Risk Disclosures in the Annual Reports of UK Banks, 1995 - 2010

By

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Abstract

The internationalisation of financial flows has meant that the assessment of risk reporting has recently become one of the most significant issues in financial markets. The findings of this study are analysed using decision-usefulness to enhance the understanding of the risk disclosures of UK banks. In particular, these findings have enhanced the understanding of risk categories, information richness, and the influence of societal discussion on the risk reporting of the banking sector.

This study analyses risk disclosures in the annual reports of six UK banks (i.e. RBS, NatWest, Lloyds TSB, HBOS, and HSBC), between 1995 and 2010, and in three main areas, which are: risk category membership, information richness, and the intensity of societal discussion (on risks). Content analysis is developed in this study to investigate both longitudinal and intrasectoral aspects for interpreting the content of risk disclosures in annual reports. In addition, content analysis of the news coverage of UK newspapers is conducted by using the LexisNexis electronic database to analyse the association between volumes of longitudinal banking sector risk disclosures against the intensity of societal discussion as proxied by the frequency, by year, of relevant newspaper citations, and by risk category.

The findings of this study show that credit risk is the most disclosed risk (by volume) for all banks and in all years. Almost all of the risks are disclosed with high information content (in both qualitative and quantitative aspects), although the proportion of quantitative disclosures has declined over time. In addition, the majority of risk disclosures are neutral news statements, while a small proportion of disclosures give a warning of bad news. Risk reporting has become proportionately more concerned with the narrative of opinion and perception rather than the reporting of facts and quantitative information. Both fact and quantitative information are found to be disclosed with decreasing proportions over time.

The volume of overall risk disclosures has had a smooth increase over time; however, this trend conceals a volumetric increase with many switch points in many risk categories (particularly during 2005 to 2009). The causes of these switch points have been found to include the adoption of accounting standards in 2005 and the financial crisis of 2007. Moreover, the findings of the correlations between all of the risk categories disclosed and the number of newspaper citations are indicative that newspaper citations are positively associated with the disclosure of key strategic banking risks (i.e. risk management, credit risk, liquidity risk, market risk, equity risk, and insurance and investment risk). The pattern of volume fluctuation is most frequently observed in the disclosures of Lloyds TSB and HBOS.

This study has found that the risk disclosures of all companies have increased over time. In particular, both the quantity of disclosures and the number of risk categories disclosed have increased, in both the overall analysis of all companies and in the analysis of the individual companies.

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Abbreviations

ASB	Accounting Standards Board
BCBS	Basel Committee on Banking Supervision
CAPE	Critical Accounting Policy and Estimate
COSO	Committee of Sponsoring Organizations (of the Treadway Commission)
DTI	Department of Trade and Industry
FASB	Financial Accounting Standards Board
FRC	Financial Reporting Council
FRR	Financial Reporting Release
FRS	Financial Reporting Standard
FSA	Financial Services Authority
FTSE	Financial Time Stock Exchange
GAS	German Accounting Standard
HBOS	Halifax Bank of Scotland
IAS	International Accounting Standard
IASB	International Accounting Standards Board
ICAEW	Institute of Chartered Accountants in England and Wales
IFRS	International Financial Reporting Standard
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
IPO	Initial Public Offerings
MD&A	Management Discussion and Analysis
NatWest	National Westminster Bank
NYSE	New York Stock Exchange
OECD	Organisation for Economic and Co-operation and Development
OFR	Operating and Financial Review
RBS	Royal Bank of Scotland
SEC	Securities and Exchange Commission
SOX	The Sarbanes-Oxley Act (2002)
UAE	United Arab Emirates
US	United States of America
UK	United Kingdom
VaR	Value at Risk

Chapter 1. Introduction and Motivation

1.1 Introduction

Recently, there has been a considerable amount of interest in understanding what causes banks to fail and many attempts have been made to try to predict which banks will encounter difficulty next. Much of this concern stems from the taxpayers, depositors, shareholders and investors who want to be able to identify any potentially weaknesses in banks that may cause them to fail. The relevant issues include the danger of risk spreading from the source, the capabilities of the financial markets, and the general principles of market efficiency.

Amongst the causes of the recent failure of many financial markets is the recent growth of the international financial market, which has been created as globalisation has promoted free-market capitalism. This is coupled with the greater diversity of financial instruments, which have allowed new means of raising funds and trading. Meanwhile, many markets have rapidly expanded. This has enabled the development of new instruments, products, services, and techniques, which have been arguably achieved at the expense of risk management (Holland, 2010).

Even though the banking disclosure data that is available is quite comprehensive, most of the disclosure analysed for this study did not include any direct information on the quality of a bank's management (Hahn, 2009). In addition, much of the available prior knowledge on organisation, intermediation, markets and risk was seemingly ignored by bankers (Holland, 2010). Consequently, vast losses followed from the 2007 financial crisis, which is the most significant economic crisis in nearly eighty years and the leading proximate cause of the steepest post-war global economic downturn (O'Connell, 2010, p.148).

The 2007 financial crisis revealed that massive financial mismanagement and misconduct has long been a part of the enormous risks taken by many banks and financial institutions (Tomasic, 2011). This crisis developed from the sub-prime credit problems that followed the collapse of the US housing market and the subsequent devaluation of many American mortgages. In August 2007, the interbank markets

experienced severe pressures to raise massive amounts of liquidity. However, at that time it was very difficult to increase capital due to the significant changes in collateralised markets and low quality collateral (Allen and Carletti, 2010). Moreover, a lack of confidence among financial institutions and investors, especially fears about their financial stability, made it much more difficult for them to improve their liquidity. This crisis of confidence, which became known as the 'credit crunch', later caused a credit crisis (Andersen et al., 2012). During the autumn of 2007, the prices of subprime securitisations continued to worsen and many financial institutions began to face adverse effects. Although the financial system, and in particular banks, came under tremendous strain during this time, this was not the riskiest or the worst effect. This period could later be identified to be just the initial phase of the crisis (Pisani-Ferry and Sapir, 2010).

The most critical stage of the crisis started in September 2008 when Lehman Brothers collapsed, inducing significant losses in many counterparties. Large amounts of money were withdrawn from money markets in the week following Lehman's collapse. More disruptive consequences spread to the international markets, affecting the majority of cross-border banks. The values of asset, real estate, and the prices of commodities all declined dramatically at this stage, which resulted in the collapse of a number of large banks and non-banks, coupled with a sharp increase in unemployment rate in the United States and a number of other countries. This led the International Monetary Fund (IMF) to refer to the situation as the global financial crisis or "the Great Recession" (Moshirian, 2011).

O'Connell (2010, p. 153) noted that other high-profile victims of this crisis included: Bear Stearns, which was absorbed by J.P. Morgan Chase in March 2008; Northern Rock, which was nationalised by the British Government in September 2007; Halifax Bank of Scotland (HBOS), which became part of the Lloyds Banking Group in September 2008; Lehman Brothers, which declared bankruptcy in September 2008; the American International Group (AIG), in which the US Government has acquired an 80 percent equity stake; and, the Royal Bank of Scotland (RBS), which became more than 70 per cent owned by the British Government. In addition, the Bank of America, Merrill Lynch, Citigroup, and the Lloyds Banking Group all received sizeable state bailout funds. In the US, Goldman Sachs and Morgan Stanley became commercial banks, subjecting themselves to more stringent regulation. Concerned that the global economic

outlook had deteriorated, some governments intervened urgently in the market to rescue their banks while other governments offered blanket guarantees to their depositors and creditors as a way out of the systemic crisis (Moshirian, 2011).

The impact of the US sub-prime crisis on the international wholesale money markets and the accompanying liquidity problems, were the principal causes of the collapse of Northern Rock in August 2007 (Hall, 2009).[1] This was the first effect of the crisis in the UK. In September 2007 there was a run on Northern Rock and the Bank of England had to give assurances that all deposits would be guaranteed (Hall, 2008; Llewellyn, 2008). Keasey and Veronesi (2008) suggested two causes for the failure at Northern Rock. Firstly, the credit rating agencies did not provide a better assessment of the risks involved in securitised instruments. Instead, they focused on clarity and transparency and, hence, they allowed the liquidity risk of loan originators to be comprehensively understood. Secondly, the existing regulatory framework of the tripartite system of supervision (Treasury, Bank of England, and FSA) had the role of intervening *ex post* rather than in a more alert role in order to avoid the disruption. However, Llewellyn (2008, p.36) argued that there were several fault-lines related to the collapse of Northern Rock, as follows:

- The implications of securitisation and a consequent over-reliance on short-term market instruments;
- Poor risk management;
- The deposit protection regime in the UK;
- The money market operations of the Bank of England;
- The institutional structure of financial regulation and supervision;
- Corporate governance arrangements;
- The role of the government in responding to financial market distress; and,
- Ambiguity with regard to the distinction between liquidity versus solvency issues in banks.

One of the lessons of this crisis is that there is a strong public interest in whether bank executives and boards have adequate competence to balance appropriately between risk and return. Holland (2010) found that the failure in the role of monitoring, a lack of

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[1] Northern Rock (a previous mutual building society) converted to bank status in 1997 and grew into the UK's eight largest bank and fifth largest UK mortgage lender by wholesale money market finance rather than retail deposits (Llewellyn, 2008).

basic knowledge of banking risks, together with inappropriate value drivers by bank executive and boards of the failing banks were major causes of the banking crisis. The impact of the bank sector's collapse has imposed large costs on UK citizens. For example, in 2008 the UK government was forced to inject £45.5bn of equity capital to prevent the collapse of the Royal Bank of Scotland (RBS) (FSA, 2011). However, this loss seemed to be only a small part of the whole disaster resulting from this financial crisis. Unsurprisingly, it is becoming increasingly difficult to ignore the crucial points that made the large UK banks fail.

