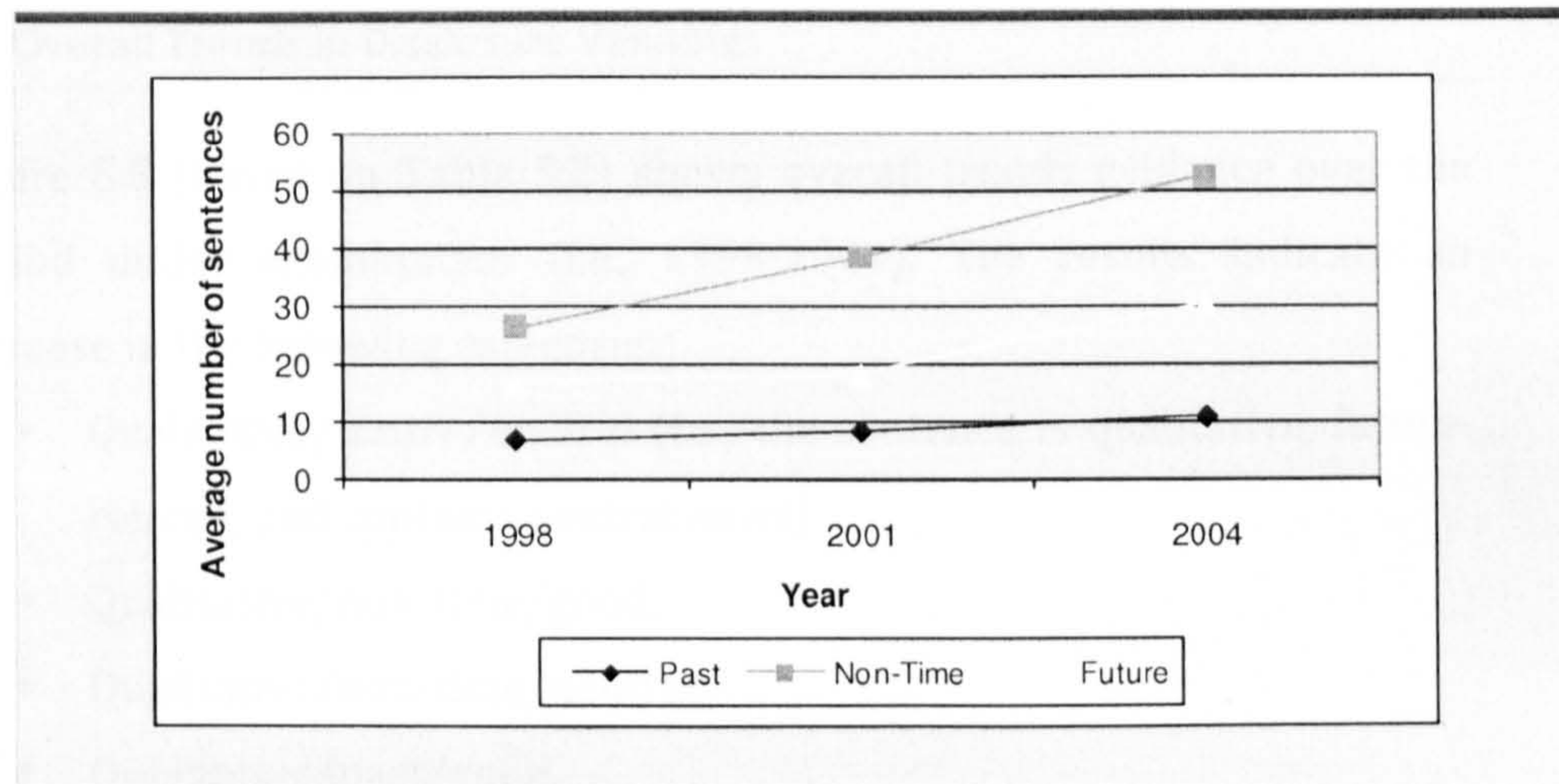


Figure 5.6: Average Disclosure Classified According to Time Frame

5.6 Disclosure Classified by Type of News

Classifying disclosure according to news type (e.g., in terms of good news, bad news and neutral news), the results displayed in Figure 5.7 show that the average number of risk disclosure sentences for each type of news increased and followed the trends of the overall average of risk disclosure shown in Figure 5.1; thus, contributing to the upward trends of overall average risk disclosure. However, there was a small decrease in bad news disclosure between 2001 and 2004. Figure 5.7 shows that neutral news disclosure dominates followed by good and bad news respectively.

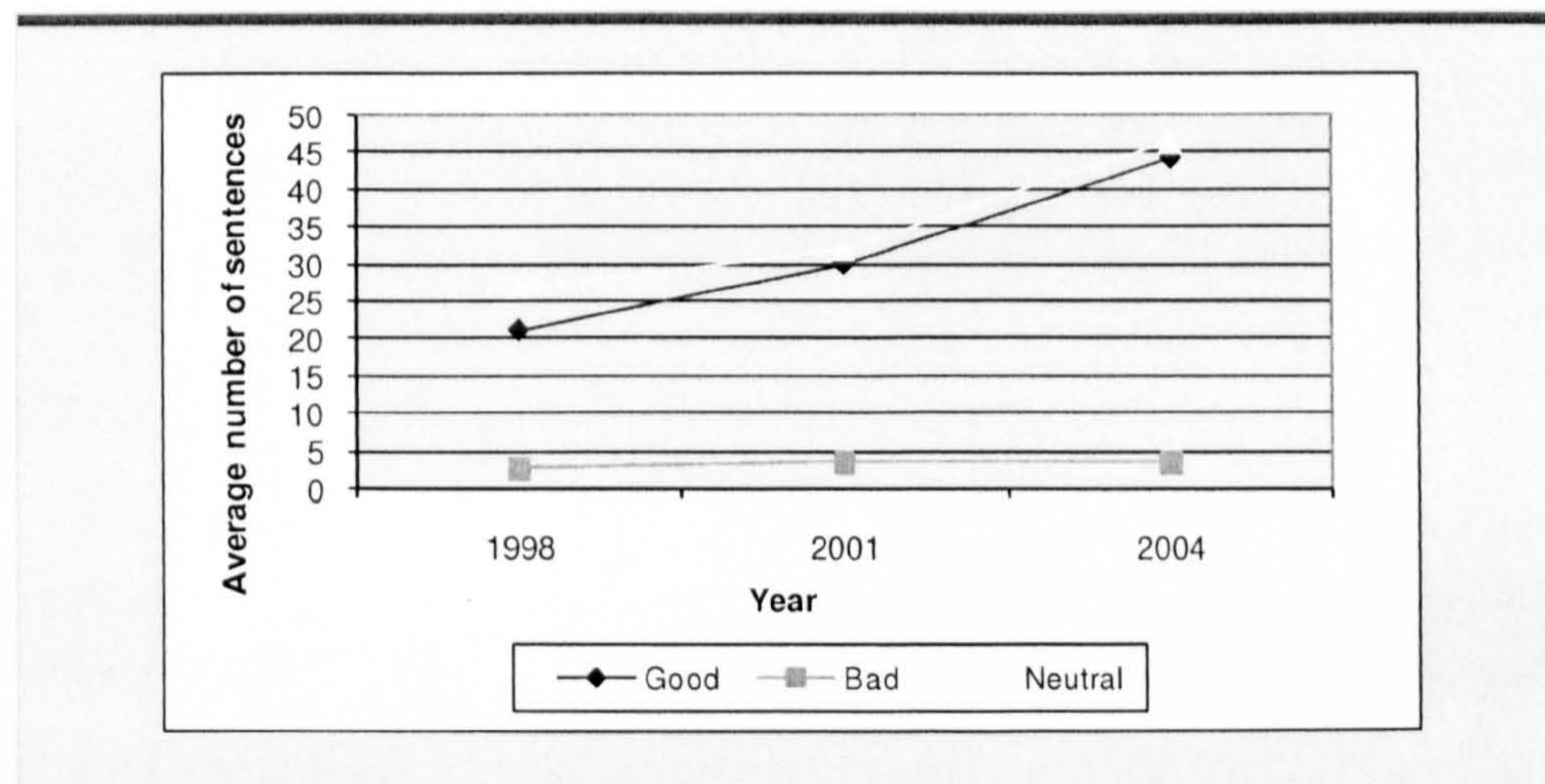


Figure 5.7: Average Risk Disclosure Classified by News Type

5.7 Overall Trends in Disclosure Variables

Figure 5.8 (based on Table 5.2) shows overall trends evidence over the period under examination (i.e., 1998-2004). The results indicate an increase in the following categories:

- Qualitative/future/neutral (i.e., the sentence is qualitative, future-related, and contains neutral news)
- Qualitative/non-time/good,
- Qualitative/non-time/neutral,
- Qualitative/past/good,
- Qualitative/past/neutral,
- Quantitative/non-time/neutral (sentence will be classified as “quantitative disclosure” if it contains and primarily relates to actual numbers of financial and non-financial nature),
- Quantitative/past/neutral, and
- Quantitative/past/good.

However, there is no clear trend for other categories. Examples of disclosure on the above categories are given throughout the present chapter.

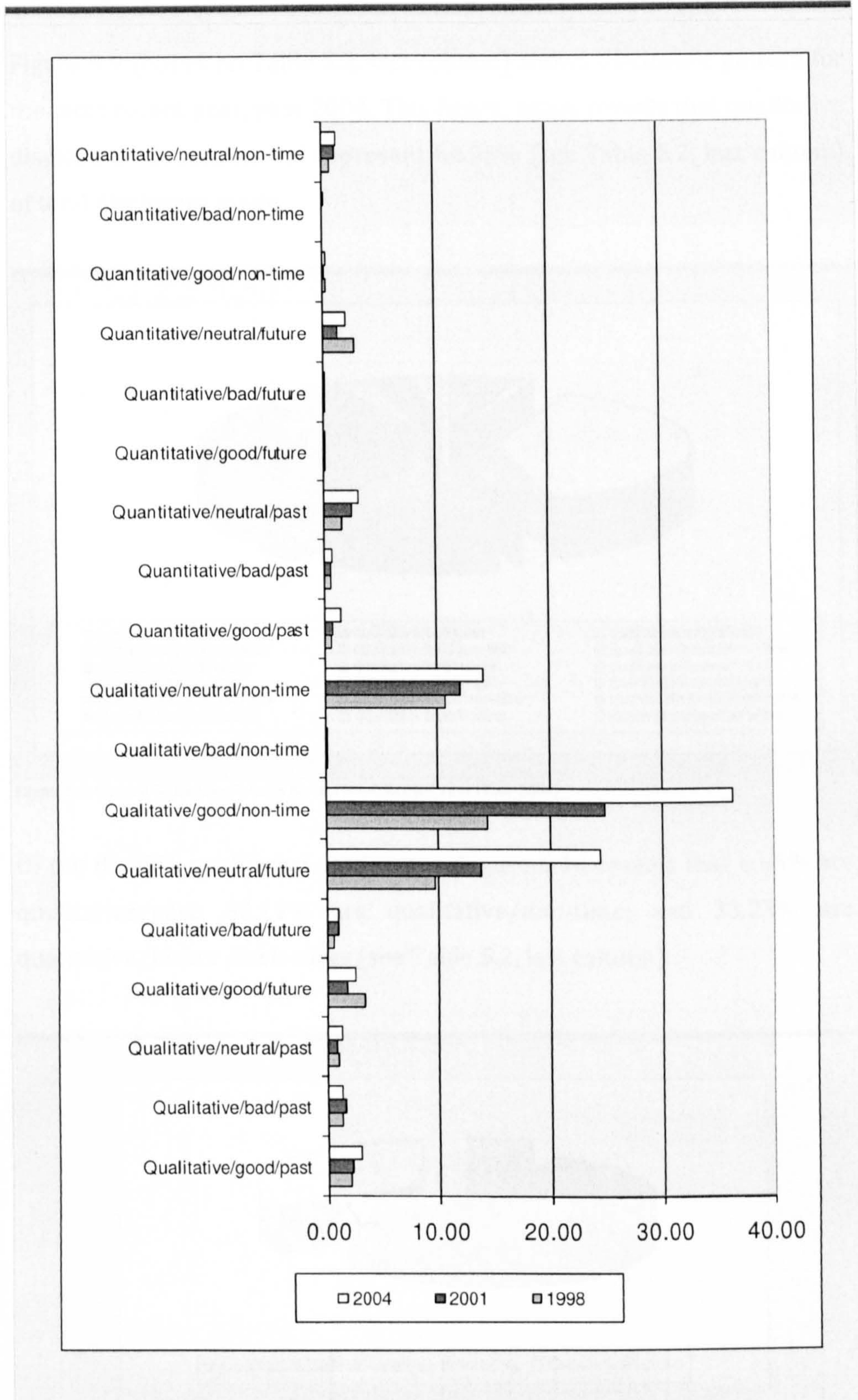


Figure 5.8: Overall Disclosure Evidence for Years 1998-2004 (figures refer to average number of sentences)

5.8 Overall Risk Disclosure Pattern for the Most Recent Year (Year 2004)

Figure 5.9 (based on Table 5.2, last column) shows disclosure pattern for the most recent year, year 2004. This figure, again, reveals that qualitative disclosures dominate, and represent 89.95% (see Table 5.2, last column) of total disclosure made.

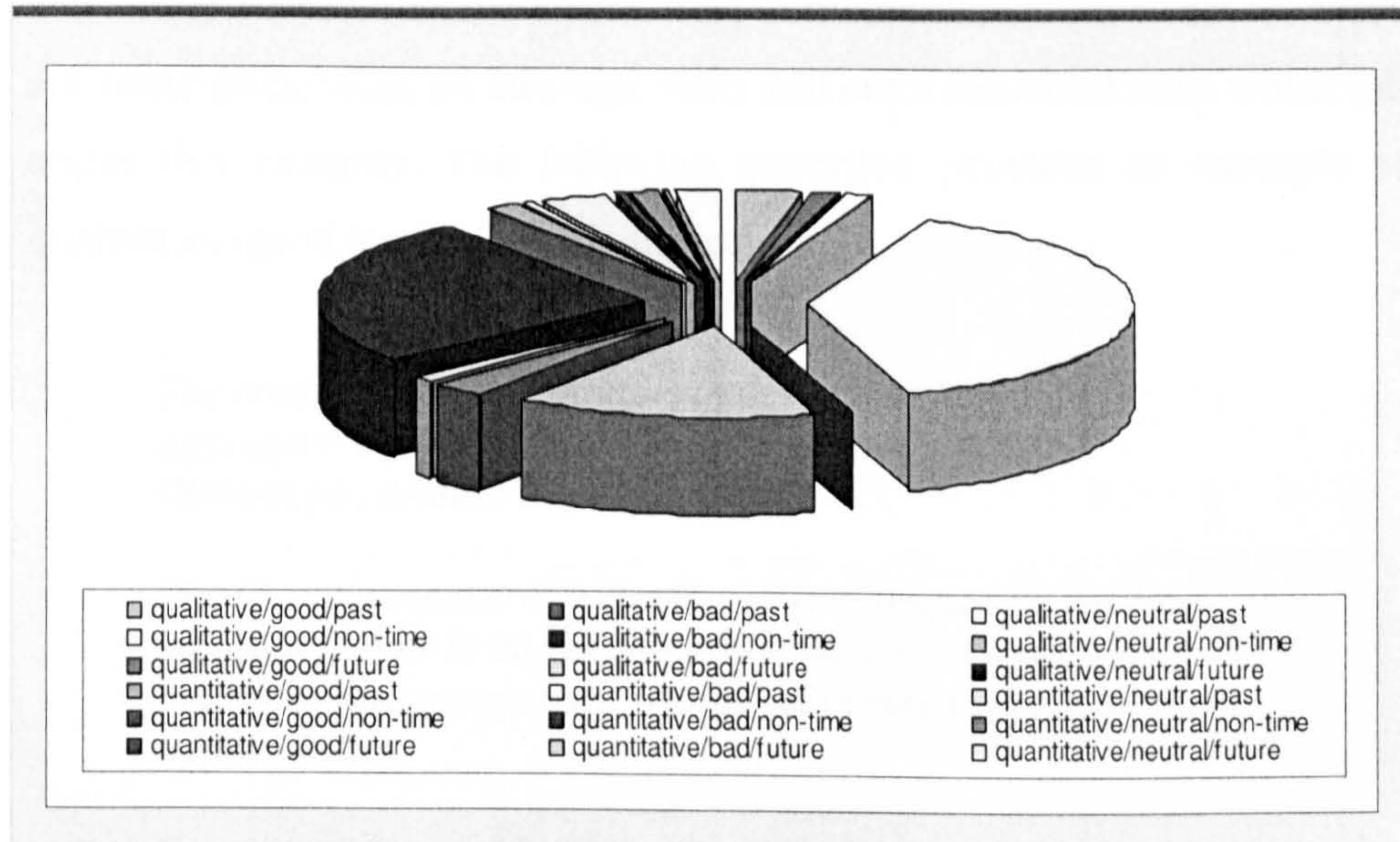


Figure 5.9: Overall Disclosure Pattern for the Most Recent Year (Year 2004)

Of the 89.95% qualitative disclosures, Figure 5.10 reveals that 6.66% are qualitative/past; 60.12% are qualitative/non-time; and 33.23% are qualitative/future disclosures (see Table 5.2, last column).

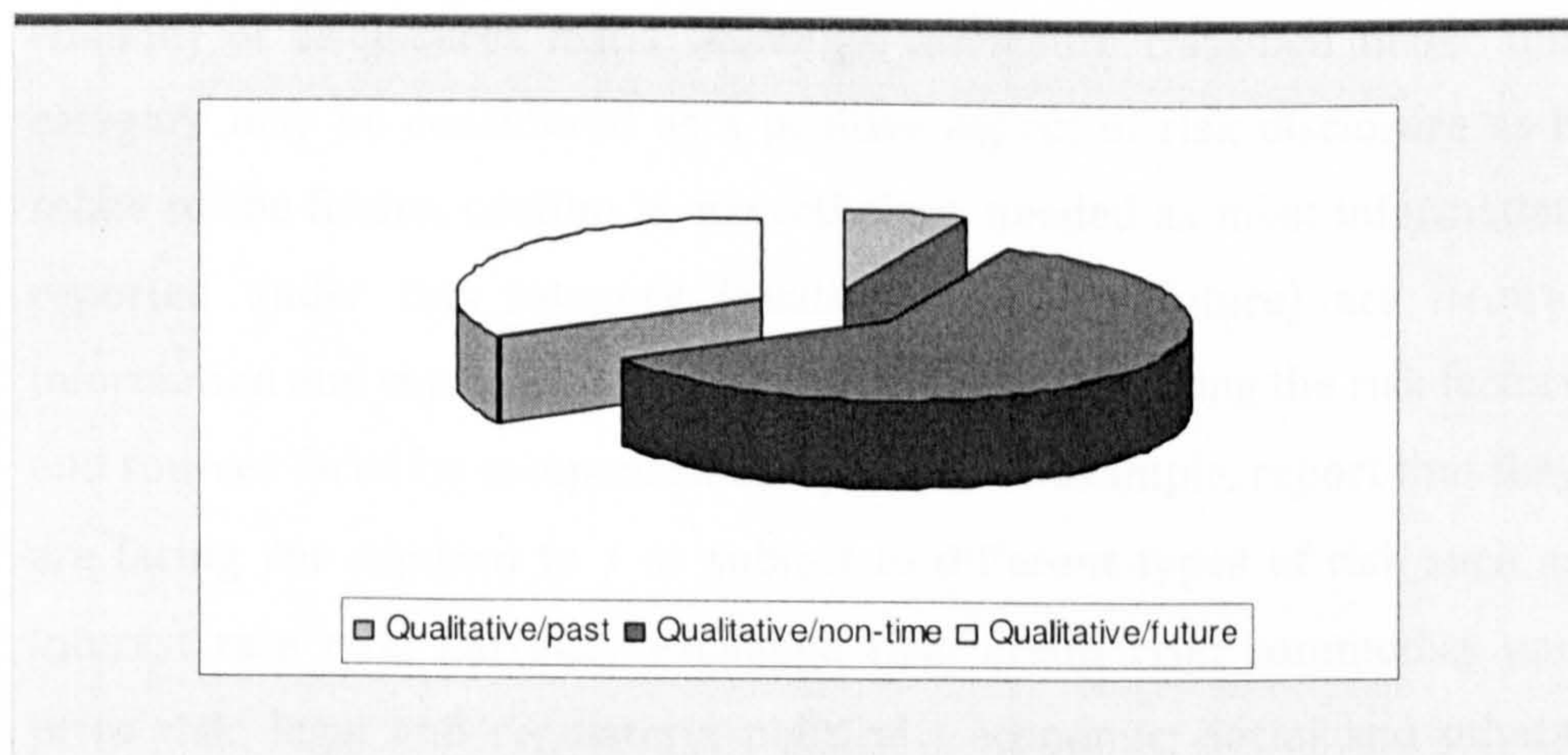


Figure 5.10: Qualitative Disclosure

Figure 5.9 shows that the most popular category of disclosures relates to “qualitative/good news/non-time”, which represents 38.92% (see Table 5.2 last column) of total disclosure made in year 2004. The disclosure made under this category is mainly on operational risks, for example, internal control and risk management policies. Other types of disclosures include disclosures on corporate social responsibility risk including health and safety risk and environment risk, and compliance. In addition, there are some disclosures on strategic risks and environmental risks which fall under this category. The following quotation provides an example of qualitative/good/non-time risk disclosure.

The credit quality of counterparties and individual aggregate exposures are reviewed annually (United Utilities plc, Annual Report 2004).

The Group’s exposure to credit risk is managed by limiting credit positions to banks and financial institutions maintaining strong credit ratings (Sainsbury (J) plc, Annual Report 2001).

Counter-party positions are monitored on a regular basis and dealing activity is controlled through the provision of dealing mandates and the operation of standard settlement instructions (Sainsbury (J) plc, Annual Report 2001).

As in Figure 5.9, the second most significant category is “qualitative/neutral/future”; and represents 26.05% (see Table 5.2, last column) of disclosures made. Although disclosure classified under this category may be considered as a positive aspect of risk disclosure as it relate to the future, caution is, nevertheless, needed as most information reported under this category (qualitative/neutral/future) are neutral information and represents a general statement explaining the risk factors and sources faced by companies. Companies, for example, report that they are facing /or exposed to / or subject to different types of risk such as interest rate risk; currency exchange risk; credit risk; commodity and price risk; legal and regulatory; political ; economic; social and others.

Most of these risks arise from external environmental forces and are outside management control, and could create opportunities for companies or cause threats. The risk information disclosed under this category may not be of great help to the annual report reader. A typical example is as follows:

Fluctuations in currency exchange rates may affect Wolseley's reported operating results and its financial position (Wolseley plc, Annual Report 2004).

The "qualitative/neutral/non-time" category falls in the middle range of disclosure and represents 15.05% (Table 5.2, last column) of total disclosures made (see Figure 5.9). The information falls under this category appears to be neutral and covers operational risks, for example, on internal control and risk management policies; strategic risks on strategic management action and the use of derivatives and financial instruments. There is also some information that relates to environmental risks. Typical examples of "qualitative/neutral/non-time" risk are as follows:

The system of internal control is designed to manage, rather than eliminate, the risk of failure to achieve business objectives and can only provide reasonable and not absolute assurance against material misstatement or loss (Next plc, Annual report 2004).

Financial instruments are used to finance the Reed Elsevier businesses and to hedge transactions (Reed Elsevier, Annual Report 2004).

The "qualitative/good/future" category represents 2.75% (see Table 5.2, last column) of disclosures while the "qualitative/bad/future" category represents 1.09% (see Table 5.2, last column) (as shown in Figure 5.9). In contrast to the above categories explained above, these two categories are helpful to the reader of the annual report in that they are quite specific and give useful information. The following quotations provide examples for

“qualitative/good/future” and “qualitative/bad/future” disclosure respectively:

The growth in domestic gas customer numbers is supported by low risk purchase contract which will underpin gross margins in the medium term (Centrica plc, Annual Report 2004).

We believe bookings in 2003 continue to be impacted by the uncertain economic environment and concerns regarding a war with Iraq compounded by security alerts issued by various national governments. These factors have caused us to reduce cruise pricing to stimulate incremental demand for the first and second quarters (Carnival plc, Annual Report 2001).

As in Figure 5.9, “qualitative/good/past” represents 3.22% (see Table 5.2, last column); while “qualitative/bad/past” represents 1.40%. The following quotations are examples of “qualitative/bad/past” and “qualitative/good/past” disclosures respectively:

Political uncertainty, oversupply in the market and a poor crop contributed to a disappointing performance by the Polish sugar business (Associated British Food plc, Annual Report 2001).

On health and safety, the world-wide accident rate fell slightly this year (SABMiller plc, Annual Report 2001).

Considering the quantitative disclosure, the results show that there is minimal disclosure reported by companies on quantitative (monetary and other numerical disclosure) risk disclosure (see Figure 5.9; and Table 5.2, last column). Overall, quantitative disclosures represent 10.05% of total average disclosure made. Out of the 10.10%; it was observed that numerical disclosures dominate over the monetary ones. Also there are more disclosures on “quantitative/past” (5.73%) than on “quantitative/future” (2.55%) and on “quantitative/non-time” (1.77%) as shown in Figure 5.11. This higher percentage (in comparison to the future

and non-time) of quantitative/past suggests that companies are disclosing quantitative information related to the past because they are able to quantify them accurately. For example, companies report on the number of injuries and fatalities that occurred or the impact of volatility incurred. Other examples includes the impact of commodity and price volatility upon the company.

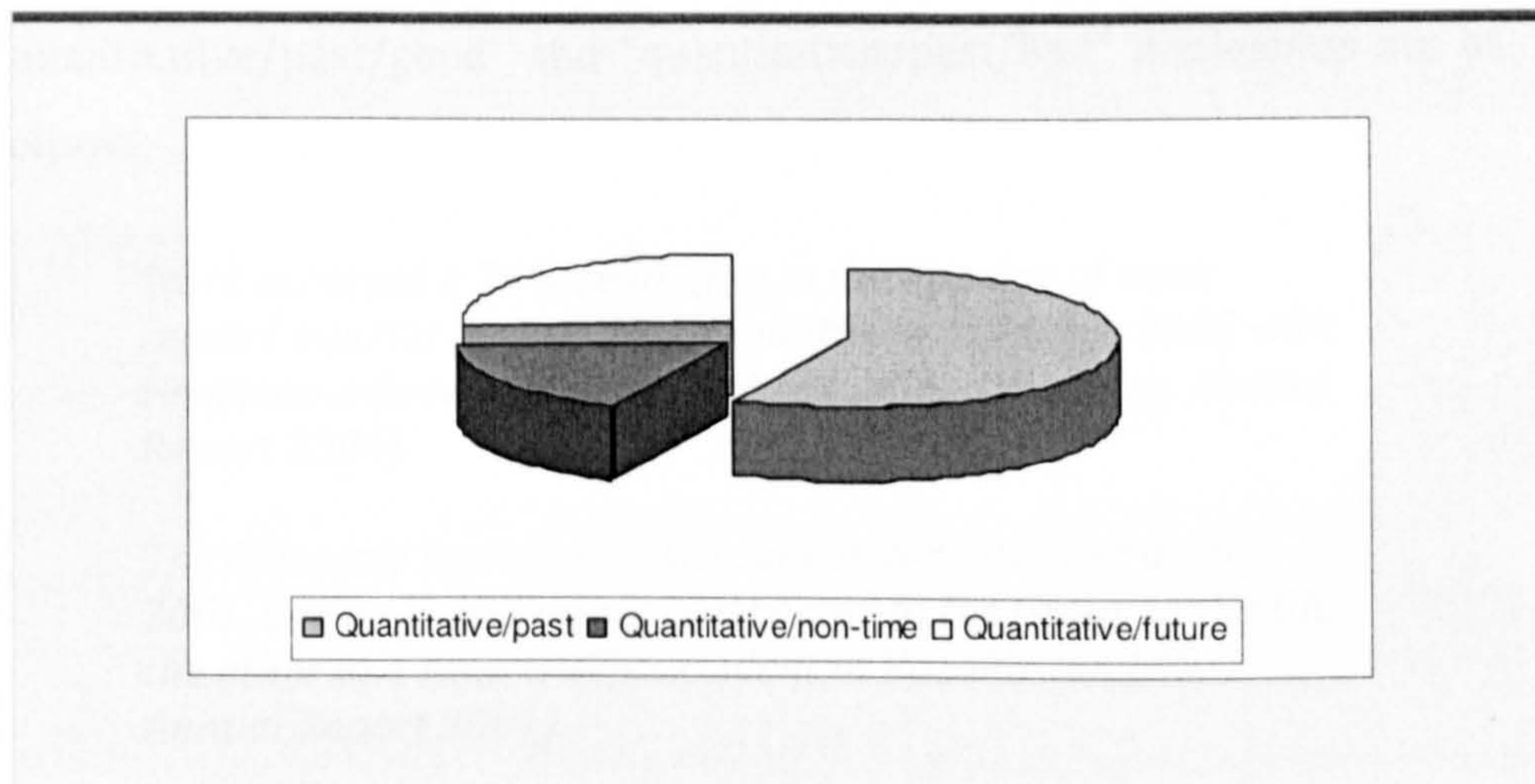


Figure 5.11: Quantitative Disclosure

The low percentage of the “quantitative/future” disclosures is perhaps unsurprising if we consider the inherent difficulty in estimating the potential monetary impact of a future event.