In December 2011, the Financial Services Authority (FSA) issued a report entitled "The Failure of the Royal Bank of Scotland", which aimed to identify the multiple factors which combined to produce RBS's failure. This report reveals that RBS's failure amid the systemic crisis resulted from poor management decisions, deficient regulation, and a flawed supervisory approach. It also detailed six key factors which were involved in the failure of RBS, as the follows (FSA, 2011, p.21):

- Significant weaknesses in RBS's capital position during the review period as a result of management decisions, which were permitted by an inadequate regulatory capital framework;
- Over-reliance on risky short-term wholesale funding;
- Concerns and uncertainties about RBS's underlying asset quality, which in turn was subject to little fundamental analysis by the FSA;
- Substantial losses in credit trading activities, which eroded market confidence (both RBS's strategy and the FSA's supervisory approach underestimated how bad losses associated with structured credit might be);
- The ABN AMRO acquisition, on which RBS proceeded without appropriate heed to the risks involved and with inadequate due diligence; and,
- An overall systemic crisis in which the banks in worse relative positions were extremely vulnerable to failure, RBS was one such bank.

As the importance of the financial crisis became clear it was obvious that risk is among the greatest significant issues in the UK banking sector. In the aftermath of the crisis, bankers, investors, regulators and researchers around the world have shown an increased interest in re-evaluating existing prudential regulatory standards, corporate governance, risk management, and risk monitoring in the banking sector. This reflects the needs for a new conceptual frame-based development in risk management and risk

disclosures. Given the core principles for effective banking supervision, the Basel committee recommend that corporate governance, risk management, the importance of disclosure, and transparency in maintaining confidence in banks are essential elements in the safe and sound functioning of banks (BCBS, 2011e).

From the perspective of a developed traditional economy, banks play a strategic role as intermediaries that also provide liquidity. This makes banks different from other businesses. There are two key risks which are related directly to the banks' intermediary role and which need to be managed: liquidity risk and operational risk (Heffernan, 2005). Meanwhile, Barrell et al. (2010) suggested that the regulation of a developed economy banking systems is more likely to concern liquidity and capital adequacy because both impact on banking crisis probabilities. However, Chakraborty and Ray (2006) have argued that banks are seen to affect economic growth through the effectiveness of corporate governance and the ability to raise external funds. In addition, banks also enhance market power when they can boost the value of the bank by reducing incentives for bank owners and managers to take excessive risk and by reducing the probability of systemic banking distress (Beck et al., 2006). In terms of monitoring, since bank profitability is an important predictor to evaluate the effects on macroeconomic and financial crises (Albertazzi and Gambacorta, 2009; Kanas et al., 2012), financial reporting and risk disclosures concern public interest in the financial system and are economic incentives for the monitoring and controlling of individual bank behaviour (Sánchez-Ballesta and Lloréns, 2010).

Focusing on risk management, Christoffersen (2003) suggested that firms should devote careful attention to bankruptcy costs, taxes, capital structure, the cost of capital, and human capital. Meanwhile, Chortareas et al., (2011) proposed that to promote the safety and soundness of banks, it is important to understand the relationships among financial frictions, bank performance, and bank lending quality, coupled with the key roles of deposit insurance and capital ratios in mitigating informational problems. However, Bessis (2002, p.56) argued that risk management becomes effective and successful only if it develops to the stage where it facilitates decision-making and monitoring. In addition, the board also needs to make sure that true risk governance is made transparent to managers and to stakeholders through adequate internal and external disclosure (Crouhy et al., 2006).

The knowledge of the link between the strategic role of banks in the UK economy and banking risks is important in order to evaluate the stability and soundness of the banking sector. Therefore, the importance of corporate governance, risk management, and risk disclosures, which relate to the strategic role of banks, are key motivations in this study and will be reviewed later in this chapter.

1.2 A Definition of Risk

This section provides the definition of risk in order to establish common ground on the issue studied. In general, risk is defined in different ways by different authors. Table 1.1 summarises this.

Table 1.1 *Definitions of risk*

Organisation/Author	Definition of Risk
Institute of Risk Management (IRM, 2002, p.2)	Risk is the combination of the probability of an event and its consequences. In all types of undertaking, there is the potential for events and consequences that constitute opportunities for benefit (upside) or threats to success (downside).
International Organisation for Standardisation (ISO, 2009, p.1)	Effect of uncertainty on objectives. An effect is a deviation from the expected and can be either positive and/or negative. Objectives can have different aspects (such as financial, health and safety, and environmental goals) and can apply at different levels (such as strategic, organisation-wide, project, product and process).
Jorion (2001, p.3)	The volatility of unexpected outcomes.
Bessis (2002, p.11)	Adverse impacts on profitability of several distinct sources of uncertainty.
Heffernan (2005, p.104)	The volatility of net cash flows of the firm.

Jorion (2001, p.3) further classified risk into business and non-business risks. Iqbal and Llewellyn (2002, p.18) classified risk into two types: firstly, uncontrollable risk or the chance that the decision-maker has no control whatsoever over this type of risk; and secondly, controllable or responsive risk that can be controlled and affected by the decision-maker. Meanwhile, by focusing on the meaning of risk as uncertainty, Schroeck (2002, p.24) differentiated uncertainty into: firstly, general uncertainty is complete ignorance about any potential outcome making both rational decision making and any quantification impossible; and secondly, specific uncertainty, which is

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objective, or at least subjective, probabilities that can be assigned to the potential outcomes and, hence, allow for some degree of quantification.

In another definition of risk, Horcher (2005, p.2) argued that risk refers to the probability of loss while exposure is the possibility of loss, although they are often used interchangeably. Although a variety of definitions of the term 'risk' have been suggested, this study defines risk as uncertainty, volatility, and exposure affecting the deviation from an expected outcome.

1.3 Corporate Governance

One of the most significant causes of the financial crisis was poor corporate governance (Haspeslagh, 2010). This puts pressure on boards and management committees to carry out their corporate governance and risk management responsibilities in a more effective manner. Consequently, corporate governance is a particular challenge for complex risk-taking financial institutions, especially in the banking sector.

The Cadbury Committee (1992) defined corporate governance as the system by which companies are directed and controlled. This definition involves a set of relationships between the responsibilities of board of directors for managing their companies and the role of shareholders in governance by appointing the directors and auditors.

The Organisation for Economic and Co-operation and Development (OECD)[2] is internationally recognised as a benchmark for good corporate governance, its Principles of Corporate Governance states that:

> Corporate governance involves a set of relationships between a
> company's management, its board, its shareholders and other
> stakeholders. Corporate governance also provides the structure through
> which the objectives of the company are set, and the means of attaining
> those objectives and monitoring performance are determined. Good
> corporate governance should provide proper incentives for the board and

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[2] OECD is an international organisation of thirty-four countries founded in 1961 to stimulate economic progress and world trade. It also provides ideas and reviews progress in specific policy areas, such as economics, trade, science, employment, education or financial markets (OECD website).

management to pursue objectives that are in the interests of the company and its shareholders and should facilitate effective monitoring. The presence of an effective corporate governance system, within an individual company and across an economy as a whole, helps to provide a degree of confidence that is necessary for the proper functioning of a market economy. As a result, the cost of capital is lower and firms are encouraged to use resources more efficiently, thereby underpinning growth. (OECD, 2004, p.11)

When compared with the Cadbury committee's definition, the OECD definition has added the role of other stakeholders, the relationships among participants in the governance system, and the effective monitoring of a company's objectives. This widely accepted and long-established definition was used to develop the principles of corporate governance by the Basel committee (BCBS, 2010a).

Since 1999, and a later revision in 2004, the OECD Principles of Corporate Governance have become an international benchmark for governments, regulators, investors, corporations, and other stakeholders worldwide. Its principles cover the following six areas (OECD, 2004):

1) Ensuring the basis for an effective corporate governance framework;
2) The rights of shareholders and key ownership functions;
3) The equitable treatment of shareholders;
4) The role of stakeholders;
5) Disclosure and transparency; and,
6) The responsibilities of the board.

However, there have been a number of corporate governance failures following the financial crisis that began in mid-2007. Global wealth suffered losses of up to forty-five percent (Pirson and Turnbull, 2011). Meanwhile, evidence has shown that corporate governance in the banking sector was ineffective to prevent the economic damage and the collapse of the financial system (BCBS, 2010a; Grove et al., 2011).

Following this crisis, the Basel Committee on Banking Supervision (BCBS)[3] pointed out that the failed corporate governance involved the key issues relating to insufficient board oversight of senior management, inadequate risk management and opaque bank organisational structures and activities (BCBS, 2010a). Consequently, in 2010 the Basel committee issued a final set of principles for enhancing sound corporate governance practices at banking organisations aiming to assist banking supervisors and to provide a reference point for promoting the adoption of sound corporate governance practices. There are six areas that are crucial the effective implementation of these principles (BCBS, 2010a), which are:

1) The role of the board;

2) The qualifications and composition of the board;

3) The importance of an independent risk management function, including a chief risk officer or equivalent;

4) The importance of monitoring risks on an on-going firm-wide and individual entity basis;

5) The board's oversight of the compensation systems; and,

6) The board and senior management's understanding of the bank's operational structure and risks.