Going back to Figure 5.9, the percentages of disclosures on the “quantitative/future/good” category; “quantitative/future/bad” category; and “quantitative/future/neutral” category are 0.16%; 0.20%; and 2.18% respectively. Examples on disclosure of “quantitative/bad/future” are as follows:

We expect some volatility in pricing over the next few years but our best estimate of the effect of these proposals will be a reduction in operating profit from our sugar operations by some £40m per annum in the long run (Associated British Food plc, Annual Report 2004).

.... Consequently, it is expected that settlements with patients will not be reimbursed by insurers and that this will have an adverse impact on cash flow of approximately £40m during 2005 (Smith and Nephew plc, Annual Report 2004).

“Quantitative/good/past” represents 1.61%; “quantitative/bad/past” represents 0.76%; and “quantitative/past/neutral” represents 3.36% (see Figure 5.9; and Table 5.2, last column). Examples of “quantitative/past/good” and “quantitative/past/bad” disclosures are as follows:

Stock achieved a 21% reduction in the number of work related injuries during the six months to 31 March 2005 with Ferguson achieving a near 14% reduction (Wolseley, Annual Report 2004).

The Company regrets the two contractor fatalities during 2001, one on a drilling rig contracted to the Group in the UK, the other in a road traffic accident in Kazakhstan (PG Annual Report 2001).

5.9 Comparison of Risk Disclosure between 1998 and 2004

As it was shown in the earlier section of the present chapter, the graphical interpretation reveals that the mean of overall risk disclosure increased from 50.23 in 1998 to 64.94 in 2001, and 93.5 in 2004. The present section statistically examines the differences between disclosures over the six-year period in order to test whether there is a significant difference in risk disclosure between the three periods.

Both parametric (e.g. paired sample t test) and non-parametric (e.g., a Wilcoxon signed-rank test) are conducted to test whether the differences between the years examined are significant (e.g., differences between 1998 and 2001; between 1998 and 2004; and between 2001 and 2004).

First, a Wilcoxon signed-rank test is conducted to evaluate whether the average level of risk disclosure in 2004 was higher than the average level in 2001 and in 1998. The Wilcoxon signed-rank test is a non-parametric and involves comparisons of differences between two populations. It is an alternative test to the paired Student's t-test in the case of two related samples, requires that the data are measured at an interval level of measurement. However, unlike Student's t-test, the assumptions about the form of the distribution of the measurements are not required.

Table 5.4 indicates that there are significant differences between years 1998-2001; 1998-2004; and 2001-2004. The z value = -4.538; -6.071; and -5.711 respectively.

	1998 - 2001	1998 - 2004	2001 - 2004
Z	-4.538	-6.071	-5.711
Asymp. Sig (2-tailed)	0.000	0.000	0.000

Table 5.4: Results of the Wilcoxon Signed-Rank Test

Due to the fact that parametric tests are more powerful and reliable than non-parametric tests, a paired Student's t-test for paired samples was also performed to determine if there was any significant difference between the mean level of risk disclosure in 1998 and 2001; 2001 and 2004, and in 1998 and 2004. This is an additional test and is conducted to support the Wilcoxon Signed-Rank test. The results, presented in Table 5.5, also indicate that there are very significant differences between the mean level of 50.23 in 1998 and of 93.50 in 2004 (t statistics = -7.941), and between the mean level of 64.94 in 2001 and 93.50 in 2004 (t statistics = -6.088) and between the mean level of risk disclosure of 50.23 in 1998 and 64.94 in 2001 (t statistics = -5.404).

	1998 - 2001	1998 - 2004	2001 - 2004
t	-5.404	-7.941	-6.088
Sig (2-tailed)	0.000	0.000	0.000

Table 5.5: Results of the Student's T-Test

Thus, the evidence presented here suggests that there is a significant increase in risk disclosure over the period under examination, 1998-2004. This supports Hypothesis 1.

5.10 Examining the Industry Effect

The 52 firms which constitute the sample of the present study are extracted from the FTSE-100 index. These firms were categorized into seven major groups based on London Stock Exchange (LSE) classification (as shown in the methodology chapter). These groups include Resources (4 firms); Basic Industries (5 firms); General Industries (2 firms); Non-Cyclical consumer goods (9 firms); Consumer services and Information Technology (22 firms); Non-Cyclical Services (4 firms); and Utilities (6 firms). Table 5.6 displays the average number of risk disclosure sentences disclosed by each industry group.

Industry Year	RE 4 firms	BI 5 firms	GI 2 firms	NCCG 9 firms	CS&IT 22 firms	NCS 4 firms	UT 6 firms
1998	70	83	51	53	42	42	41
2001	82	114	49	75	48	74	60
2004	122	178	102	112	60	92	97

Table 5.6: Average Number of Risk Disclosure Sentences for Each Industry Group for the Fiscal Years 1998, 2001, and 2004.

Key: RE: Resources; BI: Basic Industries; GI: General Industries; NCCG: Non-Cyclical Consumer Goods; CS: Cyclical Services; NCS: Non-Cyclical Services; UT: Utilities; IT: Information Technology

Table 5.6 shows the results of risk disclosure among industries. The table yields a number of interesting results. The results show that the average risk disclosure increased across the period from 1998 to 2004 for all

industries' groups, but for general industries (GI) group disclosure decreased slightly to 49 in 2001 from 51 in 1998, but then increased in 2004 to 102 sentences (figures are in average sentences). Basic Industries (BI) group (comprises Chemicals; Construction and Building Materials sectors) has the highest level of disclosures ranging from 83 average sentences in 1998 to 178 average sentences in 2004. It was followed by Resources (RE) group (covers Mining; and Oil and Gas sectors); Non-cyclical Consumer Goods (NCCG) group (encompasses food producers and processors; health; pharmaceutical; and tobacco sectors); and General Industries (GI) group (includes Aerospace and Defence sector). The middle range of disclosure found in Utilities (UT) group (covers Electricity; Gas; and Water sectors) and Non-Cyclical Services (NSC) respectively. Consumer Services and Information Technology group (covers sectors such as General Retailers, Leisure, Entertainment and Hotels, Media and Photography, Support Services, Transport software, and Computer Services) was the least disclosed industry group among the seven industry groups.

Some sectors show a clear and steady increase in risk disclosure while other sectors do not. In general, the results provide evidence that firms in heavy manufacturing industries disclose more information than firms in service industries, given the high level of intangible assets such as R&D, customer acquisition, and product development. For certain industries, being subject to more complex regulation than others will encourage them to increase their disclosure. Companies in certain industries may also need to avoid the appearance of failing to meet the standards set by other similar companies.

It was expected to find that sector has an effect on the level of disclosure as found in previous accounting disclosure studies (e.g., Haniffa and Cooke, 2005; Ahmed and Courtis, 1999). Although the above results show that there is a difference between industries in terms of mean level of risk

information disclosed by companies, this difference between groups needs to be statistically tested in order to examine whether differences are significant or not. A one-way ANOVA test was conducted on the most recent year, year 2004. As shown in Table 5.7, a one-way ANOVA test demonstrates that there is a significant difference between industrial groups, suggesting that disclosure is industry specific. These findings are not surprising as they are consistent with the results found in previous literature in which the amount of corporate disclosure is found to be associated with industry.

Industry	Average disclosure	One way ANOVA test	
		F	Sig.
CS&IT	60	5.091	.000
NCS	92		
Utilities	97		
General industries	101		
NCCG	112		
Resources	121		
Basic industries	177		

Table 5.7: Testing the Differences in Average Risk Disclosure between Industries for the Year 2004 (ANOVA Test)

5.11 Discussion of Results

Previous evidence (e.g., Lev and Zarowin, 1999; Change, 1998; Francis and Schipper, 1999) has documented that the value relevance of accounting numbers (e.g., accounting earnings) in financial statements has declined, partly due to the lack of proper recognition of intangibles in the financial statements of companies (Lev and Zarowin, 1999). Accordingly, there has been a growing interest in non-financial forward-looking information which has been deemed by investors to provide important information in explaining market valuation. Risk disclosure, as part of forward-looking information, is very useful information for investors who need such information to aid them in making informed decision (ICAEW, 1997, 1999b; Solomon et al., 2000; Linsley and Shrivess, 2000).

On the basis of the comparison made over the period 1998–2004, the general observation was that there is, in aggregate, a trend of increasing amounts of corporate risk disclosure, although the six-year trends varied within different industries. This increase in trends reflects the increased importance of risks and uncertainties as well as the increased attention given to the topic.

The graphical presentation in this chapter revealed that the average number of risk disclosure sentences increased from 50.2 in 1998 to 64.94 in 2001 and dramatically increased to 93.5 in 2004. The increase in risk disclosure was demonstrated by the vast majority of the sample companies. The increase was also statistically significant.

The sample of the present research comprises companies from different industry groups and, therefore, the results should be interpreted with caution. The results demonstrate that disclosures vary between companies in different industries. Industries such as chemicals, construction and building materials, mining, and oil and gas have the highest disclosure scores, whereas the lowest disclosures are displayed by general retailers, leisure, entertainment and hotels, media and photography, support services, transport software, and computer services industries. Some industries are subject to more complex regulations than others and, therefore, increase their disclosure in order to avoid the appearance of failing to meet the standards set for other similar companies. The low level of information disclosed by some industries reflects the high level of competition. Previous evidence (Verrecchia, 1983; Dye, 1986) argued that high competition results in lower disclosure.

Overall, the findings of the present research are consistent with prediction of theory, accounting regulatory development and the increased calls for improved risk disclosure. Perhaps companies' directors recognised the potential benefits of narrative disclosure, including risk disclosure and

other forward-looking information, to investors and analysts as well as the long-term health and reputation of their companies. However, caution must be exercised when interpreting the findings of the present study as the increase in disclosure could be a result of the business environment in which companies are operating, which has become more risky in recent years.

Aggregating the reporting risk per category, the most frequently disclosed category appeared to be related to operational risks followed by environmental risks and strategic risks respectively. The results demonstrate that the average disclosure for each category increased over the six-year period, 1998-2004. However, the operational risk disclosure category is the only category demonstrating a clear upward trend whereas the other two categories (environmental risk category and strategic risk category) showed slight increase. Some items identified under operational risk category, mainly health and safety and environment risk, internal control and accountability, and risk management policies showed significant increase in disclosure and thus received high disclosure scores compared to other items. The high scores for some items such as health and safety risks and environment risk reflects its growing importance. A general note is that the development of accounting regulation together with the increase in corporate governance requirements might have contributed to the general increase in risk disclosure. However, most disclosures are bland statements such as those disclosures related to financial risk management and internal control systems. These disclosures mirror Turnbull-type disclosure and noticeably reflect the pressures of regulations on companies.

Previous research (AICPA, 1994; ICAEW, 1997, 1999b, 2002) has emphasised the importance of reporting high-quality and meaningful information. For example, the ICAEW suggests that companies' directors should report on the key risks that they face; the actions they take to

manage each risk; and the measures that they use in risk assessment (ICAEW, 1997).

The results show that companies report on a variety of risk sources, mainly downside risks, assigned to factors either external or internal to the firm, which could have an adverse impact on the firm's future performance. Other information reported tends to be limited to how risks are being managed together with descriptions of the systems and procedures in place. However, there is still relatively little detailed information disclosures provided, for example, on risk assessment and measurement methods using, for instance, measures such as sensitivity and simulation analysis and value at risk (VaR). Reporting on the use of these measures is important to assure investors that risks are being evaluated, analysed and measured. These measures also reflect risk and uncertainty in a number of ways. The ICAEW (2002, p. 4) points out that "companies that are better at measuring risk will be better at allocating capital internally and deciding on the most-effective way to manage a risk - for example, by transfer or control. Companies that develop better measures will therefore gain a competitive advantage". The following quotations are examples of using sensitivity analysis in evaluating risks:

For debt and derivative instruments held, the group utilises a sensitivity analysis technique to evaluate the effect that changes in relevant rates or prices will have on the market value of such instruments (BG Group, Annual Report 1998).

Energy market risk on our asset and proprietary portfolios is measured using various techniques including Value-at-Risk (VaR). VaR is used where appropriate and provides a fair estimate of the net losses or gains which could be recognised on our portfolios over a certain period and given a certain probability; it does not provide an indication of actual results. Scenario analyses are used to estimate the economic impact of sudden market movements on the value of our portfolios (International Power plc, Annual Report 1998).

The disclosure of this type of information is deemed valuable as it shows the effect of potential changes on the financial statements following an increase of risks in one or more categories. The findings of the present research are corroborated by those of previous studies. For instance, Lajili and Zegal (2005) examined the content of risk disclosures of TSE 300 Canadian companies and found that risk assessment and sensitivity analysis are not disclosed.

The use of content analysis in the present research provides, in addition to the type of risk information disclosed, an interesting insight into the nature and quality of risk information disclosed (e.g., the type of statement made (qualitative versus quantitative) and the type of news conveyed (bad, good, and neutral)) by the sample firms examined in this study. In addition, the third quality variable was applied on the risk information texts to analyse disclosure according to the news time-frame (future, past, and non-time).

Considering the quality variable of 'type of evidence', the results showed that risk disclosures are largely disclosed qualitatively yet there is information disclosure, although very little, of a quantitative nature found disclosed by the sample firms. The results demonstrate a steady increase in qualitative disclosure over the years. The very low level of quantitative disclosure with its unclear trends has also been noted in the results. The results are consistent with previous studies' findings (Linsley and Shrives, 2005, 2006; Woods and Reber, 2003; Lajili and Zegal, 2005; Bujaki et al., 1999). Quantification of risk disclosure is viewed as beneficial because it increases the credibility of the disclosures and makes them ex post verifiable (Schrand and Elliot, 1998). Kadous et al. (2005) note that the quantification of project proposals increase its credibility so long as the project inputs are objective. Linsley and Shrives (2006) argue that placing a monetary value of risk facilitates the assessment of its potential impact upon the company by annual report readers. Nevertheless, concerns about

the narrative nature of risk disclosure may be unnecessary (Deumes, 2008). Prior research (e.g., Li ,2006) shows that narrative helps investors better forecast future firm performance. Hutton et al. (2003) maintain that directors can enhance the credibility of their earnings forecasts by providing supplementary disclosure such as qualitative “soft talk” disclosures or verifiable forward-looking statements about earnings.

Thus, although directors consider both qualitative and quantitative disclosures, the limited amount together with the unclear trend in quantitative disclosure affects the quality of the information disclosed by companies. Understandably, there are difficulties associated with quantifying risk due, for example, to data availability and subjectivity in measurement. Therefore, directors avoid providing quantitative disclosure in case it may expose them to legal claims if the actual outcome turns out to be quite different from the one estimated.

With regard to the next quality variable ‘the type of news conveyed’, the results show upward trends in both good and neutral news. Bad news, however, showed an unclear trend. Neutral and good news dominate bad news. Thus, the very low level of bad news disclosure compared to good and neutral news disclosures was noted in the results. Bad news disclosure was also more related to the past than to the future. Verrecchia (1983) explained that the threshold for disclosure is determined by the increased level of proprietary cost. For firms operating in highly competitive industries, public disclosure of any kind may be regarded as potentially costly because of the existence of competitors. If the proprietary cost exists and information is withheld, investors will be unsure whether the withheld information represent bad or good news.

This predominant emphasis on good and neutral news was found in previous literature which is relevant to this study’s findings (e.g., Bujaki et al., 1999; Woods and Reber, 2003; Clatworthy and Jones, 2003; Linsley

and Shrives, 2006). The models of Verrecchia (1983) and Dye (1985, 1986) imply good news will be disclosed more often than bad news. There is evidence (e.g., Clatworthy and Jones, 2003) suggesting that managers favour positive aspects of their performance, and that (e.g., Rutherford, 2005) managers are more optimistic in their writing, and are seeking to create a positive perception of themselves and their companies (Hyland, 1998). Thus, managers may decide not to disclose bad news in annual reports when they are engaging in managing their companies' images. This happens when managers believe that withholding bad news is necessary to avoid excessive legal cost (e.g., Skinner, 1994) or damage to reputation. Crombie and Samujh (1999) conclude that directors focus on quite minor problems to divert attention from more serious issues, therefore, causing longer term credibility concerns. Skinner (1994) concludes that bad news will be released promptly to avoid litigation cost when there are large stock price declines on earnings announcement days. However, when bad news is disclosed, managers may attribute it to external or uncontrolled events.

Nevertheless, only relatively good news will be disclosed (Verrecchia, 1983; Dye, 1985, 1986) and directors are more likely to reveal earning forecasts when their firms are performing quite well (Lev and Penmann, 1990), and report positive aspects of their performance. Thus, managers prefer to take credit for good performance themselves, attributing such good news to their own actions.

Considering the fourth quality variable (information disclosed according to time-frame) the results showed that future-related, past-related, and non-time disclosures are all increased over the time period. To be specific, non-time disclosure has received the highest score followed by future-related disclosure and past-related disclosure respectively.

Although historical information (information with backward focus) disclosures are deemed helpful for investors (and analysts), forward-looking disclosure is deemed more important for investors, for example, to assist them in deciding whether the current value of their shares is justified by the forecasted future returns (Linsley and Shrives, 2000). Prior research (e.g., AICPA, 1994; ICAEW, 1997; Solomon et al., 2000) suggests that investors demand more information related to the future to assist them in their investment decision-making process. For analysts, Walker and Tsalta (2001) find that the quality of forward-looking information is positively related to their (the analysts') forecasts.

Future good news disclosure would give investors information about the future opportunities that the company may be able to exploit. Although it is interesting to note the reporting of information related to the future by managers, caution needs to be exercised as most risk disclosures are neutral statements (e.g., identified under future/neutral grid) compared to disclosure identified under the other grids (e.g., future/bad; future/good). Thus, the question of the importance and usefulness of this information to investors remains. Similar results were noted in other studies (e.g., Woods and Reber, 2003; Linsley and Shrives, 2006).

However, because of the uncertainty associated with the future, the disclosure of future forecasting information involves major difficulties, associated mainly with its accuracy. Since future-related information is considered to be inherently uncertain or unanticipated, there are concerns associated with its reliability and credibility. If companies' directors are not able to predict the future precisely by relying on the historical data, they will be discouraged to disclose future-related information because they fear this may lead them to lawsuit and hold them to fortune. This raises the potential litigation cost and reputation concerns. In this regard, the AICPA (AICPA, 1994) suggest that if information is outside of

management's expertise or for which management is not the best source then information should not be reported (AICPA, 1994).

Some difficulties associated with forecasting and quantifying risk, for instance, due to data availability and subjectivity in measurement, are highlighted in some companies' annual reports. For example, one company writes:

"As a result of uncertainties, including the current economic conditions, it is considered difficult to forecast the level of losses for joint ventures and associates in 2002."

(Reuters Group plc, Annual Report 2001)

The above quotation is an example of "future/qualitative/bad news" disclosure, and deals exclusively with loss but lacks any quantitative information. The difficulty and objectivity associated with measuring and assessing risk is notable.

It was also observed that there is little disclosure on "future/bad news disclosure" category. Despite that, it is interesting to note that companies' directors provide disclosure under this category. The results show that the total of "future/bad" disclosures (both qualitative and quantitative) have increased over the period despite the fact that the overall level of bad news remains limited.

The statistical tests conducted demonstrated that there is a significant difference between the years. The results showed that risk disclosures vary between companies in different industries. Industries such as chemicals; construction and building material; mining; and oil and gas have the highest disclosure average whereas the lowest average of disclosure is displayed by general retailers, leisure, entertainment and hotels, media and photography, support services, transport software, and computer services industry groups. Some industries are subject to more complex regulations than others, and therefore, increase their disclosure

in order to avoid the appearance of failing to meet the standards set for other similar companies. The low level of disclosure by some industries reflects the high level of competition. Prior research (e.g., Verrecchia, 1983; Dye, 1986) argued that high competition results in lower disclosure.

5.12 Why Risk Disclosure May Be Limited

The findings of the present research reveal that risk disclosure is limited, suggesting that there is a maximum limit to the amount of information voluntarily published by companies; possibly a threshold at which disclosure would occur if the costs of disclosure exceed the benefits (Verrecchia, 1983). Disclosure is a costly undertaking (Botosan, 1997). As is apparent in the discussion, there are three types of costs associated with risk disclosure: non-proprietary costs, proprietary costs, and litigation cost. Non-proprietary costs are associated with creating and distributing timely and accurate risk disclosure information. Proprietary costs are imposed when managers perceive that some of the risk information disclosure may encourage the entry of competitors, therefore, this might affect the competitive position of the company in the products market (Verrecchia, 2001; Healy and Palepu, 2001). Some forward-looking information disclosure may create litigation or invite regulatory intervention (Richardson, 2001; Field et al., 2003). Litigation might deter companies to provide certain type of disclosure. For example, directors could withhold negative information, particularly those related to the future if they feel that this is necessary to avoid excessive legal costs or reputation concerns (Skinner, 1994). Therefore, it is unlikely that directors would release forward-looking information without safe-harbour protection or when disclosure is deemed too commercially sensitive (Linsley and Shrivess, 2005; and for evidence see Armitage and Marston, 2007). Directors would also probably withhold some information deliberately if the competitive pressures and proprietary costs associated with such disclosure are significant.

The Jenkins committee (AICPA, 1994) recommended that companies should not be required to report such information (associated with proprietary cost). The avoidance of regulation on specific disclosure may support the idea that the market would “punish what it does not like” (ICAEW, 1999b, p. 33). The market likes specific disclosure and not just a statement of compliance (ICAEW, 1999b). The constraint restricting disclosure of competitively sensitive information should not be used as an excuse to avoid providing meaningful disclosure (AICPA, 1994). There is no real reason to justify secrecy when listed companies want to build relationships with providers of capital (ICAEW, 1999b). On the one hand, difficult cost-benefit decisions must be made while, on the other hand, disclosure must be enhanced to maintain its relevance (AICPA, 1994; FASB, 2001).

5.13 Summary and Conclusion

This chapter sought to examine the extent and nature of corporate risk disclosure practices of 52 large UK companies over the period 1998-2004. The level of risk disclosure was measured using a content analysis approach. Content analysis was used to show trends as well as absolute corporate risk disclosure levels of UK companies.

The analysis revealed a significant increase in the level of risk information disclosed by companies in the sample over the examined period. The results also showed a general increase in all types of risk information disclosed including environmental risks, operational risks, and strategic risks categories. Most disclosures err towards being generalised policy statements aiming to assure the reader of the annual report that the company has an internal control system and risk management procedures in place. Therefore, managers are seeking to demonstrate that they are accountable to shareholders in managing risk at best. It was also observed

that most disclosures that are found are qualitative in nature and that quantitative disclosures are minimal. The findings show future-related disclosures tend to be much more qualitative than quantitative. However, caution is needed when interpreting future-related disclosure as many statements found under this category are neutral statements. There is very little on what would be the likelihood and potential impact on company performance. The other inspiring point was that companies showed the desire to provide bad news information in addition to both good and neutral disclosure. When providing good news, directors claim that the positive impact is the result of the actions that they have taken to manage risks. In contrast, they attribute bad news to external events which are beyond their control.

Overall, the findings reveal a low level of disclosure quality based on the four quality variables and suggest that risk disclosures are rather vague. There is a lack of reliability in risk information included in risk sections caused by subjective, open-ended and ambiguous rules (Schrand and Elliot, 1998). The present findings are consistent with those of previous studies (e.g., Linsley and Shrivess, 2005, 2006; Woods and Reber, 2003; Lajili and Zegal, 2005).

The tests of statistical analysis that have been carried out on the results demonstrated that there are significant differences in risk disclosures between the years. Statistical results also reveal that disclosure is industry-specific, supporting previous disclosure studies results. Clearly firms in sectors such as resources group, basic industries group, non-cyclical consumer goods group, utilities, general industries group, are found to disclose more than the other sectors' firms (e.g., non-cyclical service, cyclical services and information technology) with cyclical services and information technology firms having the lowest level of disclosure. The existence of competition may provide an explanation for this low disclosure level.

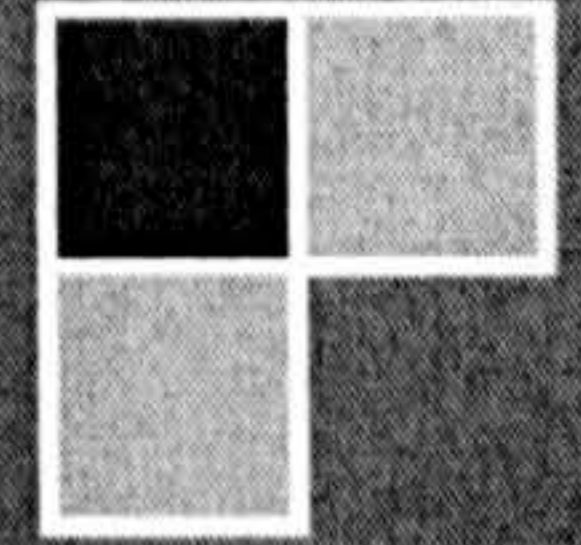
Thus, the general increase in risk disclosure could be as a result of increasing regulations originated by company law, accounting standards, and stock exchange requirements that require disclosing information related to risk and uncertainties together with the long debate on the importance of enhancing narrative disclosure. The dramatic increase in operational risk category is probably a reaction to the development of corporate governance frameworks and codes – primarily, the Turnbull report issued in 1999.

The theory (e.g., Dye, 1986) and existing evidence suggest that accounting regulation is one of the important factors driving improvement in voluntary disclosure. The theory suggests that companies increase their disclosure to avoid more detailed and perhaps more costly requirements from regulators, stock markets, and accounting standards. In view of the fact that large companies have a widespread shareholders base, additional disclosure could be motivated to achieve a reduction in agency costs. However, large companies may have the incentives to reduce the level of forward-looking information (including risk disclosure) to avoid litigation cost (Skinner, 1994; Field et al., 2003) and not to harm their competitive positions.

A possible policy implication of these chapter findings may be that accounting regulators and policy makers should focus on the risk disclosure needs of the users, but with due consideration of the costs and benefits associated with information disclosures. The development of rules and requirement may be based on the level of voluntary disclosure (Dye, 1986). The proposed ‘safe harbour’ provision in the company act is an important step that may provide companies with protection and encourage them to provide details moving forward.