In the wake of the 2007-08 financial crisis, there has been an increasing interest in corporate governance practices in the banking sector (Grove et al., 2011). In general, the core operation of banking business comprises the provision of deposit and loan products, and this normally distinguishes banks from other types of financial institutions. Deposits are liabilities for banks, while they have to manage the assets that are created by lending. Therefore, the key activity of a bank is to act as an intermediary between depositors and borrowers. Mullineux (2006) also emphasised that banks are special because their supervisors have a fiduciary duty to both depositors and shareholders and, therefore, resolution of the principal-agent problem focusing on maximising shareholder value is not appropriate. This is because banks have a number of stakeholders in addition to shareholders.

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[3] BCBS is a committee of banking supervisory authorities that was established by the central bank governors of the Group of ten countries in 1975. It provides a forum for regular cooperation on banking supervisory matters (Wikipedia).

Given the important financial intermediation role of banks in an economy, the public and the markets have a high degree of sensitivity to any difficulties potentially arising from corporate governance in banks. The failure of corporate governance suffers from agency problems, which affects the various groups relating to the principal agent theory. In general, the principals are the shareholders and the agents are directors (Haspeslagh, 2010). However, Heffernan (2005) argued that there were a number of other principal agent relationships in modern banks, including: the contracts between the shareholders of a bank (principal) and its management (agent); the bank (principal) and its officers (agent); the bank (principal) and its debtors (agent); and, the depositors (principal) and the bank (agent). Hence, this can lead to the weakness of corporate governance and risk management which can affect shareholders, investors, depositors, debtors and other stakeholders, including the taxpayers whose money was used by the UK government to prevent a collapse of the banking sector.

1.4 Risk Management

Risk management has recently become a central issue for commercial banks. However, it is very difficult to separate best practice risk management from best practice corporate governance (Crouhy et al., 2006) because risk management is a central activity of corporate governance (Cade, 1999). Given the importance of risk management in a modern bank's operation, the efficiency of a bank's risk management has an influence on its financial performance. It is crucial to gain insight into products and services, as well as strategies, to reduce risk within the context of a bank's risk tolerance and objectives (Horcher, 2005). However, Sensarma and Jayadev (2009) argued that risk management demands that banking supervisors should understand the process of identifying the risks to which the bank is exposed; they should then be able to quantify those risks and control them. The purposes of risk management are threefold: identifying risk, determining an appropriate level of risk response according to policies, and managing risks in an appropriate and effective manner (Merna and Al-Thani, 2008).

Any definition of risk management normally relates to the aim and process of risk management. For example, Vallabhaneni (2008, p.58) defined risk management as the process of assessing risk, taking steps to reduce risk to an acceptable level, and maintaining the reduced level of risk. Given both the aim and the process, Schroeck

(2002, p.28) defined risk management as an active, strategic, and integrated process that encompasses both the measurement and the mitigation of risk, with the ultimate goal of maximising the value of a bank while minimising the risk of bankruptcy. Meanwhile, Merna and Al-Thani (2008, p.2) defined risk management as a formal process that enables the identification, assessment, planning, and management of risk. While the previous definitions generally explained the basic process of risk management, the Basel committee (BCBS, 2010a, p.17) suggested that internal controls may be included in risk management and described how risk management generally involves:

- Identifying key risks to the bank;
- Assessing these risks and measuring the bank's exposures to them;
- Monitoring the risk exposures and determining the corresponding capital needs (i.e. capital planning) on an on-going basis;
- Monitoring and assessing decisions to accept particular risks, risk mitigation measures, and whether risk decisions are in line with the board-approved risk tolerance or appetite and risk policy; and,
- Reporting to senior management and the board as appropriate.

It is necessary to have a comprehensive risk management strategy to survive in today's financial markets. A weakness in risk management may cause many factors of financial distress, involving both indirect and direct costs, such as: litigation fees, loss of market share, and inefficient asset management. On the other hand, the potential benefits from risk management can maximise opportunities and minimise adverse effects. Effective risk management can, therefore, help reduce the costs of bankruptcy, tax losses, the cost of capital, and the problem of compensation incentive schemes, including the compensation package for recruiting key personnel (Christoffersen, 2003). In addition, Sensarma and Jayadev (2009) found that stock returns have a positive association with risk management capabilities. Similarly, Lehar (2005) also found that implementation of more advanced risk management systems is positively related to the value of banks' asset portfolios. In other words, when a bank's board and supervisors fail to monitor and control sufficiently the operating costs, together with the weakness in managing loan portfolio, this may create higher numbers of loan loss provisions (Chortareas et al., 2011). From the viewpoint of the mentioned authors, it is clear that the risk management mechanism typically is beneficial since it will allow banks to respond to risks that they face in an appropriate way.

Risk management in banking is not a new issue (Cade, 1999). It is a discipline at the core of every bank and encompasses all the activities that affect the bank's risk profile. In practical terms, the key aspect of risk management involves strategic and capital planning, asset-liability management, and the management of a bank's business and financial risks (Greuning and Bratanovic, 2003, p.76). The financial market crisis that began in mid-2007 has led to substantial financial losses. It is apparent that many financial institutions did not fully understand the relationship between risks and businesses (BCBS, 2009). While financial institutions have subsequently faced a large range of difficulties, one of the major causes of serious banking problems is poor risk management. Consequently, in 2010 the Basel committee issued new risk management guidance as part of its recommendations on sound corporate governance (as described in Section 1.3).

To enhance the later Basel II framework, the Basel committee, with respect to banks' firm-wide risk management and capital planning processes, also addressed the guidance of risk management in its "Enhancements to the Basel II framework" (2009). This guidance was intended to assist banks and supervisors in better identifying and managing risks in the future and in appropriately capturing risks in their internal risk assessments. When supervisors implement this framework, they should be able to define risk appetite and recognise all significant risks, including the risks posed by concentrations, securitisation, off-balance sheet exposures, valuation practices and other risk exposures. The key elements in this guidance consist of (BCBS, 2009, p.12):

- Adequately identifying, measuring, monitoring, controlling and mitigating these risks;
- Clearly communicating the extent and depth of these risks in an easily understandable, but accurate, manner in reports to senior management and the board of directors, as well as in published financial reports;
- Conducting on-going stress testing[4] to identify potential losses and liquidity needs under adverse circumstances; and,
- Setting adequate minimum internal standards for allowances or liabilities for losses, capital, and contingency funding.

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[4] Stress testing is an important tool that is used by banks as part of their internal risk management that alerts bank management to adverse unexpected outcomes related to a broad variety of risks. It provides an indication to the banks of how much capital might be needed to absorb losses should large shocks occur (BCBS, 2009, p.24).

As business activity and the need for improvement in risk management rapidly grows, boards are likely to confront the challenges of understanding risk, including identifying, quantifying, and monitoring the risk profile, and controlling, mitigating, and reporting on risk exposures.

1.5 The Importance of Risk Disclosure

Risk disclosure has a central role in the aforementioned debate. Transparency about risk disclosure is an important component in corporate reporting. It enables the bank to achieve and maintain an accurate value of business, as well as confident and well-informed investors (Deumes, 2008). Transparency is a cornerstone of accounting and investment practice (Abraham and Cox, 2007).

Risk disclosure is driven by increased complexities in business, and an objective to promote transparency and enhance the quality of disclosure by reducing information asymmetries. In addition, risk disclosure has a number of potential benefits for shareholders, analysts, investors, and other stakeholders (Lajili and Zéghal, 2005). However, Linsley and Shrives (2005b) warned that disclosure itself will not create transparency when it lacks useful information. Improved public disclosure strengthens the market participants' ability and encourages safe and sound banking practices. In 1998, the Basel committee issued a paper on "Enhancing Bank Transparency". This paper suggested that useful information should contain transparency, which it defines as the public disclosure of reliable and timely information that enables its users to make an accurate assessment of a bank's financial condition and performance, its business activities, and the risks related to those activities (BCBS, 1998, p.15). Moreover, this paper also provided five critical qualitative characteristics of information that contribute to bank transparency, which are:
  1) Comprehensiveness;
  2) Relevance and timeliness;
  3) Reliability;
  4) Comparability; and,
  5) Materiality.
Meanwhile, Horcher (2005, p.187) proposed that specific informational requirements should serve the different needs for information that is reliable, timely, accessible,

accurate, consistent in format and suited to different users. In addition, Greuning and Bratanovic (2003) argued that producing useful information depends on timeliness, considering benefit and cost of providing information, and balancing qualitative characteristics to ensure that such characteristics are adequate for their particular environment.

The banking supervisors' attention to the topic of market discipline in banking is based on the recognition that markets contain disciplinary mechanisms that mean that banks will earn rewards when they manage risk effectively under appropriate conditions and will be punished for greater risk-taking by demanding higher yields on bank liabilities. Prudential supervision and market discipline is important to promoting the long-term stability of both individual institutions and banking systems. Moreover, the Basel Committee on Banking Supervision (BCBS) is aware that market discipline can contribute to a safe and sound banking environment. The Basel committee has established Pillar 3 in Basel II to achieve the appropriate disclosures, with the aim of encouraging greater bank disclosure to strengthen banking stability. Market discipline, however, can only work if it consists of three conditions: understanding of market participants about risk of loss; assessing the cost of banking risk; and adequate information to measure the riskiness of the bank (Nier and Baumann, 2006).