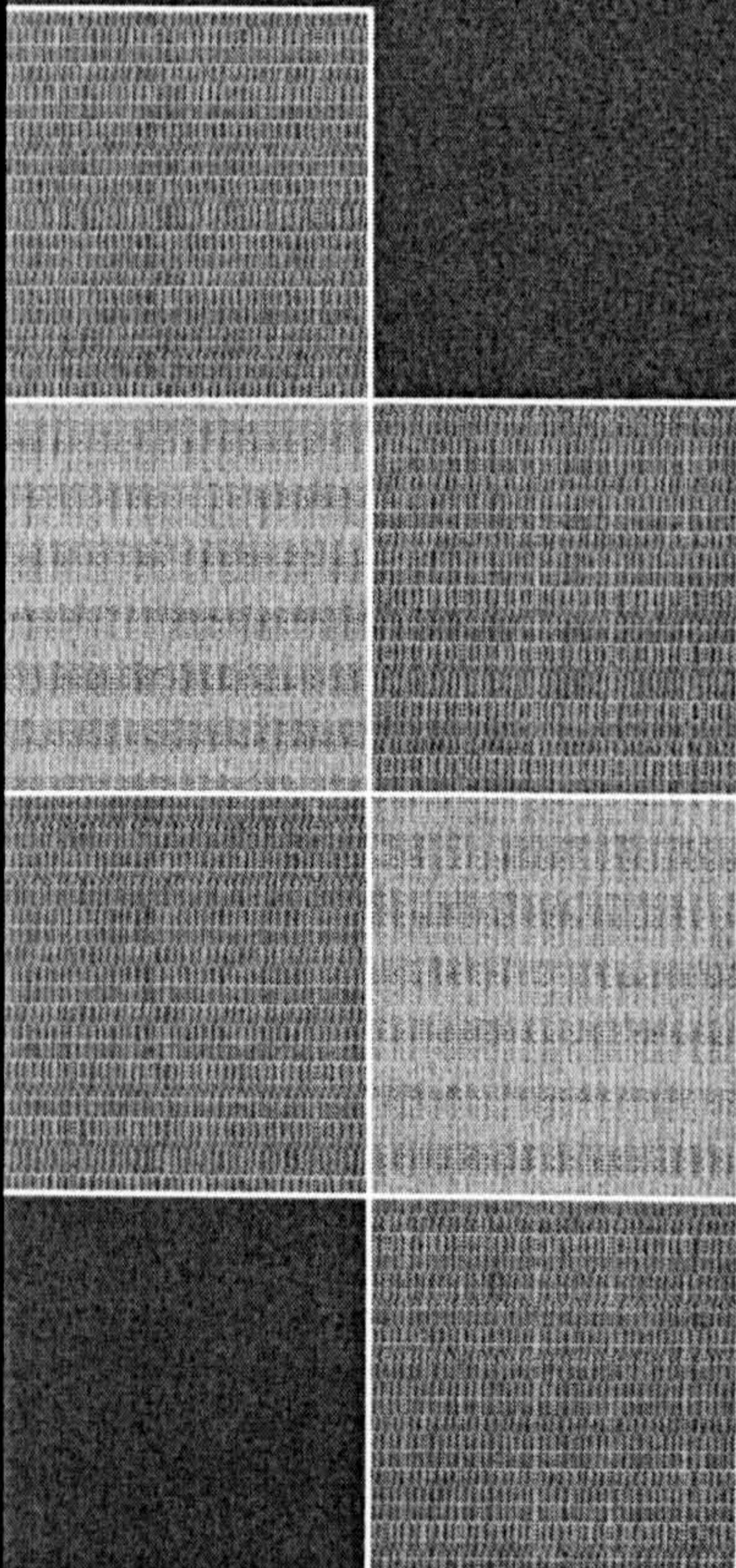
The results presented in this chapter will be utilised in the next chapters for conducting further analysis in order to examine the link between

disclosure and companies' characteristics and between disclosure and the cost of equity capital.



Chapter 6

Factors Underlying Risk Disclosure: Results of Statistical Analysis



6.1 Introduction

Chapter 5 reported the results of risk disclosure content analysis. The results, presented in chapter 5, showed that there exists a variation in the level of risk disclosure practices, that is, variations among the sampled companies in the level of risk disclosure. This requires further investigation to determine the underlying factors (i.e., firm-specific characteristics) that might explain disclosure variation. Chapter 3 explained a theoretical background for several factors which explain such variation. Therefore, the present chapter seeks to examine the relationship between risk disclosure level and four firm-specific characteristics (i.e., firm size, leverage, industry type, and US-dual listing). Appropriate statistical tests are performed to test for correlations between variables. A multivariate test is also performed to highlight the extent to which each of these factors can explain the variations in the risk disclosure level among the sampled companies.

As stated before, the risk disclosures score (dependent variable) which was measured by the content analysis in the previous chapter will be used in the present chapter to perform the statistical tests. The statistical tests are performed using the figures related to the most recent year, i.e., 2004.

The rest of the chapter is organised as follows. The sampled companies are presented in the next section (section 6.2). Section 6.3 presents the descriptive statistics for disclosure score and firm variables. Section 6.4 shows the bivariate analysis while section 6.5 presents the multivariate test. The results are discussed in section 6.6 followed by a summary of the chapter in section 6.7.

6.2 Companies in the Sample

The procedures on the sample choice and selection are explained and reported in the research method chapter (i.e., Chapter 4). The sample is based on the largest UK non-financial firms and comprises 52 companies extracted from FTSE-100 index. Descriptive statistics for the sample are displayed in Chapter 4.

6.3. Descriptive Statistics

6.3.1 Descriptive Statistics for Risk Disclosure Scores (the Dependent Variable)

In order to perform statistical tests, companies' variables are screened and the data are presented and analysed below. Table 6.1 gives descriptive statistics for disclosure score variable(s). As mentioned above, analysis is confined to 2004 results. Therefore, all figures are based on the most recent fiscal year, that is, 2004.

Variables	N	Min	Max	Mean	SD
Overall risk disclosure score	52	28.00	275.00	93.50	54.12
Environmental risk disclosure	52	0.00	70.00	19.27	18.77
Operational risk disclosure	52	14.00	190.00	60.63	33.24
Strategic risk disclosure	52	1.00	41.00	13.58	9.91
Future-related disclosure	52	0.00	133.00	31.55	34.35
Past-related disclosure	52	0.00	47.00	11.00	10.41
Non-time disclosure	52	13.00	121.00	52.21	21.09
Good news disclosure	52	5.00	143.00	43.98	24.70
Bad news disclosure	52	0.00	18.00	3.36	3.79
Neutral news disclosure	52	8.00	148.00	46.15	38.49
Qualitative disclosure	52	26.00	250.00	84.10	47.58
Quantitative disclosure	52	0.00	35.00	9.40	8.24

Disclosure is the firm's total risk disclosure score (i.e., the sum of three risk disclosure categories including environmental risk disclosure, operational risk, and strategic risk disclosure). Future related disclosure, past related disclosure, non-time disclosure, good, bad, neutral, qualitative, and quantitative disclosure are all partial disclosure (each category represents a part of total).

Table 6.1: Descriptive Statistics for Risk Disclosure Scores

As shown in Table 6.1, all the sampled firms report on risk disclosure. The average disclosure score is 93.5 sentences (the average number of risk disclosure sentences disclosed by 52 companies in 2004) which is approximately 34% of the maximum score of 275 sentences. The table shows that there is a fair amount of variation in the disclosure score for the sampled companies. The overall disclosure score ranges from 28 to 275 sentences. In addition, the average disclosure and the variation in disclosure tend to vary among industries as explained in the previous chapter (see Chapter 5).

Table 6.1 also provides descriptive statistics for three disclosure categories including environmental risk disclosure, operational risk disclosure, and strategic risk disclosure. Table 6.1 further displays descriptive statistics for the other disclosure attributes (variables) including future-related disclosure, past-related, non-time disclosure, good news disclosure, bad news disclosure, neutral news disclosure, qualitative disclosure, and quantitative disclosure.

6.3.2 Descriptive Statistics for Two Independent Continuous Variables

Table 6.2 provides the descriptive statistics for two independent continuous variables (i.e., firm size and leverage). Size is measured by the Nat log of turnover. Leverage is the ratio of total debt to total equity.

Variables	Min	Max	Mean	SD
Size (Nat log of turnover)	6.57	11.98	8.46	1.23
Leverage	1.50	527.18	131.15	106.99

Table 6.2: Descriptive Statistics for Two Continuous Independent Variables (Firm Size and Leverage)

6.3.3 Descriptive Statistics for the Categorical Firm Characteristics

Table 6.3 offers descriptive statistics for two categorical (discontinuous) variables, industry type and US-dual listing. The firms sectors (groups) in the sample are classified into industrial and non-industrial companies (this is in line with previous literature e.g., Raffournier, 1995; Adams et al., 1998). Furthermore, a distinction was made between companies according to whether or not they have a US-dual listing in addition to their UK-listing (this is in line with previous studies e.g., Abraham and Cox, 2007).

Variables	N	Category (1)	Category (0)	Min	Max	Mean	SD
US-dual listing	52	28	24	0.00	1.00	0.46	0.50
Industry	52	26	26	0.00	1.00	0.50	0.50

US-dual listing is a dummy variable take the value of 1 for a firm with either a US primary dual listing or a level II or level III ADR, and zero otherwise. Industry is a dummy variable takes the value of 1 if a firm belongs to recourses, basic industries, non-cyclical consumer goods, utilities, general industries groups and zero otherwise.

Table 6.3: Descriptive Statistics for Two Categorical Independent Variables (Industry Type and US-Dual Listing)

6.4 Bivariate Analysis

In this section, various tests are used to measure the relationship between variables to test the possibility of cause and effect relationship. These include Pearson product-moment correlation coefficients, student's t test, and Mann-Whitney U test. Firstly, because the measurement of disclosure scores requires judgements by the researcher, it is important, therefore, to assess the validity of the disclosure score. Disclosure strategies are coordinated across different means, and also disclosure components of the disclosure index measure the dimensions of a firm's disclosure policy (Botosan, 1997). Thus, the relationship between the overall disclosure level and its components should exhibits a positive relation between one another. Table 6.4 presents the results of Pearson correlation test between

total disclosure score and its components. The results presented in the table indicate that the three disclosure components (environmental risk disclosure, operational risk disclosure, and strategic risk disclosure) exhibit a positive and highly significant correlation with one another ($p < 0.01$; $p < 0.01$; and $p < 0.01$ respectively).

Variables		Overall risk disclosure	Environmental risk disclosure	Operational risk disclosure	Strategic risk disclosure
Overall risk disclosure	Pearson correlation Sig. (2-tailed)	1.000			
Environmental risk	Pearson correlation Sig. (2-tailed)	0.856** 0.000	1.000		
Operational risk	Pearson correlation Sig. (2-tailed)	0.929** 0.000	0.637** 0.000	1.000	
Strategic risk	Pearson correlation Sig. (2-tailed)	0.723** 0.000	0.646** 0.000	0.514** 0.000	1.000
<p>**Correlation is significant at the 0.01 level (2-tailed).</p> <p>*Correlation is significant at the 0.05 level (2-tailed).</p> <p>Risk disclosure is the overall company disclosure score. Environmental, operational, and strategic risk disclosures are proportions of the total risk disclosure score.</p>					

Table 6.4: Pearson Correlation Coefficients between the Components of Risk Disclosure Score

Secondly, the Pearson product-moment correlation coefficients have been performed to test the correlation between dependent variable (disclosure scores) and two independent continuous variables (firm size and leverage). Pearson product-moment correlation coefficients enable the measurement of correlation between disclosure scores and other variables. Table 6.5 reports the results for the test of correlation.

Variables	Total Risk Disclosure	Environmental Risk Disclosure	Operational Risk Disclosure	Strategic Risk Disclosure	Good News	Bad News	Neutral News	Qualitative Disclosure	Quantitative Disclosure
Size									
Pearson correlation	0.084	0.137	0.006	0.177	-0.012	0.261	0.085	0.096	-0.005
Sig. (2-tailed)	0.554	0.332	0.964	0.210	0.934	0.062	0.550	0.497	0.970
Leverage									
Pearson correlation	0.066	0.096	0.025	0.097	-0.066	-0.092	0.144	0.062	0.076
Sig. (2-tailed)	0.660	0.522	0.866	0.515	0.660	0.541	0.336	0.680	0.612
**Correlation is significant at the 0.01 level (2-tailed).									
*Correlation is significant at the 0.05 level (2-tailed).									
Size is the log of turnover at the year end of 2004. Leverage is the ratio of total debt to total equity.									

Table 6.5: Pearson Correlation Coefficients between Risk Disclosure and Firms' Variables (Size and Leverage)

The bivariate statistical results show that the relation between total disclosure score (dependent variable) and the size variable is insignificant ($p=0.554$) which is contrary to expectations, although the predicted direction of the correlation is in accordance with a priori expectation of agency theory. The results also indicate that there is an insignificant relationship between other disclosure types and size variable. Although the effect of firm size is well documented, the choice of large companies (extracted from FTSE-100 index) may lead to this insignificant association. Not all corporate disclosure studies have supported a size-disclosure relationship (e.g., Aljifri, 2008; Roberts, 1992).

With regard to leverage variable, the results show no correlations between disclosure and leverage ($p=0.660$). It is important to note that empirical evidence on the relationship between disclosure and leverage is mixed and still ambiguous. Similar results were found in previous studies (e.g., Linsley and Shrivs, 2005; Konishi and Ali, 2007; Abraham et al., 2007).

Moreover, two further statistical tests were performed to test whether industry variable and US-dual listing variable have an impact on the overall score of risk disclosure. These tests are a student's t-test and a Mann-Whitney U test. The effect of industry type on risk disclosure level was tested in the previous chapter. In the previous chapter, the companies were initially categorized into seven industrial groups and the relationship between disclosure and these groups was tested using analysis of variance (ANOVA). Here in this section, the companies in the sample were further divided into dichotomous groups based on whether they are industrial or non-industrial companies. This classification is in line with some previous studies (Adams et al., 1998; Raffournier, 1995). The dichotomous approach was also followed to classify companies in the sample according to whether or not companies have a US-dual listing. Having developed this classification, two statistical tests were performed, a student's t test and a Mann-Whitney U test. The results are displayed in Table 6.6, suggesting that there is a significant difference in disclosure score ($p < 0.001$) between the two groups of industries. As hypothesised, firms that belong to industrial sectors are disclosing more information than those firms belonging to non-industrial sectors. This implies that firms that operate in industrial sectors are likely to disclose more information than others. The Mann-Whitney U test yields a Z statistic -4.027 ($p < 0.001$), which supports the results of the student's t test.

These two statistical tests were also carried out on the data (results are provided in Table 6.7) to test for the differences in mean risk disclosure scores between US-dual listing and non US-dual listing. The student's t test results show that there is a statistically significant difference ($p < 0.001$) in risk disclosure scores between the two groups. It appears that firms with US-dual listing as well as a domestic stock exchange have a greater propensity to disclose more information than companies without a US-dual listing. The Mann-Whitney U test yields a Z statistic of $-0.3.89$ ($p < 0.001$), which again supports the results of student's t test.

Panel (A) Student's t test				
	Industrial (N=26)	Non-industrial (N=26)	Student's t-test	2-tailed probability
Mean disclosure score	121.80	65.19	-4.398	0.000
Std. Deviation	58.97	28.82		

Panel (B) Mann-Whitney test
Mann-Whitney Z= -4.027
2 – tailed probability 0.000

Table 6.6: Descriptive Statistics and Tests for Total Risk Disclosure Score and Industry Variable

Panel (A) Student's t test				
	US Dual listing (N=28)	Non US dual listing (N=24)	Student's t-test	2-tailed probability
Mean disclosure score	124.08	67.28	-4.193	0.000
Std. Deviation	60.41	29.65		

Panel (B) Mann-Whitney test
Mann-Whitney Z= -3.89
2 – tailed probability 0.000

Table 6.7: Descriptive Statistics and Tests for Total Risk Disclosure Score and Listing Status Variable

Pearson product-moment correlation coefficients have also been computed to determine the correlation between the independent variables. Table 6.8 reveals statistically significant correlation between the following independent variables: firm size and listing ($p < 0.05$); and leverage and listing ($p < 0.05$).

		Size	Leverage	Industry	US Listing
Size	Pearson correlation	1.000			
	Sig. (2-tailed)				
Leverage	Pearson correlation	0.006	1.000		
	Sig. (2-tailed)	0.969			
Industry	Pearson correlation	0.056	-0.113	1.000	
	Sig. (2-tailed)	0.693	0.449		
US Listing	Pearson correlation	0.273*	0.317*	0.154	1.000
	Sig. (2-tailed)	0.050	0.030	0.275	

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

Size is the log of turnover at the fiscal year end of 2004. Leverage is the ratio of total debt to total equity. Listing is a dummy variable of 1 if the company is a US dual listing and 0 otherwise. Industry is a dummy variable takes the value of 1 if a firm belong to recourses, basic industries, non-cyclical consumer goods, utilities, general industries groups and zero otherwise.

Table 6.8: Pearson Correlations among Independent Variables

As the correlation test suggests that the statistical significance of independent variables in the bivariate analysis may be overstated, therefore, a multivariate test was also carried out on the data.

6.5 Multivariate Test

The following multiple regression model was fitted to the data in order to assess the effect of each variable on risk disclosure score:

$$Y = \beta_0 + \beta_1 \text{size} + \beta_2 \text{listing} + \beta_3 \text{leverage} + \beta_4 \text{industry} + \varepsilon$$

Where:

Y is risk disclosure score for year 2004;

Size is the log of firm turnover at the fiscal year end of 2004;

Listing is a dummy variable which equals 1 if a firm has a US-dual listing and 0 otherwise;

Leverage is the ratio of total debt to total equity;

Industry is a dummy variable equals 1 if the firm belongs to recourses, basic industries, non-cyclical consumer goods, utilities, general industries groups and zero otherwise;

ε is the error term.

Table 6.9 offers a summary of the regression which shows that the multiple regression model is highly significant ($p < 0.001$).

	Intercept (β_0)	Size (β_1)	Listing Status (β_2)	Leverage (β_3)	Industry (β_4)
B(coefficient)	79.53	-0.3.90	54.93	-0.021	49.24
t statistic	1.845	-0.781	3.973	-0.339	3.900
Sig.t	0.072	0.439	0.000	0.736	0.000
<i>Adj. R² = 44.9, F = 10.37, p = 0.000</i>					

Table 6.9: Regression Results for Total Risk Disclosure

The adjusted coefficient of determination (adjusted R^2) indicates that 44.9 percent of the variation in the dependent variable is explained by variations in the independent variables. The coefficients, representing industry, and US-listing are statistically significant, while the coefficients on size and leverage are not statistically significant. Replacing total risk disclosure score (the dependent variable) with other risk disclosure components (e.g., operational risk, environmental risk) produced the same results similar to those reported in the above table.

Performing the multiple regression using the stepwise method confirms that the model included two variables only (i.e., industry and listing). The other two variables (i.e., leverage and size) were eliminated. Table 6.10 presents the results.

	Intercept (β_0)	Listing Status (β_2)	Industry (β_4)
B(coefficient)	45.34	50.55	50.16
t statistic	4.62	4.13	4.10
Sig.t	0.000	0.000	0.000
<i>Adj. R² = 46.6, F = 21.04, p = 0.000</i>			

Table 6.10: Regression Results Using Stepwise Method

However, to confirm the results, the disclosure score was transformed into ranks first, and then regression using the stepwise method was run on the ranked variable. Table 6.11 displays the regression results.

	Intercept (B_0)	Listing Status (β_2)	Industry (β_4)
B(coefficient)	0.21	0.29	0.28
t statistic	4.32	4.63	4.67
Sig.t	0.000	0.000	0.000

Adj. R² = 52.9, F = 26.83, p = 0.000

Table 6.11: Regression Results for Risk Disclosure Ranks

To test the data normality assumption of the regression model, a histogram of the distribution of the residuals was plotted together with a P-P normality plot (Figures 6.1 and 6.2). The distribution was not far from a normal curve, suggesting that the data conform reasonably well to the normality assumption.

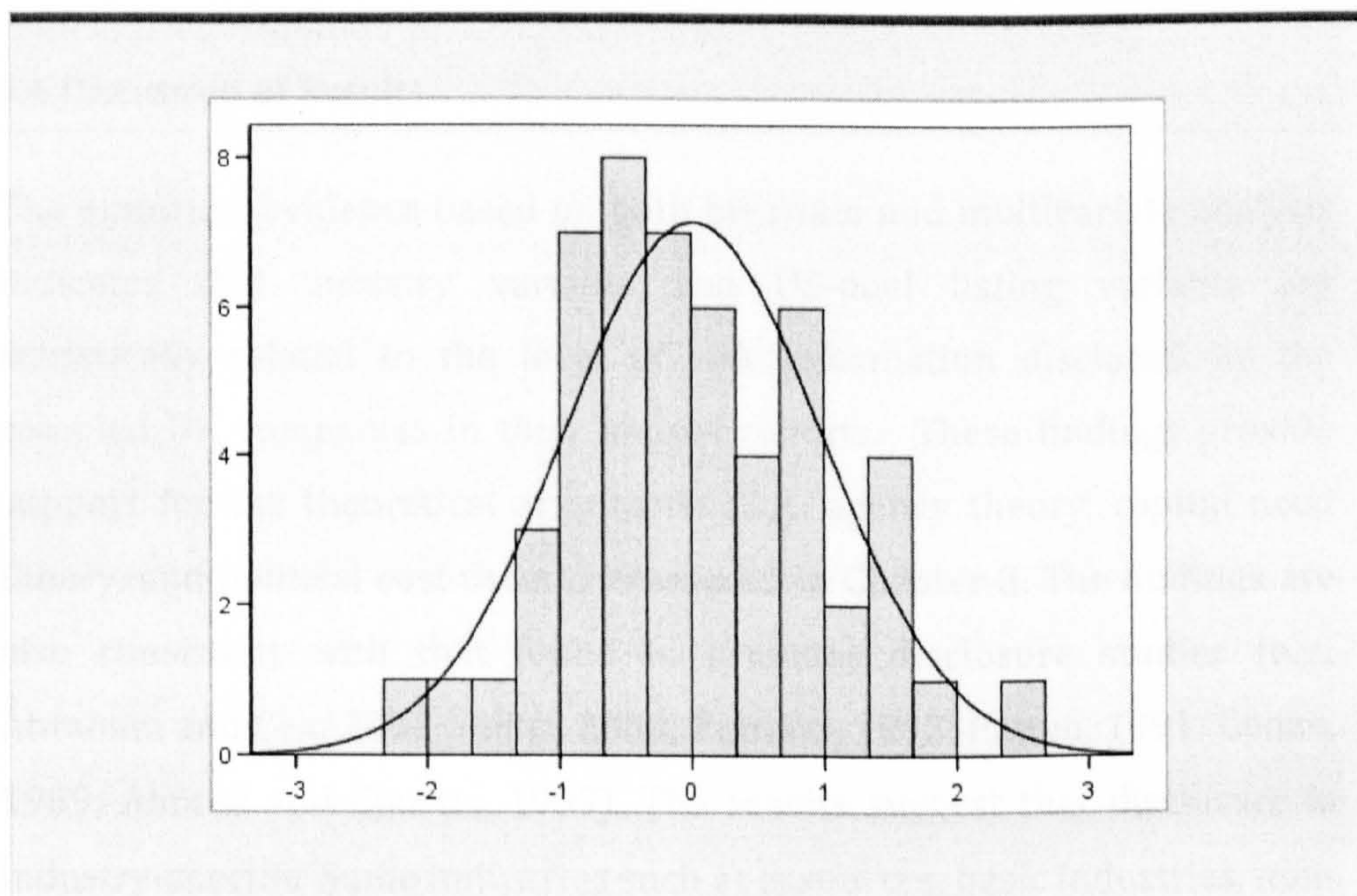


Figure 6.1: Distribution of the Residual

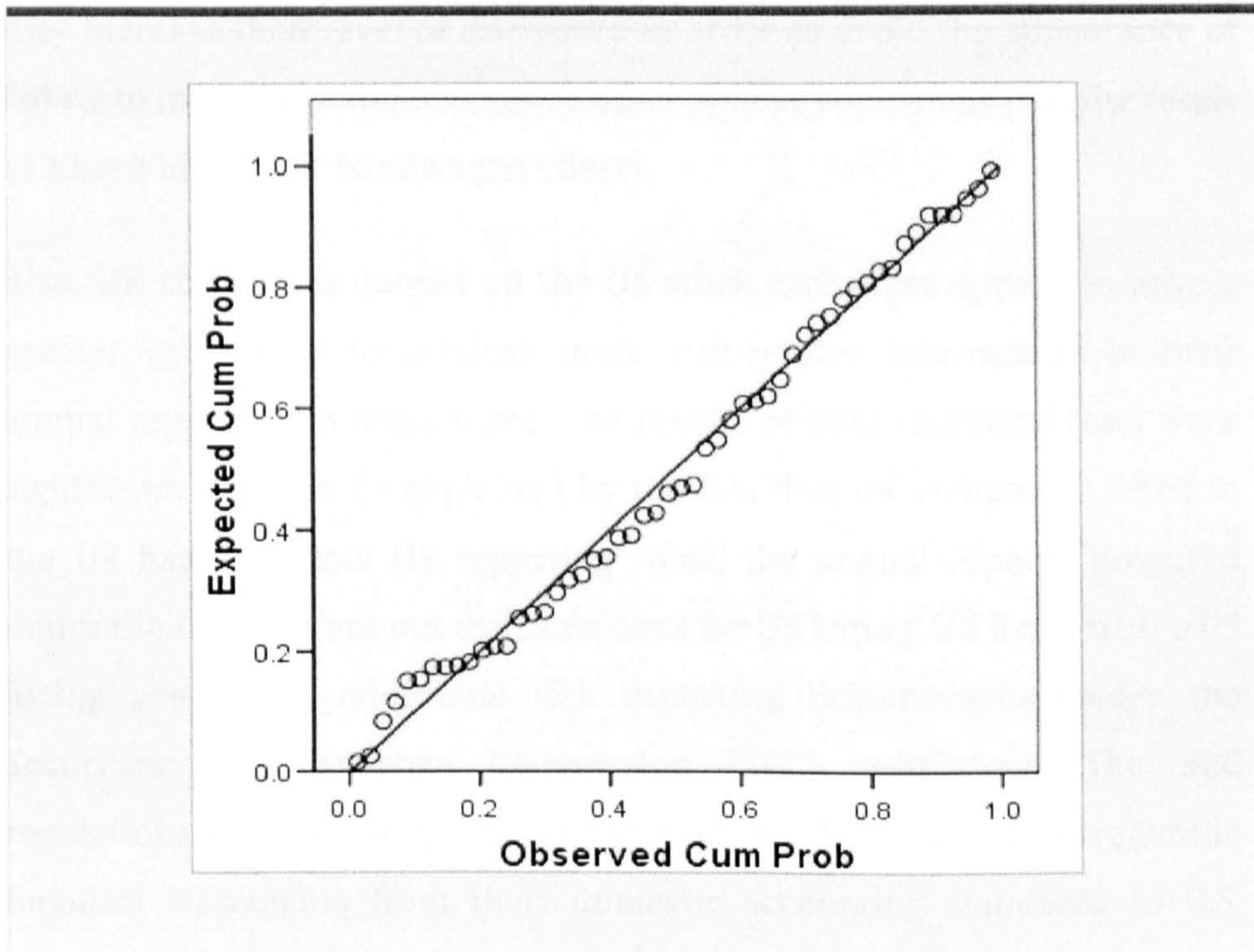


Figure 6.2: P-P Normality Plot

6.6 Discussion of Results

The empirical evidence based on both bivariate and multivariate analysis indicates that industry variable and US-dual listing variable are statistically related to the level of risk information disclosed by the sampled UK companies in their annual reports. These findings provide support for the theoretical arguments (e.g., agency theory, capital need theory, and political cost theory) discussed in Chapter 3. The findings are also consistent with that found in previous disclosure studies (e.g., Abraham and Cox, 2007; Aljifri, 2008; Roberts, 1992; Patten, 1991; Cooke, 1989; Ahmed and Courtis, 1999). The results suggest that disclosure is industry-specific. Some industries such as resources, basic industries, non-cyclical consumer goods, utilities, and general industries disclose more than other industries (e.g., non-cyclical service, cyclical services and information technology) perhaps because some certain industries may be

subject to more complex regulations than other industries. Companies may increase their level of disclosure in order to avoid the appearance of failing to meet the standards set by other similar companies (i.e., the result of a herd instinct or bandwagon effect).

Also, UK companies quoted on the US stock exchanges appear to have a greater propensity to disclose more risk-related information in their annual reports than other firms. The results of both statistical tests were significant. This can be explained by the fact that UK companies listed in the US had to follow US reporting rules; the annual reports prepared under the UK rules are not the same ones for US listing. UK firms with a US listing are facing additional risk reporting requirements under the Securities and Exchange Commission (SEC) regulations. The SEC regulations require foreign securities registered in the U.S. to reconcile financial statements from their domestic accounting standards to U.S. accounting standards and submit this via a form 20-F. For example, the instructions for form 20-F require that “the document shall prominently disclose risk factors that are specific to the company or its industry” (SEC 2008, p. 11, Item 3D). UK firms are not required to disclose this additional information within their UK annual reports, however, the information made available to investors in other market give rise to a stock market expectation that the same information must not be held back from investors in the UK (Abraham and Cox, 2007). In addition, for the information is already published in another jurisdiction, there are few preparation costs and there are no proprietary costs as the information is presumably publicly available (Abraham and Cox, 2007). UK companies with a US listing are required to provide more detailed discussion about the principal risk factors that may affect their businesses. These factors differ from one business to another. For example, PG Group, an oil and gas company, reports on a number of risk factors including exploration and new ventures, project pre-scanning definition and commercialisation, project delivery and other factors (PG Group, Annual Report 2004). These

risk factors are required under US reporting rules but not under UK reporting rules. Another explanation put forward is that foreign listing provides firms with an opportunity to raise capital through international markets. By disclosing more, companies may attract foreign investors. In addition, disclosure may better enable greater foreign investors to monitor their interests. The evidence found in this study is also consistent with that found in other studies (e.g., Abraham and Cox, 2007; Inchausti, 1997; Wallace et al., 1994; Hossain et al., 1994; Cooke, 1989a; Firth, 1979; Singhvi and Desai, 1971).

Size has been shown to be an important explanatory variable of corporate disclosure in previous studies (e.g., Huafang and Jianguo, 2007; Oliveira et al., 2006; Kent and Ung, 2003; Naser et al., 2002; Depoers, 2000; Raffournier, 1995; Hossain et al., 1994; Wallace et al., 1994; Chow and Wong-Boren, 1987), but here the results of statistical analyses indicate otherwise. This is not consistent with the arguments contained in the theoretical framework that disclosure helps to overcome agency costs, political costs, and other opportunities costs as a firm grows in size. Of course, the sample was selected from the FTSE-100 index so all the sampled firms could be classed as 'large'. If this research had surveyed a greater range of UK firms, a positive association between size and disclosure may be more obvious. However, some previous research (e.g., Aljifri, 2008; Aljifri and Hussainey, 2007; Kou and Hussain, 2007; Deloitte, 2006; Mak, 1996; Gray et al., 1995a; Roberts, 1992; Davey, 1982; Ng, 1985; Stanga, 1976) did not find a positive relationship between size and disclosure. Abraham et al. (2007) found a positive, albeit weak, relationship between the size of a company and the total risk disclosure quality. Large firms might have the incentives for reducing the level of risk disclosure if firms believe that the information disclosed may impose a proprietary cost, hence putting a company at a competitive disadvantage and affecting the company negatively (e.g., Field et al., 2003; Linsley and Shrivies, 2000; AICPA, 1994; Skinner, 1994).

As with size variable, leverage was not significant in either the bivariate or multivariate analyses. Theory suggests that highly leveraged firms would incur monitoring cost (Jensen and Meckling, 1976; Myers, 1977). Thus, additional disclosure would be made for monitoring purposes, that is, firms would seek to reduce these monitoring costs by disclosing more information (Ahmed and Courtis, 1999). However, an important note is that the association between leverage and disclosure is ambiguous. Prior research testing the relationship between disclosure and leverage has not been conclusive (Ahmad and Courtis, 1999) and produced mixed results. Some evidence (Huafang and Jianguo, 2006; Naser et al., 2002; Hossain et al., 1994; Bradbury, 1992) found a significant relationship between leverage and disclosure, while other evidence (e.g., Aljifri, 2008; Konishi and Ali, 2007; Abraham et al., 2007; Oliveira et al., 2006; Haniffa and Cooke, 2005; Linsley and Shrivess, 2005; Wallace and Naser, 1995; Inchausti, 1997; Craswell and Taylor, 1992; Chow and Wong-Boren, 1987) found leverage to have insignificant association with the level of disclosure. However, as with the size variable, the choice of the sample (i.e., which constitutes largest UK firms) should be considered when interpreting the results. Another possible explanation of the results is that the UK is an equity-financed country relying more on financial markets than on the banks, and also has a rich disclosure environment compared to debt-financed country.

6.7 Summary and Conclusion

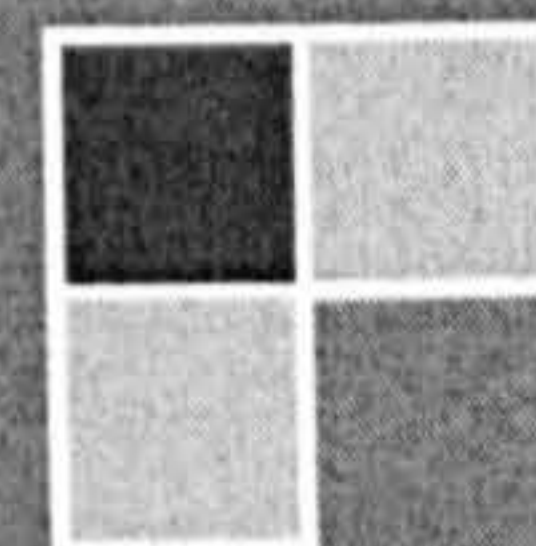
The present chapter sought to investigate some factors influencing the level of risk disclosure in company annual reports. Drawing from previous literature on corporate risk disclosure, four firm-specific characteristics were selected and investigated namely firm size, industry type, US-dual listing, and leverage. The dependent variable (risk disclosure level) was computed for the year 2004 using a content analysis (the result of which is presented in Chapter 5).

Thus, considering the hypotheses 2a, 2b, 2c, and 2d, the extent of risk disclosure has been found to be significantly related to industry type and US-dual listing variables. Inversely, no significant relationship was found between leverage and risk disclosure and between risk disclosure and firm size. It is important to note that the association between disclosure and some firm's factors (e.g., leverage) is still ambiguous. It could also be argued that the factors affecting the level of risk disclosure are different from those affecting the level of other types of corporate financial disclosure examined in prior accounting literature.

Therefore, the main conclusion of this chapter is that risk disclosure systematically varies depending upon industry type and US-dual listing variable. For certain industries, being subject to more complex regulations than others will encourage them to increase their level of disclosure to avoid the appearance of failing to meet the standards set by other similar companies. Also, for British companies, with a US listing, that are used to meeting a multiplicity of US reporting rules and regulations, they are likely to disclose more information than other listed firms. Thus, taken as a whole, the results suggest that risk disclosure in annual reports is driven more by regulation than by market. Although regulations and risk reporting proposals have influenced (i.e., increased) the level of risk information disclosed, the type of risk information disclosed, as can be seen from the discussion in Chapter 5, is of questionable quality, hence its relevance to investors. The findings of Abraham et al. (2007) reveal an overall low score for disclosure quality in their sampled companies. The question of information quality was also raised in other previous studies (e.g., Lajili and Zegal, 2005; Linsley and Shrivess, 2005, 2006; Konishi and Ali, 2007).

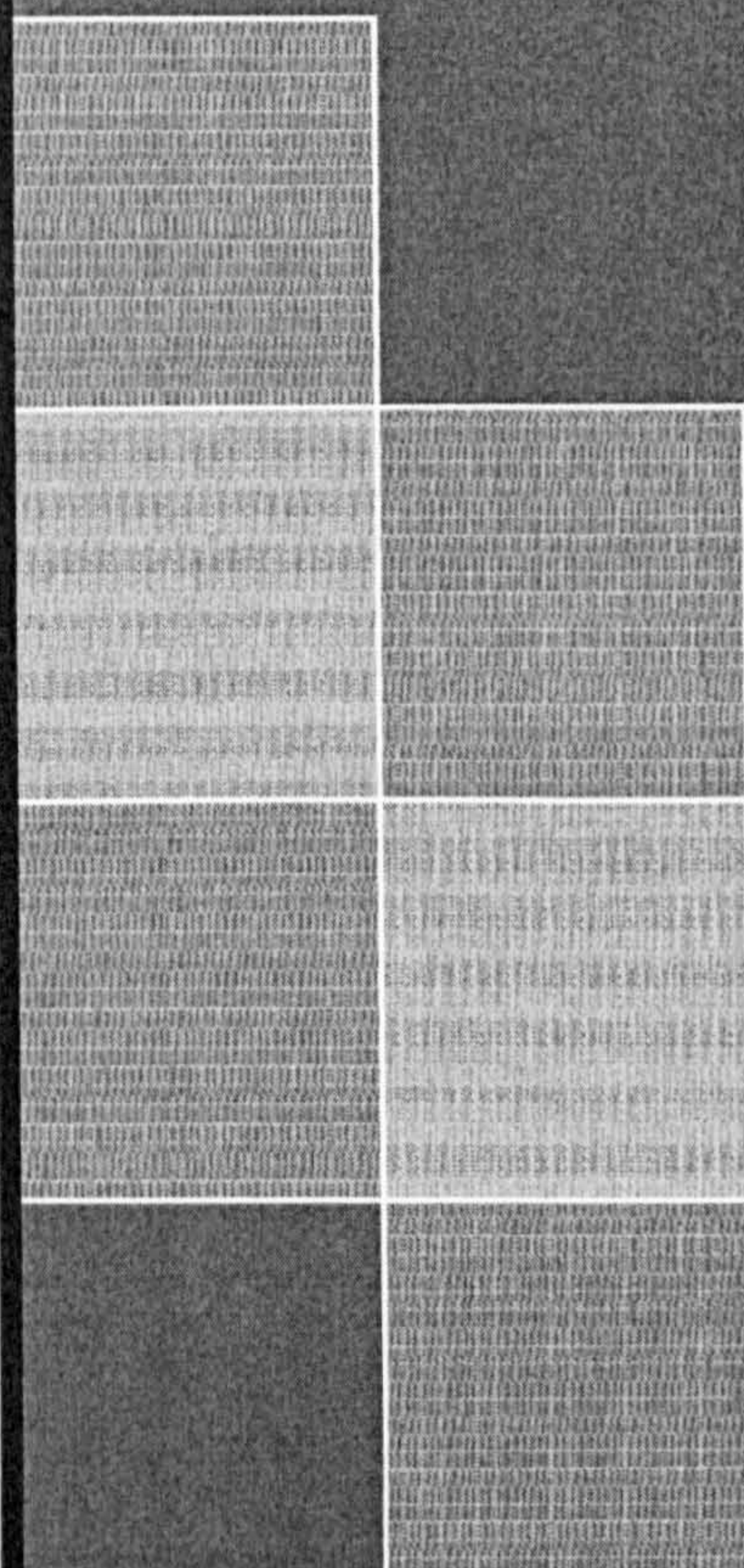
Thus, in view of the potential benefit of risk disclosure in reducing information asymmetries and thereby increasing investors' confidence, it would be valuable to test whether there is any negative relationship

between risk disclosure and cost of equity capital reflecting this improvement in investor attitude. Thus, the impact of risk disclosure on a company's cost of equity capital will be examined in the next chapter.



Chapter 7

The Effect of Annual Report Risk Disclosure Level on the Company's Cost of Equity Capital: Empirical Results



7.1 Introduction

The present chapter investigates empirically the relationship between risk disclosure level in the annual report and the company's cost of equity capital. This is at the same time an indirect test of the usefulness of the risk information disclosed in the annual report for investors. Only when risk information disclosed in the annual report is useful (i.e., information meets the characteristics of being reliable and relevant), should a negative relationship between risk disclosure level and the cost of equity capital be expected.

However, empirical evidence on the relationship between disclosure level and the cost of equity capital experienced major methodological difficulties in developing measures both for disclosure levels and for the cost of equity capital. In the present research, the cost of equity capital is estimated using a Four-Stage Dividend Growth Model. In addition to this direct measure of the cost of equity capital, the bid-ask spread is used as proxy for information asymmetry (information asymmetry is a component of the cost of capital). Another proxy, stock volatility, was also used. For the risk disclosure level, a measure was developed based on content analysis (results of which are presented in Chapter 5) because no such measure is available from professional sources. Having developed measures for both disclosure level and the cost of equity capital, the next step is to regress the cost of equity capital on the disclosure level after controlling for other potentially influential variables such as firm size and beta. These two variables (size and beta) were chosen based on prior literature (e.g., Botosan, 1997; Lang and Lundholm, 1993; Leuz and Verrecchia, 2000; Botosan and Blumlee, 2002; Hail, 2002; Froidevaux, 2004; Petersen and Plenborg, 2006). Therefore, the following model was developed:

$$r = \beta_0 + \beta_1 \text{Beta} + \beta_2 \text{Size} + \beta_3 \text{risk disclosure} + \varepsilon$$

Where:

r is the measure of the cost of equity capital/ proxies for information asymmetry;

Beta is the measure of systematic risk;

Size is the log of turnover;

Risk disclosure is the firm total risk disclosure score for the year 2004;

ε is the error term.

The analysis is based on the year 2004 because the missing forecasts data made it impossible to calculate the cost of equity capital for 1998 and 2001. The remainder of this chapter is organised as follows. First, descriptive statistics and correlation tests for different variables are presented in section 7.2. Section 7.3 presents the results of multivariate analysis. Discussion of the results is presented in section 7.4. The summary of the chapter is given in section 7.5.

7.2 Descriptive Statistics and Correlation Tests

Table 7.1 displays the descriptive statistics of the cost of equity capital (IRR) and proxies for information asymmetry (e.g., bid-ask spread, and Stock volatility). The table also offers descriptive statistics for risk disclosure and other variables related to the cost of capital (e.g., beta, leverage, DY, Tobin q).

Variables	Min	Max	Mean	SD
IRR (%)	4.50	17.20	9.99	2.69
Volatility	15.02	51.31	26.01	7.10
Bid-Ask spread	0.0009	0.005	0.002	0.001
Beta	0.15	1.67	0.92	0.33
Leverage	1.50	527.18	131.15	106.99
Size (£m)	6.57	11.98	8.46	1.23
DY	0.46	7.19	2.96	1.40
Tobin q	-0.15	1.45	0.17	0.36
Risk disclosure level	28.00	275.00	93.50	54.12

IRR is the cost of equity capital measured by a four-stage dividends growth model. Volatility is the annual stock volatility. Bid-ask spread is the average bid-ask spread, that is, the absolute spread divided by the average of bid and ask. Beta is the measurement of systematic risk. Size is the log of total turnover at the year end of 2004. Leverage is the ratio of total debt to total equity. DY is captured as the ratio of annual dividend per share at the year end to the share price. Tobin q is captured as the ratio of market value divided by asset value. Risk disclosure level is the total firm disclosure score on three risk disclosure categories (i.e. environmental disclosure, operational disclosure, and strategic disclosure).

Table 7.1: Descriptive Statistics

Table 7.1 shows the minimum, maximum, mean, and standard deviation for different variables. It shows that there is a broad range of variation in the sample. Risk disclosure level ranges from 28 to 275 sentences with a mean of 93.50 and a standard deviation of 54.12. Size ranges from 6.57 to 11.98 with a mean of 8.46 and a standard deviation of 1.23. Leverage ranges from 1.5 to 527.18 with a mean of 131.15 and a standard deviation of 106.99.

The cost of equity capital measure, IRR, ranges from 4.50% to 17.20% with a mean of 9.99% and a standard deviation of 2.69%. Assuming a risk free rate of 4.5% (long-dated UK yield), the IRR average of 9.99% reported here indicates a risk premium of 5.49%. This is comparable to historical risk premium estimates. For example, Dimson et al. (2006) showed that the UK equity risk premium lies at 4.7%. The study by Hirst et al. (2007) assumed and used an equity risk premium of 6%. Thus, the magnitude of

the risk premium obtained from the cost of equity capital measure reported in this study supports the validity of IRR measure. The IRR mean of 9.99% is considered reasonable compared to other studies. The mean of 9.99% here is significantly lower than the mean of 20.1% reported by Botosan (1997) on the US firms and higher than the mean of 6.18% reported by Hail (2002). For bid-ask-spread, Table 7.1 shows a mean of 0.002.

Stock volatility ranges from 15.02 to 51.31 with a mean of 26.01 and a standard deviation of 7.10. Market beta (beta) is a measure for systematic risk and was used in previous studies (e.g., Botosan, 1997; Botosan and Blumlee, 2002; Hail, 2002; Froidevaux, 2004; Petersen and Plenborg, 2006) that examined the relationship between disclosure level and the company's cost of equity capital. The mean of beta is below 1 indicating that the sample has a market risk below the average of the FTSE-100 index of 0.99 (the average beta for FTSE-100 index). DY was regarded as a proxy for the cost of equity in previous literature (e.g., Haque, 2006; Ang and Bekaert, 2007; Bekaert and Harvey, 2000) and was considered a good proxy for its advantage of being directly measurable. DY is more dependent on forward-looking growth prospects and less prone to be influenced by the market specific noise (Drobetz et al., 2004). DY is not affected by changes in dividend growth rate (e.g., Errunza and Miller, 2000). Table 7.1 shows that DY ranges from 0.46 to 7.19 with a mean of 2.96 and a standard deviation of 1.40.

Table 7.2 gives the results of the Pearson correlation coefficients between the variables (e.g., IRR, bid-ask spread, and stock volatility) and different firm variables related to the cost of equity capital (size, leverage, Beta, DY, asset cover, and Tobin q). The results show that there is a positive and significant relationship ($p < 0.01$) between leverage and IRR supporting the measure of IRR validity. This implies that firms with high leverage experience a higher cost of equity capital. This is consistent with

predictions. The results also show a positive and significant relationship between IRR and dividends yield (DY) ($p < 0.01$). In addition, there is a negative and significant relationship between IRR and Tobin q ratio ($p < 0.05$).

However, with regard to the relationship between IRR and size, the correlation is not as significant as may have been expected ($p = 0.353$). The results also reveal no relationship between beta and IRR ($p = 0.448$); although beta has the expected sign suggesting that the cost of equity capital is not related to market beta. Previous studies had difficulties documenting this relationship empirically (e.g., Hail, 2002; Froidevaux, 2004; Petersen and Plenborg, 2006). Gebhardt et al. (2001) found a negative relationship between cost of equity and beta although the capital asset pricing model (CAPM) suggests that a stock market beta should be positively correlated with its cost of capital. Similar findings were reported by Froidevaux (2004) and Peterson and Plenborg (2006). The lack of a significant association is somewhat surprising and could be caused by some deficiencies in the beta measure itself as documented by Fama and French (1992) who did not support the most basic prediction of the positive relationship between market beta and average stock return. It is argued (e.g., Hail, 2002) that the CAPM provides no role for risk factors other than market beta to create variation in cost of capital unless one assumes these factors are directly linked to market beta itself. Thus, market beta might be a poor measure of market risk, hence poorly suited for examining the impact of disclosure on the cost of capital.

		IRR	Bid-ask spread	Volatility
Size	Pearson correlation	0.131	-0.516**	-0.110
	Sig. (2-tailed)	0.353	0.000	0.442
Beta	Pearson correlation	0.108	0.114	0.583**
	Sig. (2-tailed)	0.448	0.425	0.000
Leverage (gearing)	Pearson correlation	0.400**	0.017	-0.048
	Sig. (2-tailed)	0.005	0.913	0.750
DY	Pearson correlation	0.552**	-0.130	-0.194
	Sig. (2-tailed)	0.000	0.353	0.173
Asset cover	Pearson correlation	-0.117	-0.295*	0.042
	Sig. (2-tailed)	0.417	0.039	0.776
Tobin q	Pearson correlation	-0.332*	-0.116	-0.038
	Sig. (2-tailed)	0.018	0.423	0.795
** Correlation is significant at the 0.01 level (2-tailed).				
* Correlation is significant at the 0.05 level (2-tailed).				
Size is the log of turnover at the year end of 2004. Leverage is the ratio of total debt to total equity. DY is captured as the ratio of annual dividend per share divided by the share price. Asset cover is the ratio of total asset minus liabilities divided by total debt outstanding. Tobin q is the ratio of market value divided by asset value. Beta was obtained from Risk Measurement Service published by London Business School (beta figures were compared to my measure of the variance of 60-month stock returns).				

Tale 7.2: Pearson Correlations between IRR, Bid-ask Spread, and Stock Volatility and Other Related Variables.

Bid-ask spread was found to be negatively and significantly correlated with size ($p < 0.01$) which is consistent with predictions that the bigger the firm the lower the bid-ask spread. The correlation between bid-ask spread and asset cover is also significant ($p < 0.05$) and behaves in the predicted direction. The signs of correlation behave as predicted in the opposite direction. Asset cover ratio was regarded as a measure of risk level (e.g., Linsley and Shrives, 2006). The higher the ratio, the lower the risk. Thus, the results are consistent with theory and predictions.

Stock volatility is found to be significantly associated with beta ($p < 0.01$). As predicted, this implies that firms with high beta experience higher volatility in their stocks. The relationship between stock volatility and size was found to be insignificant but the sign behaves in the predicted

direction. No significant association was found between stock volatility and other variables.

It may be more useful to see volatility not so much as a proxy for cost of capital but rather as an indirect measure of information asymmetry because rapid fluctuations in share price may, to a large extent, be caused by uncertainty on the part of buyers and sellers who are not privy to management decisions about the firm's operation.

Table 7.3 displays the results of Pearson correlations between total risk disclosure (and different types of risk disclosure) scores and the cost of capital variables (IRR, Bid-ask spread, and stock volatility). The table also presents the correlations between disclosure scores and beta.

Variables	Total Risk Disclosure	Environmental Risk Disclosure	Operational Risk Disclosure	Strategic Risk Disclosure	Good News	Bad News	Neutral News	Qualitative Disclosure	Quantitative Disclosure
IRR									
Pearson correl.	-0.081	-0.133	-0.021	-0.119	-0.029	-0.033	-0.092	-0.091	-0.009
Sig. (2-tailed)	0.567	0.346	0.880	0.400	0.838	0.819	0.514	0.522	0.947
Bid-ask									
Pearson correl.	-0.201	-0.249	-0.134	-0.141	-0.033	-0.296*	-0.212	-0.208	-0.123
Sig. (2-tailed)	0.157	0.078	0.348	0.325	0.819	0.035	0.135	0.143	0.390
Volatility									
Pearson correl.	-0.164	-0.081	-0.180	-0.138	-0.193	-0.313*	-0.073	-0.131	-0.299*
Sig. (2-tailed)	0.251	0.571	0.206	0.335	0.175	0.025	0.611	0.360	0.033
Beta									
Pearson correl.	-0.176	-0.127	-0.218	0.013	-0.159	-0.149	-0.130	-0.157	-0.247
Sig. (2-tailed)	0.213	0.370	0.120	0.928	0.261	0.291	0.357	0.266	0.077
** Correlation is significant at the 0.01 level (2-tailed).									
* Correlation is significant at the 0.05 level (2-tailed).									

Table 7.3: Pearson Correlations between Risk Disclosure and the Cost of Equity Capital Variables

The results displayed in Table 7.3 above indicate that there is no significant association between total risk disclosure level and the cost of equity capital, IRR. The results also indicate, contrary to expectations, that there is an insignificant relationship between different disclosure types and IRR. Similarly, the results indicate an insignificant relationship between disclosure and beta. The results are consistent with the results of previous studies (e.g., Linsley and Shrives, 2006) in finding an insignificant relationship between risk disclosure and beta.

For the relationship between disclosure scores and the variable of bid-ask spreads, the results show that there is a negative and significant association between bad news risk disclosures and bid-ask spreads ($p < 0.05$). The results also show a negative and significant relationship between bad news risk disclosures and stock volatility ($p < 0.05$) and between quantitative risk disclosure and stock volatility ($p < 0.05$). This implies that firms with higher disclosure of bad news reduce information asymmetry as measured by bid-ask spread and stock volatility. Likewise, the results indicate that firms with higher quantitative risk disclosure levels reduce stock volatility. The result is consistent with previous studies (e.g., Welker, 1995; Healy et al., 1999; Frankel et al., 1999; Peterson and Plenborg, 2006).

The Pearson correlations between dependent (IRR, Bid-ask spread, and stock volatility) and independent (i.e., size, and beta) variables are presented in Table 7.2, whereas Table 7.3 displays the Pearson correlations between dependent variables (IRR, Bid-ask spread, and Stock volatility) and risk disclosure scores. However, before performing the multivariate tests, Pearson correlation coefficients have also been computed to determine the correlations between the independent variables. Table 7.4 displays the correlation matrix between dependent and independent variables. The table reveals no statistical significant correlations between the independent variables suggesting that the

independent variables (size, beta, and risk disclosure) are not related to each other.

Variables	IRR	Bid-ask spread	Stock volatility	Size	Beta	Risk disclosure	Bad news	Quantitative disclosure
IRR								
Pearson correlation	1.000							
Sig. (2-tailed)								
Bid-ask spread								
Pearson correlation	-0.080	1.000						
Sig. (2-tailed)	0.575							
Stock volatility								
Pearson correlation	-0.015	0.257	1.000					
Sig. (2-tailed)	0.918	0.069						
Size								
Pearson correlation	0.131	-0.516**	-0.110	1.000				
Sig. (2-tailed)	0.353	0.000	0.442					
Beta								
Pearson correlation	0.108	0.114	0.583**	-0.002	1.000			
Sig. (2-tailed)	0.448	0.425	0.000	0.991				
Risk disclosure								
Pearson correlation	-0.081	-0.201	-0.164	0.084	-0.176	1.000		
Sig. (2-tailed)	0.567	0.157	0.251	0.554	0.213			
Bad news								
Pearson correlation	-0.033	-0.296*	-0.313*	0.261	-0.149	0.445**	1.000	
Sig. (2-tailed)	0.819	0.035	0.025	0.062	0.291	0.001		
Quantitative disc.								
Pearson correlation	-0.009	-0.123	-0.299*	-0.005	-0.247	0.822**	-0.299*	1.000
Sig. (2-tailed)	0.947	0.390	0.033	0.970	0.077	0.000	0.031	

Table 7.4: Correlations Matrix between Dependent and Independent Variables

7.3 Multivariate Analysis

As stated above, the following multiple regression model was fitted to the data in order to assess the effect of each variable on cost of equity capital:

$$r = \beta_0 + \beta_1 \text{Beta} + \beta_2 \text{Size} + \beta_3 \text{Risk disclosure} + \varepsilon$$

Where:

r is the measure of cost of equity capital (IRR)/ proxies for information asymmetry;

Beta is the measure of systematic risk;

Size is the log of total turnover at the year end of 2004;

Risk disclosure is the firm risk disclosure score for 2004;

ε is the error term.

The results of IRR regression on total risk disclosure level (and on different types of risk disclosure) were not discussed further because Table 7.3 showed no association between the two variables, IRR and total risk disclosure (although this was checked explicitly by running the regression of IRR on total disclosure).

The results of regression analysis for stock volatility and risk disclosure are displayed in Table 7.5. The multiple regression model is highly significant ($p < 0.001$). The adjusted coefficient of determination (Adjusted R^2) in Panel A indicates that 31.3 (35.7 in Panel B; 33.8 in Panel C) percent of the variation in the dependent variable is explained by variations in the independent variables.

Panel A of Table 7.5 shows that the coefficients on total risk disclosure and on size are negative but insignificant ($p = 0.626$ and $p = 0.391$ respectively). Beta takes on the expected sign and is significant at the 0.001 level. This implies that firms with high beta experience a higher stock volatility, which is consistent with expectations. The regression model is highly

significant ($p < 0.001$). The adjusted coefficient of determination (Adjusted R^2) indicates that 31.3 percent of the variation in the dependent variable is explained by variations in the independent variables.

Similarly, the results presented in Panel B show a negative coefficient on bad news but less significant than for beta. The coefficient on size is negative but insignificant. The coefficient on beta is negative and significant at the 0.001 level.

Panel A: Regression of stock volatility on total disclosure, size, and beta

Variables in the equation

	Intercept β_0	Total disclosure (β_1)	Size (β_2)	Beta (β_3)
B (coefficient)	20.531	-0.009	-0.582	12.029
t statistic	3.249	-0.490	-0.865	4.818
Sig. T	0.002	0.626	0.391	0.000

Adj. $R^2 = 31.3$, $F = 8.59$, $p = 0.000$

Panel B: Regression of stock volatility on bad news disclosure, size, and beta

Variables in the equation

	Intercept β_0	Bad news disclosure (β_1)	Size (β_2)	Beta (β_3)
B (coefficient)	19.000	-0.415	-0.282	11.754
t statistic	3.172	-1.863	-0.420	4.806
Sig. T	0.003	0.069	0.677	0.000

Adj. $R^2 = 35.7$, $F = 10.25$, $p = 0.000$

Panel C: Regression of stock volatility on quantitative disclosure, size, and beta				
Variables in the equation				
	Intercept β_0	Quantitative disclosure (β_1)	Size (β_2)	Beta (β_3)
B(coefficient)	22.022	-0.150	-0.618	11.382
t statistic	3.527	-1.429	-0.941	4.574
Sig. T	0.001	0.160	0.351	0.000

Adj. R² = 33.8, F = 9.52, p = 0.000

Table 7.5: Regression Results (Stock Volatility is the Dependent Variable)

Panel C (of table 7.5) shows the regression results of stock volatility on quantitative disclosure, size and beta. It shows that the coefficient on quantitative disclosure is negative but insignificant ($p=0.160$). Size takes on the expected negative sign but insignificant ($p=0.351$) while the coefficient on beta is positive as expected and significant at the 0.001 level.