There are a number of studies that have explored the usefulness of risk disclosure. For example, Beretta and Bozzolan (2004) pointed out that investors demand increased corporate risk disclosure to improve their investment decisions. This requirement includes the implementation of risk management systems and effective monitoring of the risks affecting a firm's strategies. In addition, it needs response plans before taking on emerging opportunities and minimising the risk of failures. Lajili and Zéghal (2005) also emphasised that risk disclosure should provide guidance in evaluating management's effectiveness because this relates to firm-level economic value and growth, as well as trading volume sensitivity to different risks. Poshakwale and Courtis (2005) found that firm disclosure information enables the reduction of investor uncertainty and attracts long-term investment. This positively influences and reduces the cost of equity capital. They also further explained that useful disclosures are likely to reduce uncertainty and lower the estimated risk.

Even though there are benefits for disclosing risks, the costs of increased disclosure must be weighed against the benefits arising from a lower cost of capital or higher market valuation (Murugesu and Santhapparaj, 2010). Based on this trade-off, Helbok and Wagner (2006) found that banks which have a lower equity ratio and are less profitable choose a higher level of disclosure with respect to operational risk in order to assure the market that operational risks are well managed, while highly capitalised banks, which outsiders believe unlikely to fail, tend to provide a lower level of disclosure. Therefore, internal and external parties are an important influence when considering the trade-off between the costs and benefits of risk disclosure. They can ensure that banks are acting for the best interests of the shareholders.

Risk disclosure reduces the information asymmetry between informed and uninformed investors (Poskitt, 2005). Iatridis (2008) pointed out that the reduction of uncertainty and information asymmetry would convey the effective communication between managers and other related interested parties (such as shareholders, debtors, regulators, and financial analysts). Consequently, risk disclosure tends to reduce the related agency and political costs. This monitoring mechanism also influences the ability of stakeholders to monitor and assess changes in a bank's condition. A high quality of disclosure will provide market signals about the bank's conduct, which is useful information to supervisors responsible for reducing a bank's risk exposure (Oliveira et al., 2011c). However, risk disclosure should not be considered as a stand-alone mechanism to reduce information asymmetry without integrating the whole process of risk management relating to planning, controlling and monitoring (Conti and Mauri, 2008). Hence, the risk disclosure practices of a company should enable it to reflect on the effectiveness of its risk management and control systems (Murugesu and Santhapparaj, 2010).

1.6 The Objectives of this Study

The rationales underlying this study of risk disclosure in the UK banks stem from the weakness in corporate governance and risk management which were both critical causes of the beginning of the global financial crisis of mid-2007. As a consequence of this crisis, the Basel committee also recommended that corporate governance, risk management, disclosure, and transparency are essential elements in the safe and sound

functioning of banks. Therefore, the transparency of risk disclosure has become a key principle that underpins both corporate governance and risk management frameworks.

There are two main objectives for this study. Firstly, this study aims to investigate risk disclosures in the annual reports of UK banks on a longitudinal basis. A longitudinal study can describe how shareholders monitor risk and risk management through annual reports on a number of aspects, such as in financial crises, through regulatory changes, and with increased accounting standards. Secondly, given the need for useful information which is related to risk reporting (as identified in Section 1.5), this study attempts to develop a method that enables capture of the quality and characteristics of risk disclosures because useful information about risk disclosures can reduce uncertainty and lower estimated risk. Hence, a longitudinal analysis should show whether UK banks have improved their risk disclosures. It should also show how they disclose risks when they face regulatory and public pressures.

1.7 Chapter Outline

This thesis is comprised of nine chapters. Chapter 1 provides an overview of the risks and motivation of this study, containing corporate governance, risk management and the importance of risk disclosure. Chapter 2 reviews the previous literature of banking risk and risk disclosure. In terms of banking risks, four main risks are categorised: financial risks, operational risks, business risks, and event risks. However, considerable attention has been paid to subcategories of seven main risks related to the market movements, or the economic changes of the environment, which are credit risk, liquidity risk, capital adequacy, market risk, interest rate risk, currency risk, and operational risk. Consequently, Chapter 2 outlines the conceptual issues in each of the seven risk categories, including its definition. A broad definition of risk disclosures is discussed and the development of risk disclosures is provided to determine the nature and extent of risk disclosure in the various corporate reports in different countries. The final part of this chapter will review risk disclosure in various countries. Chapter 3 describes the theoretical framework, the process of identifying the research problem and research questions.

Chapters 4 and 5 describe the method development and sample selection. Chapter 4 introduces the conceptual and methodological developments of the content analysis with the various definitions of relevant studies. This chapter also provides a description of the procedures in the content analysis, including both constraints and alternative solutions for implementing this method. Chapter 5 outlines the stages of method development. It begins with the sample selection and follows with the different steps involved in creating reliable content analysis tool. The method's coding mechanisms are explained in detail to examine six interrogations of risk disclosures, which are: risk categories; disclosure direction; the time orientation of disclosure; the disclosure of factuality and perception; the quality of disclosure; and societal concern about banking risks.

Chapter 6 and 7 provide the results of longitudinal findings and analysis for three aspects, which are: volumetric analysis of risk categories, information richness, and the association between volumes of longitudinal risk disclosures against the intensity of societal discussion (as proxied by the frequency and by the year) of relevant newspaper citations (by risk category). Chapter 6 gives an overall view of the findings for all six companies (i.e. RBS, NatWest, Lloyds TSB, HBOS, Barclays, and HSBC). Meanwhile, Chapter 7 provides the intrasectoral longitudinal findings which are analysed by comparing six companies for three aspects as mentioned. The main findings and discussions from Chapter 6 and Chapter 7 are highlighted in Chapter 8. The study's conclusions, implications, limitations, and contributions to theory are presented in Chapter 9, which is the final chapter.

Chapter 2. Banking Risks and Risk Disclosures

2.1 Introduction

Assessment of the financial distress warning systems of banks has been one of the most significant issues of the past decade, especially in financial markets where the internationalisation of financial flows has rapidly changed as the economic and financial sectors have developed. In addition, technological progress and deregulation have increased the competitive pressures amongst banks and other businesses (Greuning and Bratanovic, 2003). Since the 1980s, there have been a number of global financial crises that have had a considerable impact and which have led regulators to consider new conceptual frameworks to address emerging structural problems (Paulet, 2011). The introduction of the Basel Accord on International Bank Capital Standards (Basel I) in 1988 reignited interest in the effect of bank capital regulations (Altunbas et al., 2007; Fiordelisi et al., 2011). The banks responded to these new challenges by recognising the necessity of managing financial distress. Meanwhile, the need for capital adequacy was recognised as the banking business began to diminish and capital adequacy was required.

The recent growth in the financial liberalisation of international financial markets has led to increased innovation of new products in the financial segment of the marketplace. Recent developments in derivatives have led to the development of new instruments, products, services, and techniques. Financial derivatives stem from standardised exchange-traded derivatives, which gained widespread acceptance during the 1970s, and simple, customized Over-the-Counter (OTC) derivatives (i.e. forwards, swaps, and options), which gained popularity during the 1980s. These derivatives have been supplemented by basic structured products (i.e. convertible bonds, hybrid – putable and callable – bonds) (Banks, 2004, p.4). The introduction of these new instruments, products and services has led to an increased market orientation. It has also led to the marketability of bank assets (Greuning and Bratanovic, 2003). It even includes the destruction of derivatives (Banks, 2004). This happens because some instruments are technically very complicated and difficult to understand by general investors. Therefore, the poor risk management and control which is inherent in these instruments based on financial liberalisation can lead to a financial crisis (Chen, 2007).

In recent years, the banking industry has moved away from its traditional role of earning profit from receiving deposits and making loans. Financial innovation can be created quickly in a standardised form by bank trading and large profits can be earned from this in the global marketplace. Unsurprisingly, extreme competition among banks has also increased their market segmentation. Many products are created to attract more customers, especially the off-balance-sheet instruments that are related to currency and interest rates. The effects of these innovations have increased earnings volatility within the banking system, both within individual banks and throughout the banking sector. Moreover, not only does each category of risk increase its own uncertainty, it also causes effects across categories of risk. In addition, it increases volatility in the banking operation, causing it to become more complex. Consequently, it is inevitable that banks have faced an increase in the global levels of risk as well as the emergence of systemic risk (Paulet, 2011).

As the movement of banks into new areas of off-balance sheet banking has increased, this has led banks into ever more risky and highly-regulated business (Lastra, 2004). Many methods have been suggested to address these problems; for example, risk disclosure is currently one of the most widely used methods to monitor and manage risk exposure. However, the quality of risk disclosures of banks has become a controversial issue in the global financial market. The approach to regulation and supervision has changed dramatically in order to enhance the quality of risk disclosure, which is done out of concern to gain useful information and to make market discipline effective. This chapter aims to discuss the questions of banking risk, risk disclosure, and prior research.