Performing the multiple regression (with stock volatility as dependent variable) using the stepwise method confirms that the model included two variables only, beta and bad news disclosure. The other variable (size) was eliminated. Table 7.6 displays the results.

	Intercept	Beta	Disclosure of bad news
B(coefficient)	16.730	11.538	-0.440
t statistic	6.571	4.836	-2.069
Sig. T	0.000	0.000	0.044

Adj. R² = 36.8, F = 15.56, p = 0.00

Table 7.6: Regression Results Using the Stepwise Method (Stock Volatility is the Dependent Variable)

Spearman Rank correlations were also performed to check the robustness of the regression results and in order to give greater assurance of the regression results. Results are displayed in Table 7.7.

		Stock volatility	Total disclosure	Size	Beta
Stock volatility	Correlation coefficient Sig (2-tailed)	1.000			
Total disclosure	Correlation coefficient Sig (2-tailed)	-0.200 0.159	1.000		
Size	Correlation coefficient Sig (2-tailed)	-0.168 0.240	0.206 0.143	1.000	
Beta	Correlation coefficient Sig (2-tailed)	0.624** 0.000	-0.128 0.366	0.057 0.690	1.000

		Stock volatility	Bad news disclosure	Size	Beta
Stock volatility	Correlation coefficient Sig (2-tailed)	1.000			
Bad news	Correlation coefficient Sig (2-tailed)	-0.309* 0.027	1.000		
Size	Correlation coefficient Sig (2-tailed)	-0.168 0.240	0.216 0.125	1.000	
Beta	Correlation coefficient Sig (2-tailed)	0.624** 0.000	-0.097 0.496	0.057 0.690	1.000

		Stock volatility	Quantitative disclosure	Size	Beta
Stock volatility	Correlation coefficient Sig (2-tailed)	1.000			
Quantitative news	Correlation coefficient Sig (2-tailed)	-0.259 0.067	1.000		
Size	Correlation coefficient Sig (2-tailed)	-0.168 0.240	0.148 0.295	1.000	
Beta	Correlation coefficient Sig (2-tailed)	0.624** 0.000	-0.162 0.252	0.057 0.690	1.000

Table 7.7: Spearman Rank Correlations

Table 7.8 displays the regression results of bid-ask spreads on risk disclosure, size and beta. Panel A shows the coefficient on total risk disclosure is negative but insignificant ($p=0.295$) and the coefficient on beta is positive and insignificant ($p=0.468$), while the coefficient on size is negative and significant ($p<0.001$).

Panel B shows that the coefficient on bad news is negative and insignificant ($p=0.226$) and the coefficient on beta is positive and not significant ($p=0.467$), while the coefficient on size is negative and significant ($p<0.001$).

In Panel C, size takes on the expected negative sign and is significant ($p<0.001$). Beta takes on the positive sign and insignificant ($p=0.489$). Quantitative disclosure behaves in the expected direction but insignificant ($p=0.427$).

Panel A: Regression of bid-ask spread on total risk disclosure, size, and beta				
Variables in the equation				
	Intercept β_0	Total disclosure (β_1)	Size (β_2)	Beta (β_3)
B (coefficient)	0.006	0.000	0.000	0.000
t statistic	6.152	-1.059	-4.076	0.732
Sig. t	0.000	0.295	0.000	0.468

Adj. R² = 25.1, F = 6.58, p = 0.001

Panel B: Regression of bid-ask spread on bad news disclosure, size, and beta				
Variables in the equation				
	Intercept β_0	Bad news disclosure (β_1)	Size (β_2)	Beta (β_3)
B (coefficient)	0.006	-4.480	0.000	0.000
t statistic	5.975	-1.226	-3.748	0.733
Sig. t	0.000	0.226	0.000	0.467

Adj. R² = 25.7, F = 6.76, p = 0.001

Panel C: Regression of bid-ask spread on quantitative disclosure, size, and beta				
Variables in the equation				
	Intercept β_0	Quantitative disclosure (β_1)	size (β_2)	Beta (β_3)
B(coefficient)	0.006	-1.372	0.000	0.000
t statistic	6.050	-0.801	-4.195	0.697
Sig. t	0.000	0.427	0.000	0.489

Adj. R² = 24.4, F = 6.36, p = 0.001

Tables 7.8: Regression Results (Bid-ask Spreads is the Dependent Variable)

Again, Spearman Rank correlations were also performed to check the robustness of the regression results and in order to give greater assurance of the regression results. The results are displayed in Table 7.9.

		Bid-ask spread	Total disclosure	Size	Beta
Bid-Ask spread	Correlation coefficient	1.000			
	Sig (2-tailed)				
Total disclosure	Correlation coefficient	-0.285*	1.000		
	Sig (2-tailed)	0.043			
Size	Correlation coefficient	-0.431**	0.206	1.000	
	Sig (2-tailed)	0.002	0.143		
Beta	Correlation coefficient	0.091	-0.128	0.057	1.000
	Sig (2-tailed)	0.526	0.366	0.690	

		Bid-ask spread	Bad news	Size	Beta
Bid-Ask spread	Correlation coefficient	1.000			
	Sig (2-tailed)				
Bad news	Correlation coefficient	-0.299*	1.000		
	Sig (2-tailed)	0.033			
Size	Correlation coefficient	-0.431**	0.216	1.000	
	Sig (2-tailed)	0.002	0.125		
Beta	Correlation coefficient	0.091	-0.097	0.057	1.000
	Sig (2-tailed)	0.526	0.496	0.690	

		Bid-ask spread	Quantitative disclosure	Size	Beta
Bid-Ask spread	Correlation coefficient	1.000			
	Sig (2-tailed)				
Quantitative disclosure	Correlation coefficient	-0.145	1.000		
	Sig (2-tailed)	0.310			
Size	Correlation coefficient	-0.431**	0.148	1.000	
	Sig (2-tailed)	0.002	0.295		
Beta	Correlation coefficient	0.091	-0.162	0.057	1.000
	Sig (2-tailed)	0.526	0.252	0.690	

Table 7.9: Spearman Rank Correlations

Overall, the results show that risk disclosure level is not related to IRR. Stock volatility was found to be negatively and significantly related to bad-news disclosure and also to quantitative disclosure in the bivariate analysis. However, the multivariate results shown in Table 7.5 revealed otherwise. This may be partly due to multi-collinearity effects among the independent variables. The results (displayed in Table 7.6) suggest the following stepwise regression model:

$$\text{Stock volatility} = \beta_0 + \beta_1 \text{Beta} + \beta_2 \text{bad news disclosure} + \varepsilon$$

The bivariate and multivariate tests also produced contradictory results for the bid-ask spread. Bid-ask spread was found to be significantly and negatively related to bad-news disclosure in bivariate analysis, whereas the multivariate model revealed otherwise (see Table 7.8). As with stock volatility, this may due to multi-collinearity effects between the independent variables.

Using Spearman Rank correlations (Tables 7.7 and 7.9) confirm the results of the correlation analysis presented in Tables 7.3 and 7.4 but with exception of that bid-ask spread was found to be significantly (although marginally) and negatively related to total disclosure, suggesting that greater risk disclosure reduces investors' uncertainty.

The results suggest that there is some doubt as to whether the risk information revealed in the annual reports reassures investors, and thereby reduces the risk premiums in required rates of return on equity.

7.4 Discussion of Results

In the present research, content analysis has been performed to measure the level of risk information disclosure so a numerical measure for the level of disclosure has been assigned for each company in the sample. The

cost of equity capital has been directly estimated for each company. Other company characteristics, related to both disclosure level and the cost of equity capital, have been identified and estimated. Both bivariate and multivariate analyses have been performed to test the relationships between variables and to test whether the level of annual report risk disclosure is negatively related to the cost of equity capital, after controlling for other factors that might affect the cost of equity, such as company size and beta.

The findings of this study did not show a significant relationship between total risk disclosure score and the cost of equity capital variables, a finding that contradicts the expected negative relationship between disclosure level and the cost of equity capital.

However, the results of the statistical tests revealed a significant and negative relationship between bid-ask spreads and bad news disclosure (in bivariate analysis), and between stock volatility and bad news risk disclosure (in both tests), and between stock volatility and quantitative risk disclosures (in bivariate analysis). These findings underline the importance of bad news risk disclosure and quantitative risk disclosures. The findings support the arguments put forward by previous literature (Schrand and Elliot, 1998; Kadous et al., 2005; Linsley and Shrivess, 2006). These studies suggest that quantitative disclosure enhances the credibility (hence reliability and relevance) of the information disclosed. Only when disclosure facilitates the assessment of the potential impact upon company, is it considered relevant to investors. Directors would be motivated to disclose bad news disclosure to avoid the incident of credibility concerns (e.g., Crombie and Samujh, 1999) and to avoid litigation cost when there are large stock price declines on earnings announcement days (e.g., Skinner, 1994). The results of Kothari and Short (2003) indicate that negative news affects cost of capital while positive news does not.

In academic literature, it is assumed that enhanced disclosure will result in greater transparency and a higher liquid market, hence, a lower cost of equity capital. In practice, however, more disclosure might well increase the cost of capital. It is possible to raise cheap capital if you misrepresent or fail to reveal some of the risks to which an investment will be exposed. However, that is barely a basis for sustained access to capital markets (ICAEW, 1999b).

Previous literature (e.g., Botosan, 1997; Botosan and Blumlee, 2002; Richardson and Welker, 2001; Hail, 2002) on the relationship between disclosure level and the cost of equity capital produced mixed results. Botosan (1997), for example, found a negative relationship between the two variables but only for firms with low analyst following, whereas for firms with high analyst following the author found no such relationship. Botosan and Blumlee (2002) also produced mixed results. While the authors found a negative relationship between the cost of equity capital and annual report disclosure, they found a positive relationship between the cost of equity capital and the level of more timely disclosures such as the quarterly report. They explain the contrary results with the opinion of managers claiming that more timely disclosure increases the cost of equity possibly through increased stock price volatility. Finally, the authors found no relationship between the cost of equity and the level of investor relations activities. They conclude that the relationship between the two variables depends on the type of disclosure and the aggregation of different types of disclosure to a measure of total disclosure will lead to no association. Richardson and Welker (2001) found that financial disclosure reduces the cost of equity capital. However, in contrast, the authors found a positive relationship between environmental disclosure and the cost of equity capital. Hail (2002) concludes that the lower overall disclosure level of Swiss firms, comparing to US firms, may provide an explanation for her results of a strong relationship between disclosure and the cost of equity capital. Armitage and Marston (2007) indicate that UK finance

directors do not believe that there is a clear relationship between disclosure and the cost of equity capital probably because their companies already provide at least a good practice disclosure level. Some respondents believe that there is no link at all. Others believe greater disclosure can increase the cost of equity capital. The fact of whether improved disclosure cuts the cost of capital is often asserted as an indisputable fact, however, "it is clear that not everyone is convinced by the research so far..." practitioner's input would be helpful (ICAEW, 2004b, p. 15).

The focus of this research is on the UK environment (and similarly a US environment) which is viewed as having high disclosure standards. This may provide an explanation for the insignificant association between risk disclosure and the cost of equity capital. In other words, it was considered tough (e.g., Hail, 2002; Leuz and Verrecchia, 2000; Botosan, 1997) to document a significant negative relationship between disclosure and the cost of equity capital in a rich disclosure environment.

Even when companies that are regarded as high risk and perceive their high level of risk, the level of disclosure in their annual reports may not be effective in or for the aim of reducing the cost of equity (Peterson and Plenborg, 2006). It could be that company managers are unable or unwilling to disclose the information of the greatest value to the market. Even when information disclosed is regarded as high quality, the quality of disclosure itself may not affect a company's share price. Thus, it may not be the level of disclosure that drives the results but rather a firm's general policy. In other words, voluntary disclosure may be a proxy for a firm's disclosure policy in general (Peterson and Plenborg, 2006).

If it is to be assumed that large companies, such as those contained in this research sample, follow a benchmark of good practice communications and meet the market expectations, then there would be little advantage in

disclosing more than what was expected. Effort beyond the good-practice benchmark has little effect on the cost of equity, and eventually yields very little or none beyond a level of best practice effort (Armitage and Marston, 2007). This is supported by the view of respondents who believe that disclosure matters in theory and not in practice (Armitage and Marston, 2007). This stage is “inferred from the fact that neither practitioners nor academics suggest that the ‘information risk premium’ is the major part of the cost of equity for listed companies. Therefore, even if investors had as much information as the managers, the company’s cost of equity would not be much lower than under modern best-practice communication” (Armitage and Marston, 2007, p. 10). Figure 7.1 shows the effect of disclosure on the cost of equity. The figure was drawn based on the views of respondents to the survey carried out by Armitage and Marston (2007). The key point in the figure is that, beyond a certain point, further disclosure has little effect on the cost of equity.

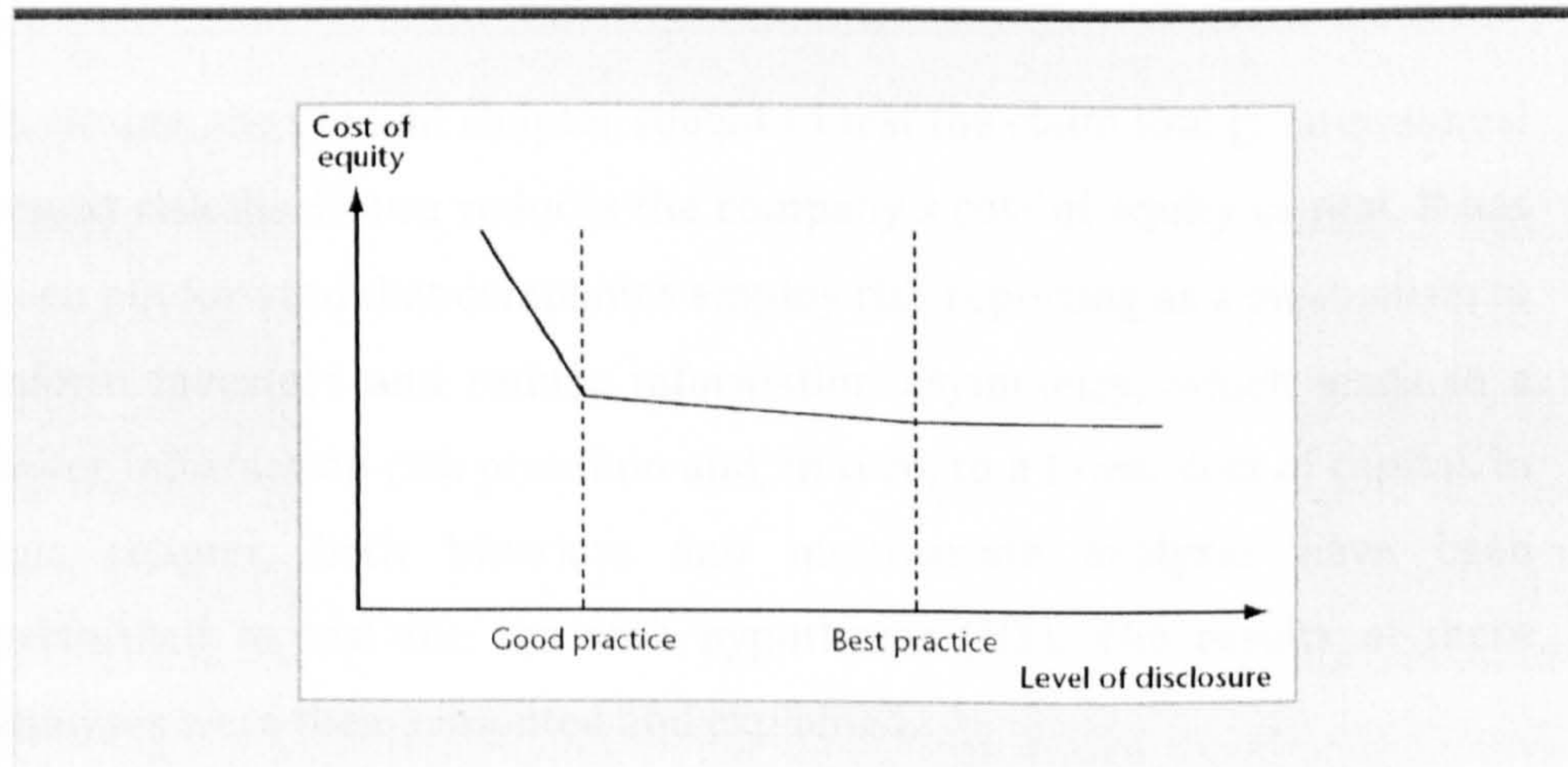


Figure 7.1: Effect of Disclosure on the Cost of Equity
Source: Armitage and Marston (2007)

Perhaps the annual report is not the most important vehicle of communication, in conveying information to the market, which affects the cost of capital. Other effective methods of communication include presentations to groups of analysts and investors, or one-to-one meetings, and news announcements. In Bence et al. (1995), analysts gave higher

ranks to preliminary announcements, Personal interviews, interim statements and company presentations than the rank given to annual report, while investors ranked annual reports top equal along with Personal interviews. Direct contact and analysts meeting received the highest rank from fund managers (Barker, 1998). Analysts view the annual report as an important source of information but behind private contact and analysts meeting (Epstein and Palepu, 1999). Face-to-face contact is viewed by companies and investors as important in adding value since it gives investors the opportunities to question companies (Holland, 2006).

Thus, when it comes to reducing a company's cost of equity, different information sources have different effects. Also, different types of information have different effects (e.g., quantitative versus qualitative; bad versus good versus neutral).

7.5 Summary and Conclusions

In closing, the present chapter sought to test the claim that greater annual report risk disclosure reduces the company's cost of equity capital. It has been put forward that companies employ risk reporting as a mechanism to inform investors and reduce information asymmetry, which leads to a lower information risk premium and, in turn, to a lower cost of capital. In this chapter, both bivariate and multivariate analyses have been performed to test the research hypotheses (H3). The results of these analyses were then presented and explained.

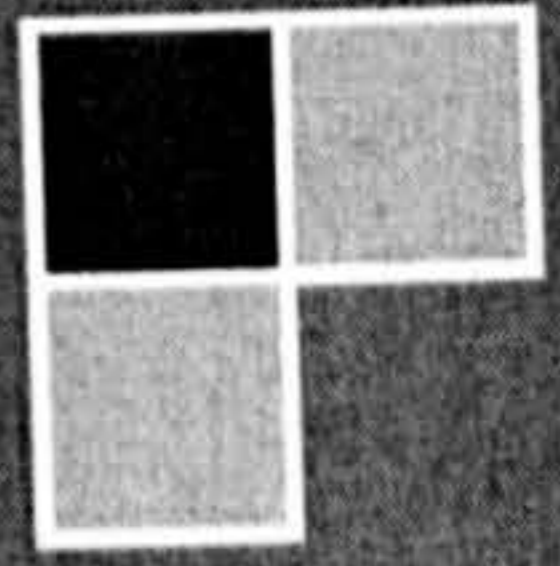
The results do not support a negative association between risk disclosure level and the cost of equity capital. Only when investors perceive that the information is credible and relevant, risk information disclosed in the annual report can lead to a reduction in the cost of equity capital.

The companies in the research sample are classified as large and are followed by a high number of analysts. As the average sample firm, in this research, is followed by approximately 17 analysts (see Table 4.5 in Chapter 4), this suggests that the selected companies are operating in a high disclosure environment (Hail, 2002). It is possible that for listed companies with lower analyst following, some correlation would have been found between disclosure level and the cost of equity capital (Botosan, 1997). However, no such relationship exists for large UK companies. Botosan (1997) found a negative relationship between disclosure and the cost of equity capital for companies with low analyst following only. However, she did not find such a relationship for firms with high analyst following.

While risk disclosure is nowadays increasingly required by regulations, there is debate whether the current requirements for risk disclosure in annual reports are effective. Or, alternatively, it could be that companies follow a benchmark of good practice communications and meet market's expectation, therefore any increase in disclosure has either a low effect or no effect on the cost of equity capital. It could be that these companies have no or low information asymmetry particularly in risk disclosure. It could be that investors rely on other sources of information rather than the annual report to make their decisions.

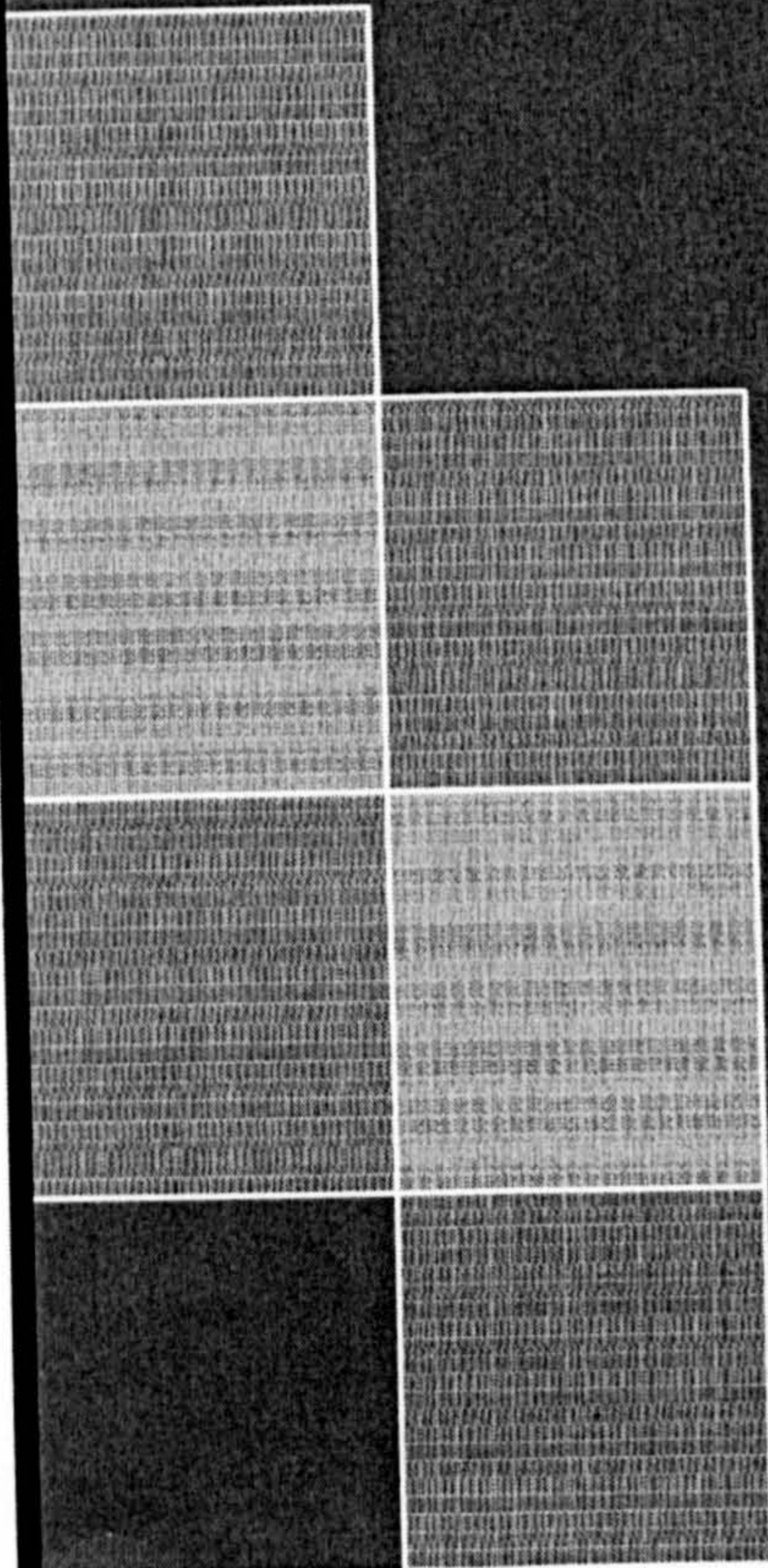
However, the findings revealed in this chapter show that bad news risk disclosure reduces bid-ask spread. The findings also show that quantitative risk disclosure and bad news risk disclosure are effective in driving a reduction in stock volatility. These findings clearly demonstrate that annual report disclosures are of substantial significance.

The following chapter presents a summary of the findings, draws key conclusions and highlights potential areas for future research.



Chapter 8

Summary, Conclusions & Future Research



8.1 Introduction

The main purpose of the present research was to study different types of risk information disclosed in the UK non-financial companies' annual reports. The research examined corporate risk disclosure in three different periods to study current practices and establish trends in risk reporting. The research also examined the relationship between risk disclosure and four firm factors including firm size, leverage, industry type, and US-dual listing. Furthermore, the research provided evidence of the relationship between risk disclosure and a company's cost of equity capital. Evidence (e.g., Botosan, 1997; Hail, 2002; Botosan and Blumlee, 2002; Chen et al., 2003) to date almost exclusively focuses on other types of disclosures, for example, financial and environmental disclosure, investors' relation disclosure, and corporate governance mechanisms. The relationship between cost of capital and disclosure level varies by disclosure type (see, for example, Botosan, 1997; Botosan and Blumlee, 2002). It would be interesting to know if risk disclosure reduces the cost of equity capital since there has been some debate on the issue (ICAEW, 1997, 1999b, 2002; ICAEW, 2003, 2004b; Armitage and Marston, 2007). The present research serves to provide further contribution to these three issues.

The core aim of the present chapter is to bring together and highlight the primary conclusion related to the research objectives set out in Chapters 1 and 4. A summary of the research aims and objectives, questions, and the approach adopted in achieving these aims and objectives are outlined. The conclusions of the main findings of the present research and the contributions to the literature on disclosure are summarised. Next, key limitations of the research are identified. Finally, further areas that could potentially be explored comprise the section on future research.

8.2 Summary

8.2.1 Overview

The present research has explored the current state of corporate risk reporting and disclosure practices in the UK environment, and examined whether the extent of risk disclosure in the annual reports of UK companies has changed over time. The rationale was to examine whether the risk disclosure practices of UK companies indicated any changes in attitude in their risk reporting, and to ascertain any limitations of such disclosure practices. Accounting regulations and accounting rules have increasingly developed over the past years. The past years have witnessed a constructive and long debate on the Operating and Financial Review (OFR) statement to improve the quality of financial reporting and satisfy the information needs of users. New frameworks and codes of corporate governance have been developed together with the many recommendations and proposals published by accounting institutions to promote risk disclosure in the annual reports. There is a need for additional risk disclosure studies to fill the gap identified in the literature (Schrand and Elliot, 1998; ICAEW, 1999b, 2002, 2003, 2004b; Solomon et al., 2000). This research provides a comprehensive and longitudinal study of the extent of risk disclosure. It is interesting to examine risk reporting in the light of recent developments. Some previous accounting disclosure studies' findings are relevant to the findings of this research. For instance, Patten (1992) and Deegan et al. (2000) provided examples of event studies where the volume of environmental disclosure was shown to respond to the increased exposure to criticism experience after a particular event. Longitudinal studies of corporate social disclosure (Deegan and Gordon, 1996; Haniffa and Cooke, 2005) indicated increases in the extent of information being disclosed by companies.

Furthermore, the present research related the level of annual report risk disclosure to its possible relationship with some corporate attributes (firm

factors) including firm size, leverage, industry and US-dual listing. These attributes are referred to as determinants of disclosure. The aim was to examine what motivates companies to go beyond disclosure requirements and disclose more information needed by various users of the corporate report.

In addition, the present research examined the benefits of enhancing risk information by empirically testing the impact of risk disclosure level on a company's cost of equity capital. Theoretical arguments suggest that greater disclosure enhances stock market liquidity and thereby reduces cost of equity capital through reduced transaction costs and increased demand for securities (Amihud and Mendelson, 1986; Diamond and Verrecchia, 1991). However, empirical evidence (e.g., Botosan, 1997; Richardson and Welker, 2001; Botosan and Blumlee, 2002) produced mixed results. The present research, therefore, sought to provide comprehensive and systematic examination of the effect of different types of risk disclosure on the cost of equity capital.