2.2 Banking Risks

Banking risks are defined as potentially adverse impacts on cash flow, cost of capital and, hence, profitability. They can include several distinct sources of uncertainty (Bessis, 2002, p. 11). Banks face a wide number of risks in the process of providing financial services. To manage risk, banking risks are generally classified into four main categories: financial risks, operational risks, business risks, and event risks (Greuning and Bratanovic, 2003; El Tiby, 2011). Several previous studies of banking risk have further subdivided these four risk categories; however, different authors frequently categorise these subcategories differently. Table 2.1 compares the four main risks as

they have been categorised by Greuning and Bratanovic (2003), El Tiby (2011), and Horcher (2005).

Table 2.1 *A comparison of banking risks as they have been categorised by different authors*

Greuning and Bratanovic (2003, p.3)	El Tiby (2011, p.29)	Horcher (2005, p.3, p.149)
Financial Risks		
1. Pure risk:[1] • Credit risk • Liquidity risk • Solvency risk (capital adequacy) 2. Speculative risk:[2] • Market risk • Interest rate risk • Currency risk	• Credit risk • Liquidity risk • Equity investment risk • Market risk • Rate of return risk	1. Financial risks arising from an organisation's exposure to changes in market prices (e.g. interest rates, exchange rates, and commodity prices). 2. Financial risks arising from the actions of, and transactions with, other organisations (e.g. vendors, customers, and counterparties in derivatives transactions). 3. Financial risks resulting from internal actions or failures of the organisation; particularly people, processes, and systems.
Operational Risks		
• Internal fraud • External fraud • Employment practices and workplace safety • Client, product, and business services • Damage to physical assets • Business disruption and system failures (technology risk) • Execution, delivery, and process management (compliance risk)	• Legal risk • Failure risk • Fiduciary risk • Compliance risk	Operational exposure arises from the possibility of fraud, error, or system or procedural problems.
Business Risks		
• Macroeconomic and policy concerns • Legal infrastructure • Legal liability • Regulatory compliance • Financial infrastructure • Reputational and fiduciary	• Withdrawal risk • Settlement and prepayment risk • Volatility risk • Reputation risk • Country risk • Equity	

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[1] These can result in loss for a bank if they are not properly managed (Greuning and Bratanovic, 2003).
[2] Based on financial arbitrage, this can result in a profit if the arbitrage is correct or a loss if it is incorrect (Greuning and Bratanovic, 2003).

Greuning and Bratanovic (2003, p.3)	El Tiby (2011, p.29)	Horcher (2005, p.3, p.149)
• Country risk		
Event Risks		
• Political • Contagion • Banking crisis • Other exogenous	• Banking crisis • Exogenous	

It is evident from table 2.1 that these categories have been divided into different sub-categories depending on the author's perspective.

Several previous studies have not categorised banking risks into four categories (i.e. financial risks, operational risks, business risks, and event risks) but instead have focused on the main risks that are related to market movements or changes in the economic environment (such as credit risk, liquidity risk, capital adequacy, market risk, interest rate risk, currency risk, and operational risk). Consequently, table 2.2 compares the definition of risk categories that focus on market movements (i.e. Bessis, 2002; Greuning and Bratanovic, 2003; and, Frost, 2004).

Table 2.2 A comparison of the main banking risks

Bessis (2002)	Greuning and Bratanovic (2003)	Frost (2004)
Credit Risk		
The risk that customers default is a major source of loss, meaning that they fail to comply with their obligations to service debt. Default triggers a total or partial loss of any amount lent to the counterparty. Credit risk is the risk of a decline in the credit standing of an obligor of the issuer of a bond or stock.	The chance that a debtor or financial instrument issuer will not be able to pay interest or repay the principal according to the terms specified in a credit agreement is an inherent part of banking. A credit risk means that payments may be delayed or ultimately not paid at all, which can in turn cause cash flow problems and affect a bank's liquidity.	Credit risk is the risk that a counterparty that owes (or who potentially owes) a bank money fails to meet its obligations.

Bessis (2002)	Greuning and Bratanovic (2003)	Frost (2004)
Liquidity Risk		
Liquidity risk refers to multiple dimensions: • Inability to raise funds at normal cost; • Market liquidity risk; and, • Asset liquidity risk.	A bank may have insufficient funds on hand to meet its obligations. A bank's net funding includes its maturing assets, existing liabilities, and standby facilities with other institutions. It will sell its marketable assets in the stable liquidity investment portfolio to meet liquidity requirements only as a last resort.	Companies and individuals rarely borrow unless they have a financing need. Banks face the risk that a large portion of their depositors will demand their funds back at the same time. Consequently, management has to determine the appropriate balance between holding low yield, but liquid, assets such as government securities that can be readily sold and higher yielding, but illiquid, assets such as loans.
Capital Adequacy/ Solvency Risk		
Solvency risk is the risk of being unable to absorb losses, generated by all types of risks, with the available capital.	An adequate capital base serves as a safety net for a variety of risks to which an institution is exposed in the course of its business. Capital absorbs possible losses and, therefore, provides a basis for maintaining depositor confidence in a bank.	Capital adequacy is the capital available within the business required to absorb a defined level of possible losses before the bank faces insolvency. Required risk capital is estimated assuming a specified holding period and confidence level. The level of risk capital required, as defined by management, may be more or less than the bank's actual level.
Market Risk		
Market risk is the risk of adverse deviations of the mark-to-market value of the trading portfolio due to market movements during the period required to liquidate the transactions. The period of liquidation is critical to assess such adverse deviations; if it gets longer then so do the deviations from the current market value.	Market risk is the risk that a bank may experience loss due to unfavourable movements in market prices. Exposure to such a risk may arise as a result of the bank taking deliberate speculative positions (i.e. proprietary trading) or may ensue from the bank's market-making (i.e. dealer) activities.	This is the risk that the prices of financial instruments (i.e. equities) in which a bank has a position falls. This could result in the bank suffering unrealised losses on any open positions that it has.

Bessis (2002)	Greuning and Bratanovic (2003)	Frost (2004)
Interest Rate Risk		
Interest rate risk is the risk of a decline in earnings due to the movements of interest rates.	Interest rate risk is the sensitivity of capital and income to changes in interest rates.	Bank balance sheets are made up of a mix of fixed and floating rate assets and liabilities whose composition is continually changing over time. A bank that makes a lot of fixed rate loans (i.e. car loans) funded with floating rate deposits is exposed to the risk that interest rates rise. This will push up its cost of funds while the returns on its assets will remain largely unchanged.
Currency Risk		
A currency risk happens when there are incurring losses due to changes in exchange rates. Variations in earnings result from the indexation of revenues and charges to exchange rates or of changes of the values of assets and liabilities denominated in foreign currencies.	Currency risk results from changes in exchange rates between a bank's domestic currency and other currencies. It originates from a mismatch, and may cause a bank to experience losses as a result of adverse exchange rate movements during a period in which it has an open on- or off-balance-sheet position (either spot or forward) in an individual foreign currency.	A foreign bank that borrows US\$ and lends it out in its local currency is exposed to exchange risk. The main risk here is that US\$ will appreciate against the local currency leaving it with a liability that in local currency terms is greater than the value of its matching asset.
Operational Risk		
Operational risks are those of malfunctions of the information system, reporting systems, internal risk-monitoring rules and internal procedures designed to take timely corrective actions, or the compliance with internal risk policy rules.	Operational risk is defined by the Basel Committee on Banking Supervision as *"the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events."*	Operational risk is a catchall category for other things that could go wrong. It includes potentially catastrophic events (such as earthquakes, flooding and fire) and other more mundane factors (such as power, computer or telecommunications failures).

In general, banking risks fall into seven categories (as illustrated in table 2.2). These risks have increased the need for the function of risk measurement, management, and control. Therefore, the role of bank regulators and supervisors is to act as facilitators in the process of risk management and to enhance and monitor the statutory framework. The Basel committee has published several papers on policy issues as well as risk management frameworks for banking risks, and it expects its members to move forward with the appropriate adoption procedures in their respective countries. Consequently, conceptual issues in each risk category (including its definition) will be described in the following sections. In addition, each section will refer to the recommendations and principles of risk management as issued by the Basel committee for justifying quality of risk disclosure in the analytical process.

2.2.1   *Credit risk*

Credit, or counterparty, risk is one of the most significant risk categories in the banking sector (Al-Tamimi and Al-Mazrooei, 2007; Richard et al., 2008; Angelini et al., 2008; Bonfim, 2009; Lin, 2009). This happens because a bank's profitability is closely related to credit risk (Al-Tamimi and Al-Mazrooei, 2007). In addition, weakness in credit risk management is the most important factor and underlying cause of bank failures (Barnhill et al., 2002; Greuning and Bratanovic, 2003; Richard et al., 2008). Risk management has recently been receiving greater attention from the financial and banking industry since many banks have gained first-hand experience of risk during the current financial crises. Specifically, the potentially severe effects of credit risk are significant reasons behind many macroeconomic difficulties (Carling et al., 2007; Bonfim, 2009).

Since banking failures are coupled with a corresponding economic and social impact, credit risk management is needed to reduce potential losses from defaults on loans. Moreover, a clearer understanding of credit risk drivers may be able to help a bank to successfully manage defaults on its credit liabilities. In general, the main processes of credit risk management in the banking industry have five main stages, which are: identification, measurement, assessment, monitoring, and control (Richard et al., 2008). There are three main types of credit risk which are used to identify credit risk using the level of effects of credit risk, which are: personal or consumer risk; corporate or

company risk; and, sovereign or country risk (Greuning and Bratanovic, 2003). However, when considering the sources of credit risk that arise in portfolios, the Basel Committee on Banking Supervision (BCBS hereafter) divides credit risk into two types: systematic risk[3] and idiosyncratic risk[4] (BCBS, 2006a).

While modern banks have continued to increase in scale and complexity, they have also faced difficulties from credit risk management issues, such as a lack of credit standards for borrowers and counterparties, poor portfolio risk management, and a lack of attention to changes in economic or other circumstances. Machiraju (2008) points out that government controls, political pressures, production difficulties, financial restrictions, market turmoil, and instability in the business environment can all affect credit risk management. However, Richard et al. (2008) argued that the effectiveness of credit risk management depends on establishing an appropriate management regime for credit risk while operating a sound credit granting process, maintaining an appropriate credit administration and monitoring process, as well as ensuring that there are adequate controls over credit risk.

Credit risk management has become a central issue, and a number of principles have been put forward to help its development. Machiraju (2008) proposed three key principles for credit risk management: selection, limitation, and diversification. Selection, the first of the key principles of credit management, is described as the process for considering loan application form which elicits information on the amount of the loan, purpose of loan, repayment and collateral. With regard to this principle, Fraser and Simkins (2010) argued that setting appropriate policies (such as the term of the repayment, interest charges, and partial prepayment) is required. Limitation, the second of the key principles of credit management, is a system of limits which are set for different types and categories of lending. Diversification, the third of the key principles of credit management, is described as the process of spreading lending over different types of borrowers, different economic sectors and different geographical

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[3] Systematic risk represents the effect of unexpected changes in macroeconomic and financial market conditions on the performance of borrowers. Borrowers may differ in their degree of sensitivity to systematic risk, but few firms are completely indifferent to the wider economic conditions in which they operate. Therefore, the systematic component of portfolio risk is unavoidable and only partly diversifiable (BCBS, 2006a).

[4] Idiosyncratic risk represents the effects of risks that are particular to individual borrowers. As a portfolio becomes more fine-grained, in the sense that the largest individual exposures account for a smaller share of total portfolio exposure, idiosyncratic risk is diversified away at the portfolio level. This risk is totally eliminated in an infinitely granular portfolio (i.e. one with a very large number of exposures) (BCBS, 2006a).

regions (Machiraju, 2008, p. 198). However, following the recent expansion of financial markets and the rapid growth of off-balance sheet activities of global banks, Herffernan (2005) suggests that credit derivatives and asset securitisation should be included as another of the key principles for reducing credit risk exposure.

With regard to the importance of credit risk management, the Basel Committee on Banking Supervision issued a paper on principles for the management of credit risk in 1999. These principles were subsequently developed until the completed version was released in 2000 as "Principles for the Management of Credit Risk" (BCBS, 2000a). This paper contained five areas for the management of credit risk:

1) Establishing an appropriate credit risk environment;
2) Operating under a sound credit granting process;
3) Maintaining an appropriate credit administration, measurement and monitoring process;
4) Ensuring adequate controls over credit risk; and,
5) The role of supervisors.

The business of banking is credit, and credit is the key component on which a bank's quality and performance are judged. In the other words, the credit quality of a bank's loan portfolio is the one of the most significant risk factors that it faces (Barnhill et al., 2002). Hence, banks face the necessity of managing rapidly changing credit risk exposures due to higher financial stress on credit risk that is caused by the intermediary role that they play on the financial markets.

2.2.2 Liquidity risk

The concept of liquidity is a core component in the modern banking system and it plays a key role in managing financial risk (Greuning and Bratanovic, 2003; Asian Development Bank (ADB hereafter), 2008; Pokutta and Schmaltz, 2011). The banking system has a close relationship with liquidity because the banks operate liquid assets by producing loan and investment portfolios, and these assets are funded by liquid deposits and other liabilities. Based on an asset-liability mismatch, banks can generate two types of imbalances: firstly, an imbalance between the amount of funds collected and lent; and secondly, an imbalance between the maturities as well as interest rate sensitivities of the

sources of funding and the loans extended to clients (Crouhy et al., 2006, p. 182); therefore, liquidity risk is exposed when an asset-liability mismatch occurs (Pokutta and Schmaltz, 2011). Consequently, this relationship means that liquidity risk can cause the bank to fail (Jorion, 2003). This failure can in turn involve other banks, which has a negative impact on the entire economy (Brighi, 2002). Hence, liquidity risk management is a key activity in banking system (Greuning and Bratanovic, 2003; Pokutta and Schmaltz, 2011).

Banks traditionally have met their liquidity needs by managing their assets and funding. Generally speaking, liquidity risk consists of both asset liquidity risk and funding liquidity risk (Jorion, 2001; Jorion, 2003; ADB, 2008). Asset liquidity risk involves the ability to continually enter into market transactions and is also referred to as market, product, or trading liquidity risk (Jorion, 2003; ADB, 2008). By its definition, asset liquidity risk arises when transactions cannot be conducted at quoted market prices due to the size of the required trade relative to normal trading lots. Meanwhile, funding liquidity risk, which is also called cash-flow risk, arises when banks cannot meet payment obligations (Jorion, 2003, p. 276). Jorion (2003) also described how both risks interact with each other when the portfolio contains illiquid assets that must be sold at distressed prices.

In theory, a bank may manage liquidity in two ways: firstly, by increasing its liquidity through asset management (i.e. liquid assets are sold on the market in order to generate liquidity); and secondly, through liability management (i.e. the banks raise funds to obtain liquidity) (Greuning and Bratanovic, 2003; Pokutta and Schmaltz, 2011). However, in practice most banks use a mixture of both methods (Greuning and Bratanovic, 2003). In addition, Brighi (2002) also proposed that liquidity risk can be reduced by managing portfolio diversification and investing the excess liquidity on the interbank market.

Asset and liability management is a critical discipline in liquidity management, which rests on the structure for matching asset and liability. Asset and liability management is a complex method that involves various risks, such as market risk, interest rate risk, currency risk, funding and capital planning, taxation, and regulation constraints (Crouhy et al., 2006). Consequently, sovereign debt crises and banking crises in financial markets are usually associated with liquidity crises (Brutti, 2011).

The concept of liquidity risk management is at the heart of stability in the banking system (Greuning and Bratanovic, 2003). It analyses the bank's on and off-balance sheet positions to estimate cash flow requirements in both normal and stressed conditions and it also looks at how the requirement for funds will be met (Machiraju, 2008). Moreover, the lessons of the recent financial market turmoil demonstrate the imperative need for banks to improve the efficiency of their operations through managing liquidity risk. Consequently, the Basel committee has focused on developing a greater understanding of the way in which international banks manage their liquidity on a global basis by publishing guidance on liquidity management. In December 2010, the Basel committee published the "Basel III: International Framework for Liquidity Risk Measurement, Standards, and Monitoring", aiming to strengthen global capital and liquidity regulations, and to promote a more resilient banking sector (BCBS, 2010).

2.2.3   Capital adequacy

Capital is one of the most significant factors for a bank because it can provide protection against some of the risks of the banking business (Cade, 1999; Greuning and Bratanovic, 2009; Ojo, 2010). Altunbas et al. (2007) also found evidence that capital levels are related to risks, which means that efficient banks tend to have high levels of capital. Consequently, capital adequacy has become one of the key tools to prevent excessive risks (Altunbas et al., 2007; Jokipii and Milne, 2011). However, capital is not a replacement for poor risk management, bad corporate governance, or weak internal controls (Greuning and Bratanovic, 2009, p.122).

The Basel committee has released a framework, known as the Basel Accord, to secure international convergence on revisions to supervisory regulations governing the capital adequacy of internationally active banks. The Basel committee has recently issued a revised framework, which is called Basel III. A brief description of the historical development of the Basel Accord is provided below.

a) *From Basel I to Basel III*

In the late 1980s, the Basel Committee on Banking Supervision started to introduce a risk-based capital adequacy standard known as Basel I Accord which encouraged the prudent management of risks. This framework aimed to strengthen the soundness and stability of international banking system by specifying minimum bank capital adequacy levels, and this had a marked impact on bank approaches to capital management (BCBS, 1988). However, in the aftermath of the 1997 Asian financial crisis and the 1998 default crisis in Eastern Europe, the Basel I Accord has been criticised as being insufficient to provide a capital buffer for unexpected events (Greuning and Bratanovic, 2009).

In January 2001, the Basel Committee published a revised and updated draft of its earlier proposals of June 1999. This was intended to replace the 1988 Basel Capital Accord. When the development of this framework, known as Basel II, was completed in 2006 it consisted of three pillars, namely: minimum capital requirements, a supervisory review process, and market discipline (BCBS, 2006b).

In the aftermath of the financial crisis of 2007 to 2009, it was shown that the capital regulation of Basel II may be insufficient to strengthen the banking sector (Varotto, 2011). In 2009 the Basel committee started to reform the standard, and the revised framework, known as Basel III, was published in 2010. To improve the banking sector's ability to absorb shocks arising from financial and economic stress, Basel III raised both the quality and quantity of the regulatory capital base and enhanced the risk coverage of the capital framework (BCBS, 2011a).