Thus, the following three research questions have been formulated:

Research Question 1: What are the current practices of corporate risk disclosure and to what extent did UK listed companies respond to recent developments that lead to the increased pressure on companies to enhance their risk disclosure (i.e., whether risk disclosure in the annual reports changed over time)? This question is extended to include the following sub-questions:

- Do differences exist in the extent and variety of annual report risk disclosure of UK companies between 1998, 2001, and 2004?
- What information is being disclosed?
- How is the information being disclosed?
- Does reporting practice vary between industries?

This question was investigated based on Hypothesis 1 formulated in Chapter 2:

Hypothesis 1: There are significant differences in risk disclosure over the period under examination (1998-2004).

Research Question 2: Does risk disclosure relate to the following firm attributes (factors): size, industry, US-dual listing, and leverage?

This question was investigated based on Hypothesis 2 (2a, 2b, 2c, 2d) formulated in Chapter 3:

Hypothesis 2(a): there is a positive relationship between risk disclosure level and firm size.

Hypothesis 2(b): there is a positive relationship between risk disclosure level and industry type.

Hypothesis 2(c): there is a positive relationship between risk disclosure level and US-dual listing variable

Hypothesis 2(d): there is a positive relationship between risk disclosure level and leverage.

Research Question 3: Does risk disclosure affect the company cost of equity capital?

This question was investigated based on Hypothesis 3 formulated in Chapter 3:

Hypothesis 3: There is a negative association between disclosure level and the cost of equity capital.

8.2.2 Research Design

8.2.2.1 Annual Report as the Disclosure Proxy

Disclosure by an organisation is communicated to its stakeholders in a number of ways. Risk information may be disclosed in a variety of media, such as the annual report, interim report, press releases, newsletters, conference calls and direct communication with analysts. This research focuses on risk-related information disclosure made in narrative sections of the annual report for several reasons. Firstly, the annual report is a mandatory document required by legislation and is produced on a regular

basis. Secondly, the annual report is widely recognised as the principal means for corporate communication and is seen as an important vehicle for financial communication between managers and stakeholders. Thirdly, the annual report is viewed as the least costly, but most effective, means of communication and has been widely used in previous studies. Fourthly, most proposals that recommended companies to enhance risk disclosure have focused on the disclosure made in the annual report. Previous research (Lang and Lundholm, 1993) suggests that annual report disclosure scores are correlated positively with other media of financial communication, suggesting that firms coordinate their disclosure policies across different media (Botosan, 1997).

8.2.2.2 Measuring Disclosure Level

Different approaches have been used in the literature to measure the level of information disclosure. Instead of a mere count of the number of items disclosed, the present study adopted content analysis in order to classify and analyse the diverse aspects of corporate risk disclosure. This is in line with previous studies. An appropriate coding scheme that lists three broad categories (e.g., environmental risk, operational risk, and strategic risk) and different risk items related to these categories was developed. A checklist was developed to capture, in addition to the volume of disclosure, the quality dimensions of the information disclosed. The additional quality dimensions that were considered include the type of statement made (quantitative and qualitative), the type of news conveyed (good, bad, neutral), and news time-frame (future, past, non-time). Narrative sections (mainly the chairman statement, CEO report, OFR, director's report, and CG section) of each company's annual report for 1998, 2001, 2004 were fully analysed and risk disclosure (measured by the number of sentences) classified on an individual recording sheet. The checklist containing categories and items was used and a set of decision rules were applied. A pilot sample of reports was analysed and a number

of procedures were followed to ensure the reliability and validity of disclosure measure.

8.2.2.3 Measuring the Cost of Equity Capital

A four-stage dividend growth model was adopted to directly estimate the company's cost of equity capital. Bid-ask spread was used to proxy for information asymmetry (a component of the cost of capital). Stock volatility was also used to test with the level of risk disclosure.

8.2.2.4 Other Variables

Among many factors existing in the literature, four variables were chosen to test what determines UK companies to disclose risk disclosure in the annual report. These factors are: firm size, leverage, US-dual listing, and type of industry.

8.2.2.5 Sample Selection

The sampled firms comprise 52 UK non-financial companies drawn from FTSE-100 index. The research focuses on a time span covering six years (i.e., 1998-2004) to allow more in-depth examination of trends. Thus, 156 annual reports relating to the fiscal years 1998, 2001, and 2004 were sought, obtained and analysed.

8.3 Conclusions

8.3.1 Results

8.3.1.1 Trends in Risk Disclosure

The findings of the present study confirmed, in aggregate, a trend of increasing amounts of corporate risk disclosure. Risk disclosure among UK companies was found to be primarily focused on operational risk. The findings showed that risk disclosures are typically of a neutral and positive (good) nature with very little bad (negative) news disclosed. The findings

also indicate that qualitative disclosures dominate over quantitative disclosures. Another important finding relates to disclosures (news) time-frame. The findings show that non-time disclosure received the highest score followed by future disclosure and past disclosure respectively. However, caution is needed when interpreting disclosure related to the future as many statements found under this category are neutral statements.

From the content analysis, it can be concluded that there is some useful risk-related information disclosed by companies in their annual reports. However, quantitative information is limited, and future-related information tends to be limited to neutral (rather than positive or negative) disclosures. This means that when future-related information is disclosed, it is poorly provided despite the fact that this kind of information is important to investors. An important conclusion is that companies provide substantial but rather inadequate explanations in their annual reports.

There might be a bias towards positive, neutral, and qualitative news which may hinder managers in providing effective news (e.g., warning signals or quantitative disclosure). The texts that describe every minor risk without giving details on the likelihood and potential impact can obscure major risks (Deumes, 2008). In this case, that which is omitted is as significant as that which is included in the texts (Jameson, 2000).

Disclosure regulations intend to deal with information gaps in the market so information becomes available to investors. The results of this research suggest that accounting regulations and rules together with many proposals issued by accounting organisations have influenced the increases in the level of risk information sentences disclosed but cannot ensure the quality of the disclosed information. Previous research has found that while regulation is efficient in increasing the level of disclosure,

there is no impact on the quality of information (see O'Shea et al., 2008). Thus, more effort on providing information would, therefore, further enhance the usefulness of risk reporting.

8.3.1.2 Determinants of Risk Disclosure

With regard to the second research question, the findings show that the key underlying factors that affect the extent to which risk information is disclosed are industry type (Hypothesis 2b) and US-dual listing (Hypothesis 2c). The significant relationship between US-dual listing and risk disclosure level suggests that companies with US-dual listing disclose more risk information than other firms. Similarly, the significant relationship between industry variable and risk disclosure level suggests that companies in certain industries (such as resources, basic industries, non-cyclical consumer goods, utilities, and general industries) disclose more than other industries (e.g., non-cyclical service, cyclical services and consumer goods). However, the results show no evidence that firm size is positively associated with disclosure (Hypothesis 2a). Nor do the findings show that risk disclosure is highly correlated with leverage (Hypothesis 2d). Of course, the sample was selected from the FTSE-100 index so all firms could be classed as large. If a greater range of UK firms had been surveyed, a positive association between risk disclosure score and firm size may have been more apparent. It is important to note that the association between risk disclosure (and other type of accounting disclosure) and some corporate attributes (e.g., leverage) is still ambiguous. The results suggest that risk disclosure in companies' annual reports is driven more by regulations than by the market.

8.3.1.3 Risk Disclosure Level and the Cost of Equity Capital

Regression analysis was used to explain the impact of increased risk disclosure level on the company's cost of equity capital. The findings showed no relationship between the total risk disclosure level and the cost of equity capital. The different components of risk disclosure

(environmental risk, operational risk, and strategic risk disclosures) also have no effect on the cost of equity capital. This is contrary to predictions made on the basis of disclosure theory (e.g., agency theory and capital needs theory). This is perhaps because, for these sampled firms with a high analyst following, the disclosure measure was limited to the annual report and accordingly may not provide a powerful proxy for overall disclosure level when analysts play a significant role in the communication process (Botosan, 1997). It is, of course, possible that for smaller listed companies with lower analyst following, some correlation between risk disclosure and the cost of equity capital would have been found (Botosan, 1997). However, no such correlations exist for large UK listed companies. It might also be claimed that UK firms, like US firms, already operate in a high risk disclosure environment (Hail, 2002).

However, the research found a significant negative association between bad news disclosure and stock volatility, and also between quantitative disclosure and stock volatility. The proxy of Bid-ask spread was also found to be related to bad news risk disclosure. This implies that firms with greater disclosure of bad news enjoy a reduction in information asymmetry as measured by bid-ask spread and a reduction in stock volatility. The results also showed that firms with greater quantitative news enjoy a reduction in stock volatility. The finding on reduction in information asymmetry clearly demonstrates that annual report disclosures are of substantial information significance.

An important conclusion is that different types of information have different effects (e.g., information presented in financial statements could have a different effect from those presented in other sections; forward-looking information has a different effect from historical and non-time; and quantitative disclosure has a different effect from qualitative disclosure).

The absence of any effect on cost of equity capital may suggest that managers are unable or unwilling to disclose the information of greatest value to the market. In the defence of the directors, it must be said that this research only examines information in annual reports. It is acknowledged that, in practice, investors are likely to use different sources of information to make informed decisions. The ICAEW (ICAEW, 1999) put forward that companies provide extensive risk disclosure in prospectuses rather than in annual reports. Frankel et al. (1999) found that conference calls convey material information. This research highlights the type and nature of the risk information disclosed. Evidence on the issue of risk disclosure outside the annual report and cost of equity capital is still limited and requires further investigation, and is, therefore, a potential area for future research.

Overall, the findings of the present research supported the view that companies disclose substantial but rather incomplete information in annual reports.

8.3.2 Contribution

The present research contributes to the existing literature in several ways. First, although the merits of risk disclosure have been acknowledged in the literature, our understanding of actual risk disclosure is limited. Thus, this research fills the gap in the literature by providing a comprehensive and longitudinal study of the type and nature of corporate risk information disclosed in the annual reports. The goal is to allow more in-depth examination of trends. Changes over a six-year period are more likely to reveal interesting insights.

Second, the present research tested the claim that enhancing risk information disclosed in corporate annual reports would benefit companies with a reduction in their cost of equity capital. Thus, this study adds to the existing research on the benefits of corporate disclosure. This

fills a gap in the existing literature by empirically testing the impact of risk disclosure on the company's cost of equity capital.

Third, the risk disclosure score obtained from content analysis required the development of a disclosure measure for measuring the level of risk information in the annual report. A wide range of literature on risk and risk disclosure was utilised together with content assessment procedures (applied on a sample of annual reports) to develop an appropriate detailed coding scheme (that lists broad content categories and different risk items related to these categories). The coding scheme is detailed and encompasses four different quality variables to allow the examination of content and style of information disclosed. These variables include risk disclosure categories (strategic risk, operational risk, and environmental risk), news time-frame (future, past, non-time), the nature of evidence (qualitative and quantitative) and the type of news (good, bad, and neutral).

Fourth, the findings of the effect of bad news and quantitative disclosure on bid ask-spread and stock volatility confirms the claims about the usefulness of these types of information (e.g., Schrand and Elliot, 1998; Kadous et al., 2005; Linsley and Shrivess, 2006). Only when disclosure is informative and facilitates the assessment of the potential impact upon a company, it is considered relevant to investors.

Fifth, the research enhances the understanding of the underlying factors that could affect risk disclosure in UK companies' annual reports. The research also underlines the usefulness of quantitative and future-related information.

Finally, this research enhances our knowledge of difficulties determine improving risk disclosure in the context of recent efforts made by

professional institutions and accounting regulators to improve the quality of risk reporting.

In conclusion, it is argued that this research makes a positive contribution to expanding our knowledge of corporate risk disclosure and reporting practices in the annual reports, and contributes to the growing debate on risk management and risk disclosure in annual reports. The increases in the risk information disclosed in the annual reports would be seen as evidence and endorse recent efforts of regulatory reforms (including corporate governance reforms) and advices and recommendations made by professional institutions.

8.3.3 Implications

Examining the current state of risk disclosure in annual reports can make clear to financial reporting practitioners if risk disclosure in annual reports can be viewed as an area of best practice for corporate risk communication. This research might be of assistance to companies, regulators, and users (mainly investors) who have an interest in corporate reporting. The users of financial reports may wish to extend their investigations and verify such reporting practices.

The increased public demand for relevant risk disclosure has demonstrated the need for tighter rules and guidance for risk disclosure to restore confidence in corporate reporting. The results of this study, which suggest that risk disclosure in annual reports is incomplete, suggest that the information needs of users are not fully met at the present time. General statements of risk policy were found to be dominating risk disclosures.

Policy makers, accounting bodies, accounting institutions and the academic community are aware of the importance of issuing guidelines on

how to improve risk disclosure. Policy makers should devise the means to enhance companies' involvement in risk disclosure. The efforts should be focused on developing a framework for risk disclosure and guidance for companies to provide relevant risk information that can be of use to investors in evaluating the risk profile of the company. Institutional investors cited in the Solomon et al. (2000) study agreed that increased risk disclosure would help them in their portfolio investment decisions. General statements of risk policy disclosures, although provide some evidence for the continuing development of risk management, are not the type of disclosures requested by the institutional investors. Rather, they require more specific and detailed risk discussions.

There is a need to push companies to provide a statement of key business risk factors with emphasis on the key risks that are specific to each company or its industry. Recent reporting rules should encourage companies to make efforts to enhance the quality of risk information disclosed in their annual reports. They should assess carefully what their principal risks are and report on their potential impacts alongside details on managing and mitigating approaches.

Mandating risk disclosure, however, may have a limited effect on risk reporting quality and may impose adverse disclosure incentives as well. Managers may withhold risk information available due to a number of reasons include commercial drawbacks, i.e., cost. Mandating disclosure can have unfavourable effect for the firms and economy (Dobler, 2008). Therefore, when assessing the information needs of the investors, regulators should ensure that any new standards increase disclosure quality so that investors can make informed decisions founded on quality information though with careful consideration of the costs and benefits associated with such risk disclosures.

The proposed 'safe harbour' provisions in the Companies Act 2006 may encourage companies to give greater details moving forward (ASB, 2007). Information may be enhanced and become more user-focused, hence users of annual reports may be better served.

The resistance to change can be mitigated through education. Risk disclosure should be incorporated in university accounting degree programmes.

8.4 Limitations

This research extends the empirical knowledge and adds to the prior disclosure, and most importantly, to risk disclosure and cost of capital literature. The research, however, has its own limitations that have to be considered when interpreting the results.

The first limitation is the use of sampling unit, the annual report. The present research focused on risk disclosure available in the corporate annual report. While the annual report is considered to be the principal document for communication, companies do employ other channels such as press releases, conference calls and individual meetings to communicate with their stakeholders. It is quite likely that companies provide risk disclosure through these channels which may affect the amount of risk information available in the annual report. Therefore, the sample data (information in the annual report) is somewhat incomplete and may not provide a powerful proxy for overall risk disclosure level.

The second limitation of the present research is the use of content analysis. As with other approaches of measuring disclosure, subjectivity cannot be wholly eliminated. However, the other disclosure measures are fraught with difficulties because they require subjective judgements to be made by the researcher. In addition, the selection of alternative units of

measurement (e.g., words, pages) is subject to debate. A related limitation is that the research examines disclosure quantity (in terms of the number of sentences disclosed) but not quality (although efforts have been made throughout the content analysis process to enrich analysis and gain some sense of quality, for example, by using different quality dimensions). In other words, 'more is better' is not always the case. Again, assessing the quality of the information disclosed is, however, problematic in the absence of a reliable disclosure measure.

The third limitation of this research is in its sample size and selection. The sample was chosen from the FTSE-100 index, and was, therefore, limited to the largest firms with high analyst following. Hence, the results may not be generalizable to small companies. Gomes et al. (2004) found that small firms faced higher cost of equity capital compared to large firms when they lose some of analyst following. Small firms have lower liquidity so they may need to make selective disclosure to attract and maintain analysts following. O'Shea et al. (2008) found that the volatility impact of disclosure is greater for small- and medium-sized firms than large firms. This limitation provides an interesting avenue for future research. A larger sample consisting of small and large firms can be explored by applying the same techniques.

A further limitation of the present research arises from the examination of a single environment (e.g., UK) and a series of three one-year periods. The results cannot be generalized for other markets and other time horizons. Future research would consider a comparison study examining different markets and time periods.

8.5 Future Research

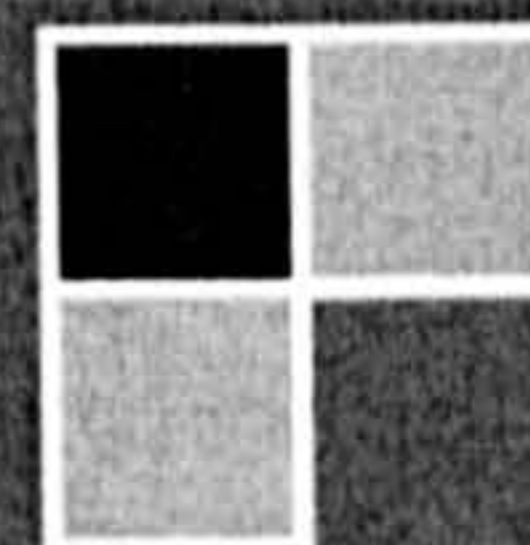
Whereby the findings of the present study suggest that the annual report risk disclosure level does not have an impact on the firm's cost of equity

capital, it is difficult to judge whether annual report risk disclosure is useless to investors or contains useful information about other potential outcomes that are not examined in this study. Future research is needed to further investigate why risk disclosures are made. Future research may also be carried out by increasing the number of firms examined to include financial firms as well as firms from other sectors and by adding more variables to increase the robustness of evidence beyond that presented in this study.

Future research could also be conducted to ascertain the view of analysts and investors regarding the importance of dominant risk categories and other risk items detected in annual reports. This will reflect user perceived importance of different risk disclosure items.

This research focuses on a time span from 1998-2004. Future research could be conducted over a longer time period to examine, for example, the effects of the UK Company Law Review of 2006 on disclosure of risks and uncertainties made in the annual reports. In addition, other alternative disclosure media to annual report such as interim reports, press releases, and the internet may be considered as potential subjects for future research.

The comparability of risk disclosure across countries and across time is another potential area for future research. Future research could examine risk disclosure in other developed countries such as Canada and France and also in developing countries such as China in order to gain a useful and relevant insight into risk reporting practices in different countries.



References

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- Abd-El Salam, O. and Weetman, P. (2003). "Introducing international accounting standards to an emerging capital market: relative familiarity and a language effect; the case of Egypt". *Journal of International Accounting, Auditing and Taxation* 12, 63-84.
- Aboody, D., and Kasznik, R. (2000). "CEO stock option awards and the timing of corporate voluntary disclosures", *Journal of Accounting and Economics* 29, 73-100.
- Abraham, S., and Cox, P. (2007). "Analysing the determinants of narrative risk information in UK FTSE 100 annual reports," *British Accounting Review* 39, 227-248.
- Abraham, S., Solomon, A., and Stevenson, J. (2007). A ranking of risk disclosure in UK annual reports. Working paper, School of Accounting, Economic, and Statistics, Napier University, Edinburgh.
- Abu Baker, N., and Naser, K. (2000). "Empirical evidence on corporate social disclosure (CSD) practices in Jordan" *International Journal of Commerce and Management*, 10(3-4), 18-34.
- Adams, C., Coutts, A., and Harte, G.F. (1995). "Corporate equal opportunities (non), disclosure" *British Accounting Review*, 27(2), pp. 87-108.
- Adams, C., Hill, W.Y., and Roberts, C.B. (1998). "Corporate social reporting practices in Western Europe: Legitimizing corporate behaviour." *British Accounting Review* 30, 1-21.
- Ader, C.R. (1995). "A Longitudinal study of agenda setting for the issue of environmental pollution". *Journalism and Mass Communication Quarterly*, 72(2), 300-311.
- Ahmad, N. and Handley-Schachler, M, (2006). Corporate environmental disclosure: A literature review and a research agenda for developing countries. in Ahmed, A. (ed.), *World Sustainable Development Outlook 2006: Global and Local Resources in Achieving Sustainable Development*, Geneva: Inderscience, pp.79-89.
- Ahmed, K., and Curtis, J. K., (1999). "Associations between corporate characteristics and disclosure levels in annual reports: A meta analysis". *British Accounting Review* 31, 35-61.
- Ahmed, K. and Nicholls, D. (1994). "The effect of non-financial company characteristics on mandatory disclosure compliance in developing countries: The case of Bangladesh", *The International Journal of Accounting*, 29(1), 62-77.
- AICPA (1987). *Report of the task force on risk and uncertainties*. New York: American Institute of Certified Public Accountants.

- AICPA (1994). *Improving Business Reporting- A Customer Focus: Meeting the Information needs of Investors and Creditors, Comprehensive Report of the Special Committee on Financial Reporting (The Jenkins Report)*, New York, NY: American Institute of Certified Public Accountants.
- AIMR (1993). *Financial reporting in the 1990s and beyond*. A position paper prepared by P. H. Knutson. Charlottesville, VA: Association for Investment Management and Research.
- AIMR (1997). *An annual review of corporate reporting practices*. Charlottesville, VA: Association for Investment Management and Research.
- Akerlof, G. (1970). "The market for 'lemons': Quality uncertainty and the market mechanism" *Quarterly Journal of Economics* 84 (3), 488-500.
- Aljifri, K. (2008). "Annual report disclosure in a developing country: The case of the UAE", *Advances in Accounting, Incorporating Advances in International Accounting*, 24, 93-100.
- Aljifri, K., and Hussainey, K. (2007). "The determinants of forward-looking information in annual reports of UAE companies", *Managerial Auditing Journal* 22(9), 881-894.
- Amihud, Y., and Mendelson, H. (1986). "Asset pricing and the bid-ask spread" *Journal of Financial Economics* 17(2), 223-249.
- Andersen, Deloitte & Touche, Ernst and Young, KPMG, PricewaterhouseCoopers, and AICPA (2001). *Impact of the current economic and business environment on financial reporting*.
- Ang, A., and Bekaret, G. (2007). "Stock return predictability: Is it there." *Review of Financial Studies* 20(3), 651-707.
- Armitage, S., and Marston, C. (2007). *Corporate disclosure and the cost of equity capital: The views of finance directors*, London: Institute of Chartered Accountants in England and Wales.
- ASB (1992). *Proposal for a Statement on Operating and Financial Review*. London: Accounting Standards Board.
- ASB (1993). *Reporting Statement: Operating and Financial Review*. London: Accounting Standards Board.
- ASB (1994). *FRS 5: Reporting the Substance of Transactions*, London: Accounting Standards Board.

- ASB (1998). *FRS 13: Derivative and Other Financial Instruments – Disclosures*, London: Accounting Standards Board.
- ASB (1999). *Statement of principles*. London: Accounting Standards Board.
- ASB (2002). *Statement of principles*. London: Accounting Standards Board.
- ASB (2003). *Operating and Financial Review (revised)*, London: Accounting Standards Board.
- ASB (2005). *Reporting Standard (RS1), Operating and Financial Review*. London: Accounting Standards Board.
- ASB (2006). *Reporting Statement: Operating and Financial Review (revised)*. London: Accounting Standards Board. Retrieved February 14, 2008 from <http://www.frc.org.uk/images/uploaded/documents/Reporting%20Statements%20OF%20R%20web.pdf>
- ASB (2007). *A review of narrative reporting by listed companies in 2006*. London: Accounting Standards Board.
- ASSC (1975). *The Corporate Report*, London, Accounting Standards Steering Committee.
- Baker, H.K., and Haslam J.A. (1973). "Informational needs of individual investors", *The Journal of Accountancy* (November), 64–69.
- Ball, R. (1995), "Making accounting more international: Why, how and how far will it go", *Journal of Applied Corporate Finance* 8(3), 19–29.
- Ball, R., Kothari S.P., and Robin, A. (2000). "The effect of international institutional factors on properties of accounting earnings", *Journal of Accounting and Economics* 29(1), 1-51.
- Barker, R.G. (1998). "The market for information – evidence from finance directors, analysts and fund managers", *Accounting and Business Research* 29(1): 3-20.
- Barley, S.R., Meyer G.W., and Gash, D.C. (1988). "Cultures of culture: Academics, practitioners and the pragmatics of normative control", *Administrative Science Quarterly* 33(1), 24–60.

- Barry, C.B., and Brown, S.J. (1985). "Deferential information and security market equilibrium", *Journal of Finance and Quantitative Analysis* 20 (4), 407-422.
- Barry, C.B., and Brown, S.J. (1986). "Limited information as a source of risk", *Journal of Portfolio Management* 12(2), 66-73.
- Bartlett, S.A., and Chandler, R.A., (1997). "The corporate report and the private shareholder: Lee and Tweedi twenty years on", *The British Accounting Review* 29(3), 245-261.
- Beattie, V. (2005). "Moving the financial accounting research front forward: The UK contribution", *British Accounting Review* 37(1), 85-114.
- Beattie, V., and Pratt, K. (2002). *Voluntary annual report disclosures: What users want*, Edinburgh: Institute of Chartered Accountants in Scotland (ICAS).
- Beattie, V., McInnes, W., and Fearnley, S. (2002). *Through the eyes of management: A study of narrative disclosure*. London: Centre of Business Performance, ICAEW.
- Beatty R.P., and Welch I. (2006). "Issuer expenses and legal liability in initial public offerings", *Journal of Law and Economics* 36, 545-602.
- Bekaert, G, and Harvey, CR. (2000). "Foreign speculators and emerging equity markets", *Journal of Finance* 55(2): 565-613.
- Belkaoui, A., and Kahl, A. (1978). "Corporate financial disclosure in Canada", Canadian Certified General Accountants Association, Vancouver, Research Monograph No. 1.
- Bence, D., Hapeshi, K., and Hussey, R. (1995). "Examining investment information sources for sophisticated investors using cluster analysis", *Accounting and Business Research* 26(1), 19-28.
- Berelson, B. (1952). *Content analysis in communication research*, New York: Free Press.
- Beresford, D.R., Cowen, S.S. (1979). "Surveying social responsibility disclosure in annual reports", *Business* 29(2), 15-20.
- Beretta, S., and Bozzolan, S. (2004). "A framework for the analysis of firm risk communication" *International Journal of Accounting* 39, 265-288.

- Berton, L. (1994). "Companies pressure accounting panel to modify demands for more data", *Wall Street Journal* (August 16): A2.
- Bloomfield R.J., and Wilks, T.J (2000). "Disclosure level in the laboratory: Liquidity, depth, and the cost of capital". *Accounting Review* 75(1), 13-41.
- Botosan, C. (1997). "Disclosure level and the cost of equity capital", *The Accounting Review* 72(3), 323-349
- Botosan, C. (2004). "Discussion of a framework for the analysis of firm risk communication", *The International Journal of Accounting* 39, 289-295.
- Botosan, C., and Plumlee M.A. (2002). "A re-examination of disclosure level and the expected cost of equity capital", *Journal of Accounting Research* 40(1), 21-41.
- Boyatzis, R.E. (1998). *Transforming qualitative information: Thematic analysis and code development*, London: Sage publication.
- Bradbury, M.E. (1992). "Voluntary disclosure of financial segment data: New Zealand evidence", *Accounting and Finance*, 32(May), 15-26.
- Branco, M.S and Rodrigues, L.L. (2008). "Factors influencing social responsibility disclosure by Portuguese companies", *Journal of Business Ethics*, 83(4), 685-701.
- Brealey, R.A., and Myers, S. C. (2003). *Principles of corporate finance*, 7th Edition, New York: Irwin McGraw-Hill.
- Brealey, R.A., and Myers, S.C. (2000). *Principles of corporate finance*, 6th Edition, New York: Irwin McGraw-Hill.
- Breton, G., and Taffler, R. J. (2001). "Accounting information and analyst stock recommendation decisions: A content analysis approach", *Accounting and Business Research* 31(2), 91-101.
- Brown, N., and Deegan, C. (1998). "The public disclosure of environmental performance information - a dual test of media agenda setting theory and legitimacy theory", *Accounting and Business Research* 37(1), 21-41.
- Brown, S., Lo, K., and Lys, T. (1999). "Use of r^2 in accounting research: Measuring changes in value relevance over the last four decades". *Journal of Accounting Research* 28, 83-115.