Although the purpose of the revised Basel framework was to promote a more resilient banking sector, it is inevitable that banks will face difficulty from raising higher capital as required by Basel III. The effects of higher capital requirements may have direct and material impacts on banking operations, such as the costs of a bank's financial distress, the transaction costs of issuing equity, substantial financial distress costs from low capital, and problems between shareholders and creditors (Drumond, 2009). Consequently, the rationale underlying the purpose of a revised framework will force banks to consider the trade-offs between lower lending and raising capital to meet capital requirements (Francis and Osborne, 2011). However, one of the lessons of the

recent financial crisis is that capital regulation alone is not sufficient to strengthen financial stability when the effectiveness of supervision is not accompanied.

2.2.4 *Market risk*

Banks may be exposed to market risk in a variety of ways. Market risk exposure may be subdivided into two types: firstly, a systematic risk that affects the volatility of similar assets in financial markets; and secondly, a specific risk that only affects individual financial assets (Apostolik et al., 2009). In the financial market, market risk may also arise from unfavourable movements in four risk types, which are: interest rate, foreign exchange rate, equities,[5] and commodities[6] (Greuning and Bratanovic, 2003; Jorion, 2003; Apostolik et al., 2009). Market risk is described as the potential for loss resulting from an adverse movement in price or value of marketable financial instruments that may affect the value of on and off-balance sheet positions of banks.

There has been an increasing interest in market risk management as major investment and commercial banks have rapidly expanded into trading assets. The concern for management of market risk should begin with the top management. Market risk requires consistency in the management's attention and adequacy analysis (Greuning and Bratanovic, 2003; BCBS, 2011b). However, it has been argued that supervisory management should have strong and knowledgeable oversight of its risk management function due to its complexities (Frost, 2004; Fraser and Simkins, 2010). Greuning and Bratanovic (2003) advise that there are four types of policies related to market risk management, which are: firstly, indicating to the market that assets should be priced at market value according to the accounting standard; secondly, position limits should be related to the capital available to cover market risk; thirdly, stop-loss provisions; and fourthly, the limitation of a new market and its trading in new financial instruments. Meanwhile, Fraser and Simkins (2010) focussed on how cash flows help in operational

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[5] Equity risk relates to taking or holding trading-book position in equities or instruments that display equity-like behavior (e.g. convertible securities) and their derivatives (e.g. futures and swaps on individual equities or on stock indices). Similarly, equity-related risk is calculated for the specific risk of holding a security (beta) and for the position in a market as a whole. For derivatives, the risk is measured by converting the derivative into a notional equity position in the relevant underlying instrument (Greuning and Bratanovic, 2003, p. 240).

[6] Commodity risk refers to holding or taking position in exchange-traded commodities, futures, and other derivatives. Commodity prices may be volatile, as commodity markets are often less liquid than financial markets and changes in supply and demand can have dramatic effects on prices (Greuning and Bratanovic, 2003, p. 240).

planning and estimating. They proposed that predictability and consistency of cash flows are significant for managing market risk.

2.2.5 Interest rate risk

Interest rate risk is accepted as a major financial risk because changes in interest rate can have an important effect on a firm's expected cash flow and on the discount rates that are used to value a firm (Ballester et al., 2011). There are two common perspectives for the impact of interest rate risk (BCBS, 2004; Saha et al., 2009): firstly, the earning perspective focuses on the variation in interest rates that affects a bank's earnings by changing its net interest income and adjusting the level of other interest sensitive income and operating expenses; and, secondly, the economic value perspective focuses on the changes in interest rates that affect the underlying value of the bank's assets, liabilities, and off-balance sheet instruments. The present value of future cash flows (and, in some cases, the cash flows themselves) changes when interest rates change.

The different sources of interest rate risk in the banking book can have significant effects on the banking sector. There are four main sources of interest rate risks in the banking book, which are: repricing risk,[7] yield curve risk,[8] basis risk,[9] and optionality[10] (BCBS, 2004; Saha et al., 2009).

The recent liberalisation of financial markets has led the majority of firms being exposed to many sources of risk. For example, the adverse impact of volatility on interest rates is a possible cause of failures in banking operation (Kasman et al., 2011). However, banks can reduce their interest rate risk by assessing various activities related to interest rates and implementing effective risk management techniques. The key

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[7] Repricing risk arises from timing differences in the maturity (for fixed-rate) and repricing (for floating-rate) of bank assets, liabilities, and off-balance sheet positions. While such repricing mismatches are fundamental to the business of banking, they can expose a bank's income and underlying economic value to unanticipated fluctuations as interest rates vary (BCBS, 2004, p. 5).

[8] Yield curve risk refers to repricing mismatches that can also expose a bank to changes in the slope and shape of the yield curve. Yield curve risk arises when unanticipated shifts of the yield curve have adverse effects on a bank's income or underlying economic value (BCBS, 2004, p. 5).

[9] Basis risk arises from imperfect correlation in the adjustment of the rates earned and paid on different instruments with otherwise similar repricing characteristics (BCBS, 2004, p. 5).

[10] Optionality arises from the options embedded in many bank assets, liabilities, and off-balance sheet portfolios. Formally, an option provides the holder the right, but not the obligation, to buy, sell, or in some manner alter the cash flow of an instrument or financial contract (BCBS, 2004, p. 6).

concept of managing interest rate risk is ensuring that asset and liability management is highly sensitive to changes in the level of interest rates (Drehmann et al., 2010). Meanwhile, Frost (2004) proposes three further methods for managing interest rate risk:

a) Gap analysis;
b) Duration matching; and,
c) Sensitivity analysis.

Gap analysis is a tool that banks or regulators use to assess interest rate risk by measuring and evaluating the net repricing mismatch between assets, liabilities, and off balance sheet items (i.e. derivatives). Duration matching evaluates the effects of the price sensitivity of assets and liabilities to changing interest rates. And finally, sensitivity analysis involves detailed assessments of the potential effects of changes in a portfolio to a wide range of possible changes in interest rates.

The importance of interest rate risk relates to international bank supervisory issues. The Basel Committee on Banking Supervision issued a paper on principles for the management of interest rate risk in September 1997. These principles were subsequently developed until the completed version was released in July 2004 as: "Principles for the Management and Supervision of Interest Rate Risk" (BCBS, 2004). This paper contained fifteen principles in the guidance of interest rate risk management. Principles one to thirteen are intended to refer to an interest rate risk management process, which includes the development of a business strategy, the assumption of assets and liabilities in banking and trading activities, as well as a system of internal controls. Meanwhile, principles fourteen and fifteen specifically address the supervisory treatment of interest rate risk in the banking book.

2.2.6 Foreign exchange rate risk

Understanding the impact of foreign exchange risk has become a central issue for a firm's valuation and for risk management (BCBS, 2000c; Martin and Mauer, 2005). Foreign exchange risk (or currency risk) is described as the risk of loss that results from changes in exchange rate when there is a mismatch between selling and buying in foreign exchange transaction (BCBS, 2000c). Originally, a mismatch results from the assets and liabilities that are valued in different currencies (Greuning and Bratanovic,

2009). A mismatch may also exist between the settlement problem and receiving payments in a foreign currency in the future (Frost, 2004). Moreover, a mismatch is possible between principal and interest (Greuning and Bratanovic, 2009).

Since banks are exposed to various sources of potential foreign exchange risks, there are many risk categories relating to foreign exchange risk. Currency risk may arise from counterparty risk, involving various risk categories such as credit risk, liquidity risk, operational problems, market liquidity constraints, and legal risk (BCBS, 2000c). Furthermore, a currency risk may be incurred as a result of transaction risk,[11] economic or business risk,[12] a revaluation risk or translation risk[13] (Greuning and Bratanovic, 2009). Since currency risk is related to various risks, this may cause financial crises to affect other variables, such as capital controls, many types of domestic financial liberalisation, and the quality of financial regulation and supervision (Angkinand and Willett, 2011).

The serious implications for risk management and banking sector stability means that managing a bank's foreign exchange exposure has long been a core interest of banking supervisors, researchers, and regulators. Creating diversified portfolios related to currency risk is an important requirement for reducing foreign exchange risk (Martin and Mauer, 2005). However, Greuning and Bratanovic (2009) argued that setting specific policies and foreign exchange exposure limits is crucial for management and control purposes. They also further recommended that limits may be applicable in various positions, such as the maximum loss limit, the specific currency limit, and the stop-loss provision limit. Risk management also means that a greater disclosure is likely to improve the detection of critical foreign exchange risk (Martin and Mauer, 2005). On the other hand, it has also been argued that banks cannot mitigate risk merely through monitoring net foreign currency exposure while the bank's board and senior management do not close pay close attention to the many activities that involve currency risk taking (Sahminan, 2007).

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[11] Transaction risk, or the price-based impact of exchange rate changes on foreign receivables and foreign payables (i.e. the difference in price at which they are collected or paid and the price at which they are recognized in local currency in the financial statement of a bank or corporate entity) (Greuning and Bratanovic, 2009, p.256).

[12] Economic or business risk is related to the impact of exchange rate change on a country's long-term (or a company's) competitive position. For example, a depreciation of the local currency may cause a decline in imports and greater exports (Greuning and Bratanovic, 2009, p.256).

[13] Revaluation risk, or translation risk, arises when a bank's foreign currency positions are revalued in domestic currency, or when a parent institution conducts financial reporting or periodic consolidation of financial statements (Greuning and Bratanovic, 2009, p.257).