- Bryman, A., and Bell, E. (2003). *Business research methods*, Oxford University Press Inc.
- Bryman, A., Stephens, M., and Campo, C. (1996). "The importance of context: Qualitative research and the study of leadership", *Leadership Quarterly* 7: 353-370.
- Bujaki, M., Zeghal, D. and Bozec, R. (1999). The disclosure of future oriented information in annual reports of Canadian corporations, Working Paper No. 44, University of Ottawa, Ottawa.
- Burritt, R.L. (1997). "Environmental disclosure in annual reports of Australian gold and copper mining companies with activities in Papua New Guinea and/ or Indonesia". Paper presented in the *Resource Management in Asia-Pacific Working Paper Series*, The Australian National University, 23 October.
- Buzby, S.L. (1975) "Companies size, listed versus unlisted stocks and the extent of financial disclosure", *Journal of Accounting Research* 13(1), 16-37.
- Cabedo, J.D., and Tirado, J.M., (2004). "The disclosure of risk in financial statements", *Accounting Forum* 28, 181-200.
- Cadbury Report (1992). *Report of the committee on the financial aspects of corporate governance*, London: Gee Publishing Ltd.
- Callen, J.L. and Morel, M. (2001). "Linear accounting valuation when abnormal earnings are AR(2)", *Review of Quantitative Finance and Accounting* 16, 191-203.
- Campbell, D. (2004). "A longitudinal and cross-sectional analysis of environmental disclosure in UK companies: A research note" *British Accounting Review* 36, 107-117.
- Campbell, D. (2000). "Legitimacy theory or managerial reality construction? Corporate social disclosure in Marks and Spencer plc corporate reports, 1969-1997", *Accounting Forum* 24(1), 80-100.
- Cavendish Asset Management (2002). *Survey of UK investors by Cavendish Asset Management*, London: Cavendish Asset Management.
- Chang, J., (1998). "The decline in value relevance of earnings and book values", Working Paper, University of Pennsylvania, Philadelphia, PA.
- CICA (2002). *Management's Discussion and Analysis – Guidance on Preparation and Disclosure*, Ontario, Canada: Canadian Institute of Chartered Accountants.

- Chen K. C.W., Chen Z., and Wei, K. C. J. (2003). "Disclosure, corporate governance, and the cost of equity capital: Evidence from Asia's emerging markets". Working Paper, Hong Kong University of Science and Technology.
- Choi, F. (1973). "Financial disclosure and entry to the European capital market". *Journal of Accounting Research* 11(2), 159-175.
- Chow, C.W and Wong-Boren, A., (1987). "Voluntary financial disclosure by Mexican corporations", *The Accounting Review* 62(3), 533-541.
- Clarkson, P., Guedes, J., and Thomson, R. (1996). "On the diversification, observability, and measurement of estimation risk", *Journal of Financial and Quantitative analysis* 31(1), 69-84
- Clarkson, P.M., Kao, J.L., Richardson, G.D. (1999). "Evidence that management discussion and analysis (MD&A) is a part of a firm's overall disclosure package". *Contemporary Accounting Research*, 16(1), 111-134
- Clatworthy, M. and Jones, M.J. (2003). "Financial reporting of good news and bad news: Evidence from accounting narratives", *Accounting and Business Research* 33 (3), 171-185.
- Coleman, I. and Eccles, R. (1997). *Pursuing value: Reporting gaps in the United Kingdom*. Price Waterhouse.
- Coles, J., Loewenstein, U., and Suay, J. (1995). "On equilibrium pricing under parameter uncertainty", *Journal of Financial and Quantitative Analysis* 30 (3), 347-364.
- Combes-Thuelin, E., Hennerson, S., and Tournon, P. (2006). "Risk regulations and financial disclosure: An investigation based on corporate communication in French Traded companies". *Corporate Communications: An International Journal* 11(3), 303-326.
- Combined Code (1998). London: The London Stock Exchange Limited.
- Combined Code on Corporate Governance (revised) (2003). London: Financial Reporting Council.
- Companies Act 1985. (Operating and Financial Review and Directors' Report etc.) Regulations 2005. Retrieved February 21, 2008 from <http://www.opsi.gov.uk/SI/si2005/20051011.htm>

Companies Act (2006), retrieved February 26, 2009 from www.opsi.gov.uk/acts/acts2006/pdf/ukpga_20060046_en.pdf

Companies House (2006). *Operating and Financial Review*. Retrieved January, 2008 from <http://www.companies-house.gov.uk/promotional/financialReview.shtml>

Cooke, T.E. (1989a). "Disclosure in the corporate annual report of Swedish companies", *Accounting and Business Research* 19(74), 113-124.

Cooke, T.E., (1989b). "Voluntary corporate disclosure by Swedish companies", *Journal of International Financial Management and Accounting* 1(2), 171-195.

Cooke, T.E., (1991). "An assessment of voluntary disclosure in the annual reports of Japanese corporations", *International Journal of Accounting* 26(3), 174-189.

Cooke, T.E. (1992). "The impact of size, stock market listing and industry type in disclosure in the annual reports of Japanese listed corporations", *Accounting and Business Research* 22(87), 229-237.

Cooke, T.E. (1993). "Disclosure in Japanese corporate annual reports", *Journal of Business Finance and Accounting* 20(4), 521-535.

Copeland, T.E., and Galai, D. (1983). "Informational effects on the bid ask spread", *Journal of Finance* 38(5), 1457-1469.

COSO (Committee of Sponsoring Organisations of Treadway Commission) (1992). *Internal Control – Integrated Framework*. New York, US: AICPA

COSO (Committee of Sponsoring Organisations of Treadway Commission) (2004). *Enterprise Risk Management – Integrated Framework*. New York, US: AICPA

Courtis, J. K. (1997). "Corporate annual report graphical communication in Hong Kong: Effective or misleading?", *Journal of Business Communication* 34(3), 269-288.

Cowen, S.S., Ferreri L.B., and Parker, L.D. (1987). "The impact of corporate characteristics on social responsibility disclosure: A typology and frequency-based analysis", *Accounting, Organizations and Society* 12(2), 111-122.

Craswell, A.T., and Taylor, S.L. (1992). "Discretionary disclosure of reserves by oil and gas companies: An economic analysis", *Journal of Business Finance and Accounting* 19(2), 295-308.

- Craven, B.M., and Marston, C.L. (1999). "Financial reporting on the Internet by leading UK companies", *The European Accounting Review* 8(2), 321-333.
- Crombie, W., and Samujh, H. (1999). "Negative messages as strategic communication: A case study of a New Zealand company's annual executive letter", *Journal of Business Communication* 36(3), 229-246.
- CSR Europe, Deloitte, Euronext (2003). *Investing in responsible business: The 2003 survey of european fund managers, financial analysts and investor relations officers*. Brussels: CSR Europe and Deloitte.
- Darrough, M. and Stoughton, N. (1990). "Financial Disclosure Policy in an Entry Game", *Journal of Accounting and Economics* (12), 219-243.
- Davey, H.B. (1982). "Corporate social responsibility disclosure in New Zealand: An empirical investigation", Massey University, Palmerston North, working paper No 52.
- De Loach, J.W. (2000). *Enterprise-wide risk management: Strategies for linking risk with opportunities*. London: Prentice-Hall.
- Deegan, C. (2000). *Financial Accounting Theory*. Sydney: McGraw Hill.
- Deegan, C., and Gordon, B. (1996). "A study of the environmental disclosure policies of Australian corporations", *Accounting and Business Research* 26(3) 187-99.
- Deegan, C. and Rankin, M. (1996). "Do Australian companies report environmental news objectively: an analysis of environmental disclosure by firms prosecuted successfully by the environmental protection authority", *Accounting, Auditing and Accountability Journal* 9(2), 52-69
- Deegan, C., and Rankin, M (1997). "The materiality of environmental information to users of accounting reports", *Accounting, Auditing and Accountability Journal* 10(4), 562-583.
- Deegan, C., Rankin, M., and Tobin, J. (2002). "An examination of the corporate social and environmental disclosures of BHP from 1983-1997", *Accounting, Auditing and Accountability Journal* 15(3), 312-343.
- Deegan, C., Rankin, M., and Voght, P. (2000). "Firms' disclosure reactions to major social incidents: Australian evidence", *Accounting Forum* 24 (1), 101-130.

Deloitte (2006). *Write to reason: Surveying OFRs and narrative reporting in the annual reports* (October 2006), London: Deloitte.

Demsetz, H. (1983). "The structure of ownership and the theory of the firm". *Journal of Law and Economic* 26(2), 375-390.

Demsetz, H., and Lehn, K. (1985), "The structure of corporate ownership: Causes and consequences", *Journal of Political Economy* 93, 1155-1177.

Depoers, F. (2000). "A cost -benefit study of voluntary disclosure: some empirical evidence from French listed companies", *European Accounting Review* 9(2), 245-263.

Deumes, R. (2008). "Corporate risk reporting: A content analysis of narrative risk disclosure in prospectuses", *Journal of Business Communication*, 45(120), 120-157

Deumes, R., and Knechel, W.R. (2008). "Economic incentives for voluntary reporting on internal risk management and control systems", *Auditing: A Journal of Practice and Theory* 27(1), 35-66.

Diamond, D., and Verrecchia, R. (1991). "Disclosure, liquidity and the cost of equity capital." *Journal of Finance* 46(4), 1325-1360.

Dimson, E., Marsh, P., and Staunton, M. (2006). "The Worldwide equity premium: A smaller puzzle". EFA 2006 Zurich Meetings Paper, (April 7, 2006).

Dobler, M. (2004) "Credibility of managerial forecast disclosure - game theory and regulative implications. Working paper, 2004-4, Munich School of Management, University of Munich.

Dobler, M. (2008). "Incentives for risk reporting - a discretionary disclosure and cheap talk approach". *The International Journal of Accounting* 43, 184-206.

Doherty, N.A., (2000). *Integrated risk management*. New York. McGraw-Hill.

Drobetz, W., Schillhofer, A., and Zimmermann, H. (2004). "Corporate governance and expected stock returns: Evidence from Germany." *European Financial Management* 10(2), 267-293.

DTI (2001). *Modern Company Law for a Competitive Economy: Final Report*, volume 1, July, The Company Law Review Steering Group, Department of Trade and Industry, London.

- DTI (2005). *Operating and Financial Review*. Retrieved December 8, 2005 from <http://dti.gov.uk/cld/financialreview.htm>
- DTI (2006). *Guidance on the changes to the Directors' Report requirements in the Companies Act 1985, April and December 2005*. London, Department of Trade and Industry.
- Dunne, T., Fox, A., and Helliard, C. (2007). "Disclosure patterns in derivatives reporting by UK firms: Implication for corporate governance", *International Journal of Accounting, Auditing, and Performance Evaluation* 4(3), 231-247.
- Dye, R. (1985). "Disclosure of non-proprietary information", *Journal of Accounting Research* 23(Spring), 123-145.
- Dye, R. (1986). "Proprietary and non-proprietary disclosure", *Journal of Business* 59(2), 331-366.
- Eccles R.G., and Mavrinac, S.G. (1995). "Improving the corporate disclosure process", *Sloan Management Review* 36(4), 11-25.
- Eccles, R.G., Hertz, R.H., Keegan, E.M., and Phillips, D.M. (2001). *The value reporting revolution: Moving beyond the earnings game*. New York, NY: John Wiley and Sons.
- Edwards, P., and Smith, R.A. (1996). "Competitive disadvantage and voluntary disclosures: the case of segmental reporting", *British Accounting Review* 28(2), 155-172.
- Elliot, B., and Elliot, J. (2004). *Financial accounting and reporting*, 8th edition. Pearson Education limited.
- Elliot, B., and Elliot, J. (2007). *Financial accounting and reporting*. 11th edition. Pearson Education limited.
- Elliot, R.K. (1992). "The third wave breaks on the shores of accounting", *Accounting Horizons* 6(2), 61-85.
- Epstein, M.J. and Palepu, K.G. (1999). "What financial analysts want", *Strategic Finance* (April), 49-52
- Epstein, M.J., and Freedman, M. (1994). "Social disclosure and the individual investor", *Accounting, Auditing and Accountability Journal* 7(4), 94-109.

- Errunza, V. and Miller, D. (2000). "Market segmentation and the cost of capital in international equity markets", *Journal of Financial and Quantitative Analysis* 35(4), 577-600
- Ettredge M., Richardson, V.J., and Scholz, S. (2002). "Dissemination of information for investors at corporate Web sites", *Journal of Accounting and Public Policy* 21, 357-369.
- European Union, *Directive 2003/51/EC* and *Directive 2004/109/EC* amending directive (78/660/EEC) on the annual accounts of certain types of companies, and Directive (83/349/EEC) on consolidated accounts of certain types of companies.
- Fama, E. and French, K. (1992). "The cross-section of expected stock returns", *Journal of Finance* 47(2), 427-465.
- Fama, E. and French, K. (1997). "Industry cost of equity", *Journal of Financial Economics* 43, 153-193.
- Fama, E., and French, K. (1993). "Common risk factors in the returns on stocks and bonds", *Journal of Financial Economics* 33, 3-56.
- Fama, E., and French, K., (2001). "The equity premium", CRSP working paper, No. 522.
- Fama, E.F., and Jensen, M.C. (1983a). "Separation of ownership and control", *Journal of Law and Economics* 26(2), 301-325.
- Fama, E.F., and Jensen, M.C. (1983b). "Agency problems and residual claims", *Journal of Law and Economics* 26(2), 327-349.
- FASB (1978). *Statements of financial accounting concepts No. 1. Objectives of financial reporting by business enterprises*. Financial Accounting Standards Board.
- FASB (1998). *Statement No. 133: Accounting for derivatives instruments and hedging activities*. Financial Accounting Standards Board.
- FASB (2000). *Business reporting research project: Electronic distribution of business information*, Norwalk, CT: Financial Accounting Standards Board.
- FASB (2001). *Improving business reporting: Insights into enhancing voluntary disclosures*. Business Reporting Research Project, Financial Accounting Standards Board.

- Feltham, G., and Ohlson J. (1999). "Valuation and clean surplus accounting for operating and financial activities", *Contemporary Accounting Research* (Spring), 689-731.
- Field, L., Lowry, M., and Shu, S. (2003). "Does disclosure deter or trigger litigation?" Working paper, Manchester University. Manchester.
- Fields, T.D., Lys, T.Z., and Vincent, L. (2001). "Empirical research on accounting choice", *Journal of Accounting and Economics* 31, 255-307.
- Financial Reporting Council (2008). *Operating and Financial Review*. Retrieved January 2008 from <http://www.frc.org.uk/asb/technical/operating.cfm>
- Firth, M. (1979). "Impact of size, stock market listings and auditors on voluntary disclosure in annual reports", *Accounting and Business Research* 9(33), 273-280.
- Firth, M. (1980). "Raising finance and firms corporate reporting policies", *Abacus* 16(2), 100-115.
- Foster, G. (1986). *Financial statement analysis*. Englewood Cliffs, NJ: Prentice Hall
- Francis, J., and Schipper, K. (1999). "Have financial statements lost their relevance?" *Journal of Accounting Research* 37(2), 319-352.
- Frankel, R., Johnson, M., and Skinner, D.J. (1999). "An empirical examination of conference calls as a voluntary disclosure medium", *Journal of Accounting Research* 37(1), 133-150.
- Freeman, R.E. (1984). *Strategic management: A stakeholder approach*. Boston: Pitman-Ballinger.
- Froidevaux, E.A (2004). Investor relation internet disclosure and the cost of equity capital: an empirical analysis. PhD thesis, the University of Fribourg, Switzerland.
- GASB (2001). *Risk Reporting, GAS 5*, Berlin, Germany: German Accounting Standards Board.
- Gebhardt, W., Lee, C., and Swaminathan, B. (2001). "Toward an implied cost of capital", *Journal of Accounting Research* 39(1), 135-176.
- Gernon, H. and Meek, G. K. (2001). *Accounting: An international perspective*. 5th edition. Irwin McGraw-Hill.

- Gietzman, M.B. and Ireland, J. (2005). "Cost of capital, strategic disclosures and accounting choice", *Journal of Business Finance and Accounting* 32 (3 and 4): 599-634.
- Glosten, L., and Milgrom, P. (1985). "Bid ask and transaction prices in a specialist market with heterogeneously informed traders", *Journal of Financial Economics*, 14, 71-100.
- Gomes, A.R., Gorton, G.B., and Madureira, L. (2004). SEC Regulation Fair Disclosure, Information, and the Cost of Capital, NBER working paper No. W10567
- Gordon, J., and Gordon, M. (1997). "The finite horizon expected return model. *Financial Analysts Journal* 2, 52-61.
- Gordon, M (1962). *The investment, financing and valuation of the corporation*. Homewood, IL: Irwin.
- Gordon, M. (1993). "The pricing of risk in common shares", *International Review of Financial Analysis* 2(3), 147-153.
- Graham, J.R., Harvey, C.R. and Rajgopal, S. (2005). "The economic implications of corporate financial reporting", *Journal of Accounting and Economics* 40, 3-73.
- Grant, P. (2006). "OFR Revival Hopes Sparked by International Standard", *Accountancy Age*, 12 January.
- Gray, R. and Bebbington, J. (2001). *Accounting for the Environment*, 2nd edition SAGE Publications Ltd.
- Gray, R., Kouhy, R. and Lavers, S. (1995a). "Corporate social and environmental reporting. A review and a longitudinal study of UK disclosure" *Accounting, Auditing and Accountability Journal* 8(2), 47-77.
- Gray, R., Kouhy, R. and Lavers, S. (1995b). "Constructing a research database of social and environmental reporting by UK companies", *Accounting, Auditing and Accountability Journal* 8(2), 78-101.
- Gray, R.H., Dey, C.R., Owen, D., Evans, R., and Zadek, S. (1997). "Struggling with the praxis of social accounting: Stakeholders, accountability, audits and procedures", *Accounting, Auditing and Accountability Journal* 10(3), 325-364.

- Gray, S. and Roberts, C. B. (1989). "Voluntary information disclosure and the British multinationals: Corporate perceptions of costs and benefits." in Hopwood, A.G. (Eds), *International Pressures for Accounting Change*, Prentice-Hall, Hemel Hempstead, 116-39.
- Gray, S. J. (1988). "Towards a theory of cultural influence on the development of accounting systems internationally", *ABACUS* 24(1), 1-15.
- Greenbury Report (1995). A study group on directors' remuneration. London: Gee Publishing Ltd.
- Guthrie, J. and Mathews, M. R (1985). "Corporate social accounting in Australia", *Research in Corporate Social Performance and Policy* 7, 251-277.
- Guthrie, J., and Parker, L.D. (1989). "Corporate social reporting: A rebuttal of legitimacy theory", *Accounting and Business Research* 19(76), 343-352.
- Guthrie, J., and Parker, L.D. (1990). "Corporate social disclosure practice: A comparative international analysis", *Advance in Public Interest Accounting* 3, 159-176.
- Hackston, D., and Milne, M.J. (1996). "Some determinants of social and environmental disclosures in New Zealand companies", *Accounting, Auditing and Accountability Journal* 19(1), 77-108.
- Hail, L. (2002). "The impact of voluntary corporate disclosure on the ex-ante cost of capital for Swiss firms", *European Accounting Review* 11(4), 741-773.
- Hall, J.A. (2002). An exploratory investigation into the corporate social disclosure of selected New Zealand companies. Discussion paper series 211, School of Accountancy, Massey University.
- Hampel Report (1998). *Committee on corporate governance: Final report*. London: Gee publishing ltd.
- Handa, P. and Linn, S. (1993). "Arbitrage pricing with estimation risk", *Journal of Financial and Quantitative Analysis* (March), 81-100.
- Haniffa, R.M., and Cooke, T.E. (2005). "The impact of culture and governance on corporate social reporting", *Journal of Accounting and Public Policy* 24, 391-430.
- Haque, F. (2006) "Corporate governance, cost of equity capital and capital market development: A cross-sectional study on Bangladesh. University of Manchester.

- Harris and Marston, C.L., (1992). "Estimating shareholder risk premia using analysts' growth forecasts", *Financial Management*, 58-67.
- Harris, M., and Muller, K. (1999). "The market valuation of IAS versus US-GAAP accounting measures using Form 20-F reconciliations", *Journal of Accounting and Economics* 26 (1-3), 285-312.
- Healy, P., and Palepu, K., (2001). "A review of voluntary disclosure literature", *Journal of Accounting and Economics* 31, 405-431
- Healy, P., Hutton, A., and Palepu, K., (1999). "Stock performance and intermediation chances surrounding sustained increase in disclosure", *Contemporary Accounting Research* 11(2), 485-520.
- Helbok, G., and Wagner, C. (2006). "Determinants of operational risk reporting in the banking industry", *Journal of Risk* 9 (1), 49-74.
- Helliar, H., Lonie, A., Power, D., and Sinclair, D. (2001). Attitudes of UK managers to risk and uncertainty. Edinburgh: Institute of Chartered Accountants in Scotland (ICAS)
- Higgs Report (2003). *Review of the role and effectiveness of non-executive directors*, London: Department of Trade and Industry.
- Hines, R.D. (1988). "Financial accounting: in communicating reality, we construct reality", *Accounting, Organisations and Society* 13 (3), 251-261.
- Hermanson, H.M (2000). "An analysis of the demand for reporting on internal control". *Accounting Horizon* 14(3), 325-341.
- Hirst, I., Danbolt, J., and Jones, E. (2007). "Required rate of return for corporate investment appraisal in the presence of growth opportunities", *European Financial Management*, 00(0), 1-18.
- Hodson, R. (1996). "Dignity in the workplace under participative management", *American Sociological Review* 61, 719-738.
- Holland , L. and Foo, Y. B. (2003), "Differences in environmental reporting practices in the UK and the US: The legal and regulatory context", *British Accounting Review* 35, 1-18.

- Holland, J. (1997). *Corporate communications with institutional shareholders: private disclosures and financial reporting*. Edinburgh: The Institute of Chartered Accountants of Scotland.
- Holland, J. (2006). *A model of corporate financial communications*. Edinburgh: The Institute of Chartered Accountants of Scotland.
- Holsti, O.R. (1969). *Content analysis for the social sciences and humanities*. London: Addison-Wesley.
- Hossain, M., Tan, L.M. and Adams, M. (1994). "Voluntary disclosure in an emerging capital market: Some empirical evidence from companies listed on the Kuala Lumpur Stock Exchange", *International Journal of Accounting* 29 (4), 334-351.
- Hope, O.K. (2003). "Accounting policy disclosures and analysts' forecasts". *Contemporary Accounting Research* 20 (2), 295-321.
- How, J., and Yeo J. (2000). The impact of forecast disclosure and its accuracy on equity pricing: An IPO perspective. University of Western Australia, WA 6907, Australia.
- Huafang, X., and Jianguo, Y. (2006). "Ownership structure, board composition and corporate voluntary disclosure", *Managerial Auditing Journal* 22 (6), 604-619.
- Hughes, S., Anderson, A. and Golden, S. (2001). "Corporate environmental disclosure: Are they useful in determining environmental performance", *Journal of Accounting and Public Policy* 20(3), 217-240.
- Hutton, A.P., Miller, G.S., and Skinner, D.J. (2003). The role of supplementary statements with management earning forecasts. Working paper, Dartmouth College.
- Hyland, K. (1998). "Exploring corporate rhetoric: Meta discourse in the CEO's letter", *Journal of Business Communication* 35 (2), 224-245.
- IASB (2005). *Management Commentary*, Discussion Paper, London: International Accounting Standards Board.
- IASC (1989). *Framework for the preparation and presentation of financial accounting statements*. International Accounting Standards Committee.
- IASC (1999). *Business reporting on the Internet*. London: International Accounting Standards Committee.

IASC (2000). *International Accounting Standards explained*, New York: John Wiley and Sons.

ICAEW (1997). *Financial reporting of risk: Proposals for a statement of business risk*. London: Institute of Chartered Accountants in England and Wales.

ICAEW (1999a). *Financial performance: Alternative views of the bottom line*. London: Institute of Chartered Accountants in England and Wales.

ICAEW (1999b). *No Surprise: The case for better risk reporting*. London: Institute of Chartered Accountants in England and Wales.

ICAEW (1999c). *Inside out: Reporting on shareholder value*. London: Institute of Chartered Accountants in England and Wales.

ICAEW (2002). *No surprise: Working for better risk reporting*. London: Institute of Chartered Accountants in England and Wales.

ICAEW (2002). *Risk management for SMEs*. London: Institute of Chartered Accountants in England and Wales.

ICAEW (2003). *Information for better market: New reporting models for business*. London: Institute of Chartered Accountants in England and Wales.

ICAEW (2004a). *Managing risk: Views of senior directors of the FTSE 500*. London: Institute of Chartered Accountants in England and Wales.

ICAEW (2004b). *New reporting models for business: Possible topics for research*. London: Institute of Chartered Accountants in England and Wales.

ICAS (1988). *Making corporate reports valuable*. London: Institute of Chartered Accountants of Scotland.

ICAS (1999). *Business reporting: The inevitable change?* Beattie, V. (ed.), Edinburgh: Institute of Chartered Accountants of Scotland.

IFAC (1999). *Enhancing shareholder wealth by better managing business risk*. New York: International Federation of Accountants.

- Inchausti, B.G. (1997). "The influence of company characteristics and accounting regulation on information disclosed by Spanish firms", *The European Accounting Review* 6(1), 45-68.
- Internal control (2005). *Revised Guidance for Directors on the Combined Code*. London: The Financial Reporting Council. October 2005.
- IRM, Airmic, and Alarm (2002). *A Risk Management Standard*, London: The Institute of Risk Management.
- Jameson, D. A. (2000). "Telling the investment story: A narrative analysis of shareholder reports", *Journal of Business Communication*, 37 (1), 7-38.
- Jensen, M. C., and Meckling, W. H. (1976). "Theory of the firm: Managerial behaviour, agency cost and ownership structure", *Journal of Financial Economics* 3(1), 305-360.
- Jorion, P. (1997). *Value at Risk: the new benchmark for controlling market risk*. Chicago: Irwin.
- Jorion, P. (2002). "How informative are value-at-risk disclosures?" *The Accounting Review* 77(4), 911-931.
- Kabanoff, B., Waldersee R., Cohen M., (1995). "Espoused values and organizational change themes", *Academy of Management Journal* 38(4), 1075-1104.
- Kadous, K., Koonce, L. and Towry, K.L. (2005). "Quantification and persuasion in managerial judgement", *Contemporary Accounting Research* 22(3), 643-686.
- Kaplan, R.S., and Norton, D.P. (1996). *Balanced scorecard: Translating strategy into action*, Boston: Harvard Business School Press.
- Kelly, L. (1983). "The development of a positive theory of corporate management's role in external financial reporting", *Journal of Accounting Literature* (Spring), 111-150
- Kent, P. and Ung, K. (2003). "Voluntary disclosure of forward-looking earning information in Australia", *Australian Journal of Management* 28(3), 273-285.
- Klein, R.W., and Bawa, V.S. (1976). "The effect of estimation risk on optimal portfolio choice", *Journal of Financial Economics* 3, 215-231.

- Konishi, N, and Ali, M. (2007). "Risk reporting of the Japanese companies and its association with corporate characteristics", *International Journal of Accounting, Auditing and Performance Evaluation* 4(3), 263-285.
- Kothari, S.P. and Short, J.E. (2003). The effect of disclosures by management, analysts and financial press on the cost of equity capital. Working paper. Massachusetts Institute of Technology.
- Kou, W. and Hussain, S. (2007). "Predictive gains to segmental disclosure matrices, geographic information and industry sector comparability" *British Accounting Review* 39(3), 183-195.
- KPMG (2005). *Insights into the value of disclosure from the perspective of investors*. Risk Advisory Services. Research report, June 2005.
- Krippendorff, K. (1980). *Content analysis, an introduction to its methodology*. Beverly Hills, CA: Sage.
- Lajili, K., and Zeghal, D. (2005). "A content analysis of risk management disclosure in Canadian annual reports", *Canadian Journal of Administrative Science* 22(2), 125-142.
- Lakonishok, J. (1993). "Is beta dead or alive? In the CAPM controversy: policy and strategy implications for investment management". New York, NY: Association for Investment Management and Research.
- Lang, M., and Lundholm, R. (1993). "Cross-sectional determinants of analysts ratings of corporate disclosures", *Journal of Accounting Research* 31(2), 246-271.
- Lang, M., and Lundholm, R. (1996). "Corporate disclosure policy and account behaviour", *The Accounting Review* 71(4), 467-492.
- Lang, M., and Lundholm, R., (2000). "Voluntary disclosure during equity offerings: Reducing information asymmetry or hyping the stock?" *Contemporary Accounting Research* 17, 623-662.
- Lee, T.A., and Tweedie, D.P. (1975). "Accounting information: an investigation of private shareholder usage", *Accounting and Business Research*, Autumn, 280-291
- Leftwich, R., Watts, R. and Zimmerman, J. (1981). "Voluntary corporate disclosure: The case of interim reporting", *Journal of Accounting Research* 19 (Supplement), 50-77.

- Leuz, C. and Verrecchia, R. (2000). "The economic consequences of increased disclosure", *Journal of Accounting Research* 38, 91-124.
- Lev, B. (1988). "Toward a theory of equitable and efficient accounting policy", *The Accounting Review* 63 (1), 1-22.
- Lev, B. and Penmann, S. (1990). "Voluntary forecast disclosure, nondisclosure, and stock prices", *Journal of Accounting Research* 28 (1), 49-76.
- Lev, B., and Zarowin P., (1999). "The boundaries of financial reporting and how to extend them", *Journal of Accounting Research* 37, 353-386.
- Li, F. (2006). Do stock market investors understand the risk sentiment of corporate annual reports? Working paper. Ann Arbor: University of Michigan at Ann Arbor.
- Li, S. and Gao, S. (2007). "The usefulness of derivative-related disclosure", *International Journal of Accounting, Auditing and Performance Evaluation* 4(3), 248-262.
- Lim, S., McKinnon, J. (1993). "Voluntary disclosure by NSW statutory authorities: the influence of political visibility", *Journal of Accounting and Public Policy* 12(3), 189-216.
- Linsley, P.M., and Shrives, P.J. (2000). "Risk management and reporting risk in the UK", *Journal of Risk*, 3(1), 115-129.
- Linsley, P.M., and Shrives, P.J. (2005). "Examining risk reporting in UK public companies", *Journal of Risk Finance* 6(4), 293-305
- Linsley, P.M., and Shrives, P.J. (2006). "Risk reporting: A study of risk disclosures in the annual reports of UK companies", *British Accounting Review* 38, 387-404.
- Linsmeier, T.J. Thornton, D.B., Venkatachalam, M., and Welker, M. (2002). "The effect of mandated market risk disclosure on trading volume sensitivity to interest rate, exchange rate, and commodity price movements". *The Accounting Review* 77(2), 343-377.
- Linsmeier, T.J., and Pearson, N.D. (1997). "Quantitative disclosures of market risk in the SEC release". *Accounting Horizon* 11(1), 107-135.
- Lymer, A. (1997). "The Use of the Internet for Corporate Reporting – a Discussion of the Issues and Survey of Current Usage in the U.K.", presented at the *First Financial Reporting and Business Communication Conference*, Cardiff, Wales, July 1997.

- Mak, Y.T., (1996). "Forecast of Disclosure by Initial Public Offering Firms in a Low- Litigation Environment", *Journal of Accounting and Public Policy* (15), 111-136.
- Malone, D., Fries, C., and Jones, T. (1993). "An empirical investigation of the extent of corporate financial disclosure in the oil and gas industry", *Journal of Accounting, Auditing and Finance* 8, 249-273
- Mangena, M., (2004). "On the perceived importance of disclosure items in UK interim financial reports: Evidence from the investment analysts". Paper presented at *the British Accounting Association (BAA) Conference*, York, England, April 2004.
- Marston, C.L., and Shrives, P. (1991). "The use of disclosure indices in accounting research: A review article", *British Accounting Review* 23, 195-210.
- Marston, C.L., and Shrives, P.J. (1996). "A review of the development and use of explanatory models in financial disclosure studies". Paper presented at *the EAA Congress*, Bergen, Norway.
- Mathews, M.R. (1993). *Socially Responsible Accounting*, London: Chapman and Hall.
- McKinnon, J., and Dalimunthe, L. (1993). "Voluntary disclosure of segment information by Australian diversified companies" *Accounting and Finance* 33 (1), 33 -50.
- McNally, G.M., Eng, L.H. and Hasseldine, C.R. (1982). "Corporate financial reporting in New Zealand: an analysis of user preference, corporate characteristics and disclosure practices for discretionary information", *Accounting and Business Research* 13 (winter), 11-20.
- Meek, G.K. and Gray, S.J. (1989), "Globalization of stock markets and foreign listing requirements: voluntary disclosures by continental European companies listed on the London Stock Exchange", *Journal of International Business Studies* 20(2), 315-333.
- Meek, G.K., Roberts, C.B., and Gray, S.J. (1995). "Factors influencing voluntary annual reports disclosures by US, UK and Continental European multinational corporations." *Journal of International Business Studies*, 36(3), 555-572.
- Milne, M. J., and Adler, R.M. (1999). "Exploring the reliability of social and environmental disclosure content analysis", *Accounting, Auditing, and Accountability Journal* 12(2), 237-256.
- Modigliani, F., and Miller, M. (1958). "The cost of capital, corporation finance, and the theory of investment", *American Economic Review* 48, 261-297.

- Morck, R, Shleifer, A., and Vishny, R. (1988). "Management ownership and market valuation: An empirical analysis", *Journal of Financial Economics*, 20, 293-316.
- Morris, R, (1994). "Computerized content analysis in management research: a demonstration of advantages and disadvantages", *Journal of Management* 20(4), 903-931.
- Morris, R. (1987). "Signalling, agency theory and accounting policy choice". *Accounting and Business Research* 18(69), 47-56.
- Müller, K. (2002). *Corporate Governance and Globalisation, the Role and Responsibilities of Investors*, Switzerland: Ellipson Ltd.
- Myers, J. (1999). "Implementing Residual Income valuation with Linear Information Dynamics", *The Accounting Review*, 1-23.
- Myers, S.C. (1977). "Determinants of corporate borrowing", *Journal of Financial Economics*, 5, 147-175.
- Naser, K., Alkhatib, K., and Karbhari, Y. (2002). "Empirical evidence on the depth of corporate information disclosure in developing countries: The case of Jordan", *International Journal of Commerce and Management* 12, 122-134.
- Neimark, M. (1992). *Hidden dimensions of annual reports: Sixty years of social conflict at General Motors*, New York, NY: Markus Weiner.
- Ness, K.E., Mizra, A.M. (1991). "Corporate social disclosure: A note on a test of agency theory", *British Accounting Review* 12(3), 211-217.
- Neu, D., Warsame, H., and Pedwell, K. (1998). "Managing public impressions: Environmental disclosures in annual reports" *Accounting, Organizations and Society* 23(3), 265-282.
- Neuendorf, K. (2002). *The content analysis guidebook*, Thousand Oaks, CA: Sage Publications.
- Neuman, W. L. (2003). *Social research methods*, 5th edition, Pearson Education Inc, US.
- Ng, L.W. (1985). "Social responsibility disclosures of selected New Zealand companies for 1981, 1982 and 1983", Massey University, Palmerston North, Occasional Paper No 54,

- Nobes, C. (1998). "Towards a general model of the reasons for international differences in financial reporting", *ABACUS* 34(2), 162-187.
- O'Shea, P.D., Worthington, A.C., Griffiths, D. and Gerace, D. (2008). "Patterns of disclosure and volatility effects in speculative industries: the case of small and mid-cap metals and mining entities" *Journal of Financial Regulation and Compliance* 16 (3), 261-273.
- Ohlson, J. (1995). "Earning, book values, and dividends in security valuation", *Contemporary Accounting Research* 11(2), 661-687.
- Oliveira, L; Rodrigues, L.L. and Craig, R. (2006). "Firm-specific determinants of intangibles reporting: Evidence from the Portuguese stock market", *Journal of Human Resource Costing and Accounting* 10(1), 11-33.
- Papa, M. (2007). Risk disclosure in Italian IPO prospectuses: An analysis of manufacturing and IT companies. Faculty of Economics, University of Bari.
- Patten, D.M. (1991). "Exposure, legitimacy and social disclosure", *Journal of Accounting and Public Policy* 10(4), 297-308.
- Patten, D.M. (1992). "Intra-industry environmental disclosure in response to the Alaskan oil spill: A note on legitimacy theory", *Accounting, Auditing, Organizations and Society* 17(5), 471-475
- Penman, S. (1993). "The articulation of price-earnings ratio and market to book ratios the evolution of growth". Working paper. University of California at Berkeley, CA.
- Peters Report (1997). Recommendations on Corporate Governance in the Netherlands.
- Petersen, C. and Plenborg, T. (2006). "Voluntary disclosure and information asymmetry in Denmark", *Journal of International Accounting, Auditing and Taxation* 15, 127-149
- Prodhan, B.K., and Harris, M.S. (1989). "Systematic risk and the discretionary disclosure of the geographical segments: an empirical investigation of the US multinationals", *Journal of Business Finance and Accounting* 16(4), 467-492.
- ProShare (1999). Managing relationships with private investors, London: Proshare.
- Raffournier, B. (1995). "The determinants of voluntary disclosure by Swiss listed companies." *European Accounting Review* 4(2), 261-282.

- Rajgopal, S. (1999). "Early evidence on the informativeness of the SEC's market risk disclosure: The case of commodity price risk exposures of oil and gas producers. *The Accounting Review* 74(3), 251-280.
- Ramaswami, N. (2001) "Voluntary disclosure and the role of product market competition: A study of disclosure in press releases by US companies". PhD thesis, University of New South Wales, Sydney.
- Ramchand, L., and Sethapakdi, P. (2000). "Changes in systematic risk following global equity issuance", *Journal of Banking and Finance* 24, 1491-1513.
- Rankin, M. (1996). *Corporate reporting - The green gap*. The Environmental Accounting Task Force of the Institute of Chartered Accountants in Australia, Sydney.
- Ratanajongkol, S., Davey, H., and Low, M. (2006). "Corporate social reporting in Thailand". *Qualitative Research in Accounting and Management* 3(1), 67-83.
- Richardson, A. and Welker, M. (2001). "Social disclosure, financial disclosure and the cost of equity capital", *Accounting, Organisation and Society* 26, 597-616.
- Richardson, S. (2001), Discretionary disclosure: A note, *Abacus*, 37 (2), 261-280.
- Risk Measurement Service (2005), London Business School.
- Roberts, C., Weetman, P. and Gordon, P. (1998). *International Financial Accounting Comparative Approach*, London: Pitman Publishing.
- Roberts, R.W. (1992). "Determinants of corporate social responsibility disclosure", *Accounting, Organizations and Society* 17(6), 595-612.
- Rogers, R. K. and Grant, J. (1997). "Content analysis of information cited in reports of sell-side financial analysts", *The Journal of Financial Statement Analysis* 3(1), 17-30.
- Roulstone, D.T. (1999). "Effect of SEC financial reporting release no. 48 on derivative and market risk disclosures". *Accounting Horizons*, 13(December), 343-363.
- RSA (1998). *Sooner, sharper, simpler: A lean vision of an inclusive annual report*, London: Royal Society of Arts, Manufactures and Technology.

- Rubins, W.A. and Austin, K.R., (1986). "Disclosure quality in governmental financial reports: An assessment of the appropriateness of compound measure", *Journal of Accounting Research* 24, 412-421
- Rutherford, B. (2005). "Genre analysis of corporate annual report narratives". *Journal of Business Communication* 42(4), 349-378.
- Rutteman Report (1994). *Internal Control and Financial Reporting: Guidance for Directors of Listed Companies Registered in the UK*. London: Institute of Chartered Accountants in England and Wales.
- Salamon, G., and Dhaliwal, D., (1980). "Company size and financial disclosure requirements with evidence from the segmental reporting issue", *Journal of Business Finance and Accounting* 7(4), 555-568.
- Sarbanes-Oxley Act (2002), Pubic Law. No. 107-204, July 30, 2002 retrieved from <http://corporate.findlaw.com/industry/corporate/docs/publ107.204.pdf>
- Schadewitz, H. J. (1994). "Development and determinants of disclosure policy in interim reports", Paper presented at the 17th EAA congress, Venice
- Schipper, K. (1981). "Discussion of voluntary corporate disclosure: the case of interim reporting", *Journal of Accounting Research* 19, 85-88.
- Schipper, K. (1991). "Commentary on analysts' forecasts", *Accounting Horizons* 5(4), 105-121.
- Schrand, C., and Elliott, J., (1998). "Risk and financial reporting, a summary of the discussion at the 1997 AAA/ FASB conference", *Accounting Horizons* 12(3), 271-283.
- Schrand, C., and Verrecchia, R. E. (2004). *Disclosure choice and cost of capital: Evidence from underpricing in initial public offerings*. Working Paper, University of Pennsylvania.
- SEC (1997). *Disclosure of accounting policies for derivative financial instruments and derivative commodity instruments and disclosure of qualitative and quantitative information about market risk inherent in derivative financial instruments, other financial instruments, and derivative commodity instruments*. Washington DC: Securities and Exchange Commission.
- SEC (2008), Form-20F, retrieved February 10, 2009 from www.sec.gov/about/forms/form-20f.pdf.

- Selva, M. (1995). "The association between accounting determined risk measures and analysts risk perceptions in a medium-sized stock market", *Journal of International Financial Management and Accounting* 6(3), 208-229.
- Sengupta, P., (1998). "Corporate disclosure quality and the cost of debt", *The Accounting Review* 73(4), 459-474.
- Seow, G.S., and Tam, K. (2002). "The usefulness of derivative-related accounting disclosures", *Review of Quantitative Finance and Accounting* 18(3), 273-291.
- Shevlin, T. (2004). "Discussion of a framework for the analysis of firm risk communication", *The International Journal of Accounting* 39, 297-302.
- Shrives, P. and Linsley, P (2003). Risk reporting by UK and German companies: Towards meaningful disclosure? Paper presented in the 26th Annual European Accounting Association Conference and the Financial Reporting and Business Communication Conference at Cardiff University, UK.
- Singhvi, S. and Desai, H.B. (1971). "An empirical analysis of the quality of corporate financial disclosure", *Accounting Review* 46(1), 129-138
- Skinner, D. (1994). "Why firms voluntarily disclose bad news", *Journal of Accounting Research* 32(1), 38-60
- Smith Report (2003). Audit Committees - Combined Codes Guidance. London: Financial Reporting Council.
- Solomon, J.F., Solomon, A., Norton, S.D., and Joseph, N. (2000). "A conceptual framework for corporate risk disclosure emerging from the agenda for corporate governance reforms", *British Accounting Review* 32(4), 447-478.
- Spence, M. (1973). "Job market signalling", *Quarterly Journal of Economics* 87(3), 355-374.
- Stanga, K. (1976). "Disclosure in published annual reports". *Financial Management*, 5(4), 42-52.
- Stanton, P. and Stanton, J. (2002). "Corporate annual reports: Research perspective used", *Accounting, Auditing, and Accountability Journal* 15(4), 478-500.
- Tabaksblat Committee (Corporate Governance Committee) (2003). *The Dutch Corporate Governance Code*

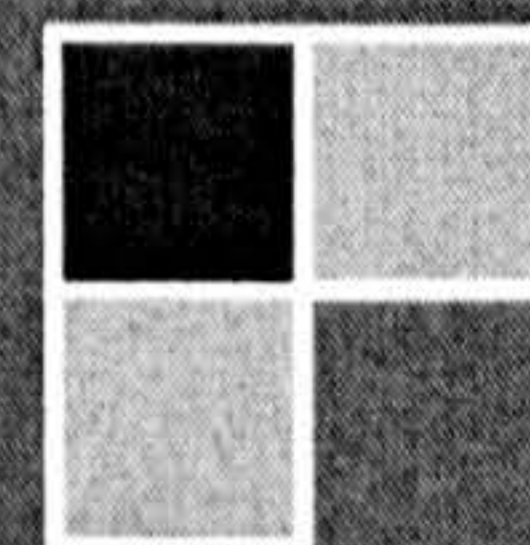
- Thomas, P. B., and Kenny, S. Y. (1997). Environmental reporting: A comparison of annual report disclosures and popular financial press commentary. Paper presented at IPA 1997 conference.
- Thornton, D. and Walker, M. (2000). Impact of mandated market risk disclosures on investor-perceived exposure to commodity prices: the case of oil and gas producers. Queen's University, Kingston, Canada.
- Tilt, C.A. (1994). "The influence of external pressure groups on corporate social disclosure: some empirical evidence", *Accounting, Auditing, and Accountability Journal* 7(4), 47-72.
- Tilt, C.A. (1998). The content and disclosure of corporate environmental policies: An Australian study. Paper presented at *Asian Pacific Interdisciplinary Research in Accounting Conference (APIRA)*, Osaka.
- Trotman, K.T. (1979). "Social responsibility disclosures by Australian companies", *The Chartered Accountant in Australia* 49(8), 24-28.
- Trotman, K.T., and Bradley, G.W. (1981), "Associations between social responsibility disclosure and characteristics of companies", *Accounting, Organizations and Society* 6, 355-62.
- Tsakumis, G.T., Douplik, T.S., and Seese, L.P. (2006). "Competitive harm and geographic area disclosure under SFAS 131", *Journal of International Accounting, Auditing and Taxation* 15(1), 32-47.
- Tsang, E.W.K. (1998), "A longitudinal study of corporate social reporting in Singapore: The case of the banking, food and beverages and hotel industries", *Accounting, Auditing and Accountability Journal* 11(5), 624-35.
- Turnbull Report (1999). *Internal control: Guidance for directors on the combined code*. London: ICAEW.
- Ullmann, A. (1985). "Data in search of a theory: A critical examination of the relationships among social performance, social disclosure, and economic performance of US firms", *Academy of Management Review* 10(3), 540-557.
- Unerman, J. (2000). "Methodological issues: Reflections on quantification in corporate social reporting content analysis", *Accounting, Auditing and Accountability Journal* 13(5), 667-681.

- Unerman, J. (2003). "Enhancing organizational global hegemony with narrative accounting disclosures: An early example", *Accounting Forum* 27(4), 425-448.
- Verrecchia, R. (1983). "Discretionary disclosure", *Journal of Accounting and Economics* 5, 173-194.
- Verrecchia, R. (1990). "Endogenous proprietary costs through firm interdependence", *Journal of Accounting and Economics* 12, 245-251.
- Verrecchia, R. (2001). "Essays on disclosure", *Journal of Accounting and Economics* 32(1), 97-180.
- Walker, M. and Tsalta, A. (2001). Corporate financial disclosure and analyst forecasting activity: preliminary evidence for the UK, ACCA Research Report No. 67.
- Wallace, R., (1988). "Corporate financial reporting in Nigeria". *Accounting and Business Research* 18(72), 352-362.
- Wallace, R., Naser, K. and Mora, A. (1994). "The relationship between the comprehensiveness of corporate annual reports and firm characteristics in Spain", *Accounting and Business Research* 25, 41-53.
- Wallace, R. and Naser, K. (1995). "Firm specific determinants of the comprehensiveness of mandatory disclosure in the corporate annual reports of firm listed on the stock exchange of Hong Kong", *Journal of Accounting and Public Policy* 14(4), 311-368.
- Watt, R.L. and Zimmerman, J.L. (1978). "Towards a positive theory of the determination of accounting standards", *The Accounting Review* 53 (1), 112-134.
- Watt, R.L. and Zimmerman, J.L. (1986). *Positive accounting theory*. Englewood Cliffs, NJ: Prentice Hall Inc.
- Weber, R.P. (1985). *Basic content analysis: Qualitative applications in the social sciences*. Beverly Hills, CA: Sage
- Weber, R.P. (1988). *Basic Content Analysis*, Sage University Paper Series on Quantitative Applications in the Social Sciences, Series No. 07-049, Sage, Beverly Hills, CA and London.
- Weber, R.P. (1990), *Basic content analysis*, 2nd edition, Newbury Park, CA: Sage.

- Weber, R.P. (1994), "Basic content analysis", in Lewis-Beck, M.S. (Eds), *International Handbooks for Quantitative Applications in the Social Sciences*, London: Sage Publications.
- Weetman, P. (1999). *Financial accounting: An introduction*, 2nd edition, Pearson Education limited.
- Weetman, P., Collins, W., and Davie, E. (1994). *Operating and financial review: Views of analysts and institutional investors*. Edinburgh: The Institute of Chartered Accountants of Scotland.
- Weetman, P., Davie E. S., and Collins, W. (1996). "Lobbying on accounting issues: preparer/user imbalance in the case of the operating and financial review", *Accounting, Auditing and Accountability Journal* 9(1), 59-76.
- Welker, M. (1995). "Disclosure policy, information asymmetry, and liquidity in equity markets", *Contemporary Accounting Research* 11(2), 801-827
- Wildstrom, S.H. (1997). "Surfing for annual reports", *Business Week* (April 14), 22.
- Williams, S.M. and Pei, C.A.H.W. (1999). "Corporate social disclosure by listed companies on their websites: an international comparison", *The International Journal of Accounting* 34(3), 389-419.
- Williams, S.M., (1999), "Voluntary environmental and social accounting disclosure practices in the Asia-Pacific region: An international empirical test of political economy theory", *The International Journal of Accounting* 34(2), pp. 209-238.
- Wilmhurst, T.D., and Frost, R.G. (2000), "Corporate environmental reporting a test of legitimacy theory", *Accounting, Auditing and Accountability Journal* 13(1), 10-25
- Wolf, R. (1991). "The use of content analysis to assess corporate social responsibility", *Research in Corporate Social Performance and Policy* 12, 281-307.
- Woods, M., and Reber, B. (2003). "A comparison of UK and German reporting practice in respect of disclosure post GAS 5". Unpublished conference paper presented at *the 6th Financial Reporting and Business Communication Conference*. Cardiff Business School, Cardiff.
- Xiao, J.Z., Gao, S.S., Heravi, S. and Cheung, Y.C.Q. (2005). "The impact of social and economic development on corporate social and environmental disclosure in Hong Kong and the UK", *Advances in International Accounting* 18, 229-254.

Zeff, S. (1995). "Good so far but difficult decisions ahead". *Accountancy*, October, 1995.

Zeghal, D. and Ahmed, S.A. (1990). "Companies of social responsibility information media used by Canadian firms", *Accounting, Auditing, and Accountability Journal* 3(1), 38-53.



Appendices

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Appendix 1: Companies in the Sample

No.	Company name	Groups
1	BP plc	Resources
2	Royal Dutch Shell plc	Resources
3	BG Group plc	Resources
4	Antofagasta plc	Resources
5	Wolseley plc	Basic Industry
6	BOC	Basic Industry
7	Imperial Chemical Industries plc	Basic Industry
8	Johnson Matthey plc	Basic Industry
9	Hanson plc	Basic Industry
10	Unilever plc	Non-Cyclical Consumer Goods
11	Cadbury plc	Non-Cyclical Consumer Goods
12	Imperial Tobacco Group plc	Non-Cyclical Consumer Goods
13	Smith & Nephew plc	Non-Cyclical Consumer Goods
14	Associated British Foods plc	Non-Cyclical Consumer Goods
15	SABMiller plc	Non-Cyclical Consumer Goods
16	Gallaher Group plc	Non-Cyclical Consumer Goods
17	Shire	Non-Cyclical Consumer Goods
18	Tate & Lyle plc	Non-Cyclical Consumer Goods
19	WPP Group plc	Cyclical Services
20	Kingfisher plc	Cyclical Services
21	Marks and Spencer Group plc	Cyclical Services
22	Reed Elsevier plc	Cyclical Services
23	Pearson plc	Cyclical Services
24	Compass Group plc	Cyclical Services
25	Carnival plc	Cyclical services
26	Rentokil Initial plc	Cyclical Services
27	Next plc	Cyclical Services
28	British Airways plc	Cyclical services
29	Dixon plc	Cyclical Services
30	Whitbread plc	Cyclical Services
31	DMGT	Cyclical Services

32	Rexam plc	Cyclical Services
33	Emap plc	Cyclical Services
34	InterContinental Hotels Group plc	Cyclical Services
35	Capita Group plc	Cyclical Services
36	Enterprise Innes plc	Cyclical Services
37	Hays plc	Cyclical Services
38	British Sky Broadcasting Group plc	Cyclical Services
39	Reuters plc	Cyclical Services
40	Vodafone Group plc	Non-Cyclical Services
41	Tesco plc	Non-Cyclical Services
42	BT Group plc	Non-Cyclical Services
43	Sainsbury J plc	Non-Cyclical Services
44	Centrica plc	Utilities
45	Scottish and Southern Energy plc	Utilities
46	United Utilities plc	Utilities
47	Severn Trent plc	Utilities
48	Kelda Group plc	Utilities
49	International Power plc	Utilities
50	BAE Systems plc	General Industries
51	Smiths Group plc	General Industries
52	Sage Group plc	Information Technology

Appendix 2: Decision Rules

- Risk disclosure texts are those containing risk-relevant information that facilitate the reader to be better informed about past and potential threats or opportunities arising from internal or external variables (all sources of risk are considered, including uncertainty, volatility, and upside and downside risk).
- Sentence will be coded as risk disclosure if it falls within any category given in the definition.
- All disclosure sentences should be classified according to the grids in the disclosure checklist (see table 4.4 in chapter 4). This checklist was constructed to capture the amount of risk disclosure.
- The word 'risk' does not have to appear within any given sentence for that sentence to be identified as a risk disclosure sentence. All disclosure must be specifically stated to better informed the reader about risk.
- The presence of the word 'risk' does not automatically mean the sentence is to be coded as risk disclosure (e.g., when risk management is provided by a company as a product or service).
- If a disclosure is implicit or too vague in its reference to risk, then it should not be recorded as a risk disclosure.
- If the sentences have more than one possible classification (i.e., contain more than one category of disclosure), they should be prorated accordingly.
- Within the recording sheet (disclosure checklist), disclosure is classified as "quantitative disclosure" if it contains and primarily relates to actual numbers of financial and non-financial nature; and "Qualitative disclosure" if it includes information that is not numerical in nature.
- When a disclosure sentence contains quantitative information (monetary or non-monetary), disclosure should be classified as quantitative.

- **Tables (quantitative and qualitative) that provide risk information should be interpreted as one line equals one sentence and classified accordingly. Heading to the tables are also classified.**
- **Any disclosure sentence repeated shall be recorded as a risk disclosure sentence every time it is discussed.**
- **Within the recording sheet (disclosure checklist), disclosure sentence is classified as “past disclosure” if it relates to the past; “future disclosure” if it relates to the future; and “non-time disclosure” otherwise**
- **Within the recording sheet (disclosure checklist), disclosure is classified as:**
 - **“Bad news” if contains any statement which reflects discredit on the company (e.g., increase number of accidents; negative impact of volatility);**
 - **“Good news” if contains statements beyond the minimum which include, for example, specific details where these details have a creditable reflection on the company; any statements which reflect credit on company, upbeat analysis/discussion/statements;**
 - **“Neutral news” if contains statements of general policy or intent within statutory minimum with no details of what or how, statement of facts whose credit/discredit to company is not obvious unaccompanied by editorializing.**

Source: Linsley and Shrides, 2006; Hackston and Milne, 1996; Gray et al., 1995b

Appendix 3: IRR

This spreadsheet provides the solution (IRR) to a 4 stage dividend growth model.

The 4 stages of growth are: specific growth projections for each of the next two years; the long-term growth trend (assumed to continue for a further 5 years; a 10 year period during which the growth rate gradually converges to a very long-term maturity rate

A common maturity discount rate is assumed (long-dated UK bond yield + 3%)

Input				
Share price				300
Last dividend				8
Year 1 growth f/c				15
Year 2 growth f/c				12
Long-term growth trend				10
Maturity growth				4.5
Discount rate - Year 31 onwards				7.5
			Reduction factor	0.929981
Projections				
Year	Growth		Total cash flows	
			-300	
1	15.00	9.20	9.20	
2	12.00	10.30	10.30	Implied discount rate
3	10.00	11.33	11.33	10.1
4	10.00	12.47	12.47	
5	10.00	13.71	13.71	
6	10.00	15.09	15.09	
7	10.00	16.59	16.59	
8	9.30	18.14	18.14	
9	8.65	19.71	19.71	
10	8.04	21.29	21.29	
11	7.48	22.88	22.88	
12	6.96	24.48	24.48	
13	6.47	26.06	26.06	
14	6.02	27.63	27.63	
15	5.59	29.17	29.17	
16	5.20	30.69	30.69	
17	4.84	32.18	32.18	
18	4.50	33.62	33.62	
19	4.50	35.14	35.14	
20	4.50	36.72	36.72	
21	4.50	38.37	38.37	
22	4.50	40.10	40.10	
23	4.50	41.90	41.90	
24	4.50	43.79	43.79	
25	4.50	45.76	45.76	
26	4.50	47.82	47.82	
27	4.50	49.97	49.97	
28	4.50	52.22	52.22	
29	4.50	54.57	54.57	
30	4.50	57.02	2043.29	
Price	30	1986.27		