In terms of the role of regulation and supervision, in 2000 the Basel committee published its "Supervisory Guidance for Managing Settlement Risk in Foreign Exchange Transactions" (BCBS, 2000c). The purpose of this guidance was to provide banking supervisors with information about foreign exchange settlement risk and its management for them to use when assessing a bank's policies and procedures. This guidance involves the implications of seven alternative aspects:

1) Overall management;
2) Measurement;
3) Setting and using limits;
4) Identifying and managing fails;
5) Understanding the implications of techniques to manage exposures;
6) Contingency planning; and,
7) Internal audit.

2.2.7 Operational risk

The past decade has seen the rapid development of products and internal process in financial institutions, leading to an increasing interest in operational risk (Di Renzo et al., 2007). This recognition has brought supervisors of financial institutions to be concerned about their institution's ability to manage operational risk. Consequently, financial institutions have been required to enhance their practices for the management and supervision of operational risk.

Under the Basel II Accord, operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events (BCBS, 2006b, p.144). Related to loss from its method operations, the Basel II Accord has considered five categories of operational risk: internal process risk,[14] people risk,[15] systems risk,[16] external risk,[17] and legal risk.[18] It excludes strategic and reputational risk

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[14] Internal process risk is the risk associated with the failure of a bank's processes or procedures (Apostolix et al., 2009, p.183).

[15] People risk is the risk associated with employee error or fraud; this is a common source of operational risk (Apostolix et al., 2009, p.184).

[16] Systems risk is associated with the use of computer technology and computer systems (Apostolix et al., 2009, p.185).

[17] External risk is the risk associated with events occurring beyond the direct control of the bank such as external fraud and theft, terrorist attacks, and transport system interruption (Apostolix et al., 2009, p.186).

(BCBS, 2006b). However, Apostolix et al. (2009) included strategic risk, business risk, and reputational risk into operational risk because these risks have an interrelation with operational hazards. Moreover, it seems that the terms of operational risks may cover market risk and credit risk (Schroeck, 2002) because both risks have an influence on operational loss (Cade, 1999). However, both risks are commonly separated from operational risk for the purpose of identifying its scope (Moosa, 2007). In addition, Greuning and Bratanovic (2009) emphasise that operational risk has to be minimised whereas credit and market risk tend to be optimised in risk management.

Since operational risk is the risk of losses arising from the materialisation of a wide variety of events, it has been a major cause of many recent spectacular banking failures, operational risk management has been of interest not only to senior managers but also of regulators. Consequently, in 2003 the Basel committee issued their principles for the sound management of operational risk, which was revised in 2011 (BCBS, 2011d). To address the key elements of the overall framework for managing operational risk, the principles for operational risk management consist of three areas: fundamental principles of operational risk management; governance; and risk management environment.

There are five processes related to operational risk management environment:
1) Identification;
2) Assessment;
3) Measurement;
4) Mitigation and control; and,
5) Monitoring and reporting (Crouhy et al., 2006; Apostolix et al., 2009; BCBS, 2011d).

Meanwhile, Fraser and Simkins (2010, p. 290) identified three main requirements for the management of operational risk:
1) Identifying and quantifying the risks associated with implementing a particular strategy;
2) Evaluating the organisation's risk management effectiveness; and,
3) Developing an adaptive risk response capability to bring the risk within the defined risk tolerance range.

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[18] Legal risk is the risk associated with the uncertainty of legal actions or the application or interpretation of contracts, laws, or regulations (Apostolix et al., 2009, p.187).

However, some authors (e.g. Jorion, 2001; Horcher, 2005) proposed different tools to manage operation risk, such as internal controls, audit oversight, exception reporting, critical self-assessment, key risk indicators, and formal quantification. Unlike credit risk and market risk, where the source of risk lies outside banks, operational risk arises from sources internal to banks. Therefore, operational risk policies and procedures that clearly define the policies in which all aspects of operational risk are managed should be documented and communicated, although banks follow principles or tools to manage risk.

2.3 Risk Disclosures

The issue of risk disclosures has received considerable critical attention and it is an important point of the debate of how to implement risk disclosures (Conti and Mauri, 2008). The influence of the shareholders means that banks are expected to engage in effective risk management and control systems because they can affect an increase in shareholder value (Murugesu and Santhapparaj, 2010). However, Ismail and Rahman (2011) argue that because institutional investors hold a large percentage of shareholding in a company they have a greater ability to reduce agency problems and are involved with a company's risk management policy. Meanwhile a wide variety of stakeholders have influence on risk disclosures. In addition to shareholders and institutional investors the stakeholders can include supervisors, bondholders, depositors and other creditors, correspondent and other banks, counterparties, and the general public (Greuning and Bratanovic, 2009). Therefore, both internal and external parties are an important influence on the conduct of banks, improving the quality of risk disclosures.

The following sub-sections aim to examine the main topics related to risk disclosures, consisting of three issues: definitions of risk disclosures, and development of risk disclosures.

2.3.1 Definitions of risk disclosures

It is essential at the outset to explain the meaning of risk disclosures before discussing the development of risk disclosures and the relevant research studies of risk reporting.

Some previous studies have proposed a definition of risk disclosure in order to establish a conceptual framework for their research. For example, relating closely to the definition of risk, Linsley and Shrives (2006, p. 389) defined risk disclosures as disclosures that have been judged to be risk disclosures if the reader is informed of any opportunity or prospect, or of any hazard, danger, harm, threat or exposure, that has already impacted upon the company or may impact upon the company in the future or of the management of any such opportunity, prospect, hazard, harm, threat or exposure.

Linsley and Shrives's (2006) definition focuses on a broad definition of risk covering both good and bad information. Likewise, Hassan (2009, p.669) also defined risk disclosures as the communication of good and bad information for uncertainty of business; however, with regard to risk information, Hassan's (2009) definition provides a broader definition because of the financial statements inclusion of information about managers' estimates, judgments, reliance on market-based accounting policies (such as impairment, derivative hedging, financial instruments, and fair value) as well as the disclosure of concentrated operations, non-financial information about corporations' plans, recruiting strategy, and other operational, economic, political and financial risks.

Based on an uncertainty-based definition of risk, Dobler (2008, p.185) defined risk disclosure as risk-related disclosures which imply information on the distribution of future cash flows. This definition covers both verifiable risk reporting (i.e. on risk factors and risk management) and non-verifiable risk reporting (i.e. direct managerial forecasts on the distribution).

Focusing on banking business, Homölle (2009) defined risk disclosure as the kind of reporting that gives the bank's stakeholders perfect information about the risk of bank assets and, therefore, on the true distribution function of future asset values but not on the (still uncertain) asset value itself. For this present study, risk disclosures are defined as the communication of risk and uncertainty through both numerical and narrative information on multidimensional arrays comprised of disclosure direction, timely orientation, factuality, and perception.

2.3.2   *The development of risk disclosures in the UK*

In July 1993, the preliminary framework on the voluntary disclosure of business risk was established in the UK when the Accounting Standards Board (ASB) introduced the Operating and Financial Review (OFR), which is the equivalent of the US 'Management Discussion and Analysis' (MD&A). This framework recommended boards of directors to disclose the discussion of the principal risks facing the business, together with a commentary on their risk management approach and the potential impact of risk on their performance. This reporting statement was updated and a revised version issued in January 2003 to improve the quality of disclosure (ASB, 2006). However, some firms seemed to be unconcerned about the guidance of the OFR because this framework was not a mandatory requirement (Abraham and Cox, 2007). In response, the OFR regulations were passed into law (taking effect on or after 1 April 2005) and the UK government gave the power to ASB for making Reporting Standard (RS) 1, which was issued in May 2005. Subsequently, in November 2005, UK government repealed the OFR legislation returning to the position prior to April 2005 when publication of the OFR was voluntary. Therefore, the OFR has been formally withdrawn and the ASB has converted RS 1 into a Reporting Statement of best practice on the OFR, which will have a persuasive rather than mandatory force. The statement was published on 26 January 2006 (ASB, 2006). With regard to the weakness of the mandatory disclosures, Hill and Short (2009) agreed that increased regulation may lead to the reduction in the amount of useful information for investors because firms tend to focus only on regulatory standards.

While a reporting statement of best practice under the OFR deals with business risk (relating to the requirement of financial risk disclosures), the ASB issued Financial Reporting Standard 13 (FRS 13) 'Derivatives and Other Financial Instruments: Disclosures', which is effective for all accounting periods ending on or after 23 March 1999 (ASB, 1998). FRS 13 requires publicly listed companies to provide risk disclosures, and both narrative and numerical reporting about interest rate risk, currency risk, liquidity risk, fair value, financial instruments used for trading, financial instruments used for hedging, commodity contacts, and net investment in foreign entities. Following International Accounting Standard (IAS) 32 'Financial Instruments: Presentation', the ASB issued FRS 25, which has the effect of withdrawing FRS 13 for most listed entities after 1 January 2005; however, FRS 13 remains in force for any

banking or similar institution. Subsequently, since IAS 32 was replaced by International Financial Reporting Standard (IFRS) 7 'Financial Instruments: Disclosures' on after 1 January 2007, the ASB also issued FRS 29 'Financial Instruments: Disclosures', which has replaced the requirement in FRS 25 since January 2007.

In terms of UK corporate governance, compulsory reporting on the aspects of corporate governance specifically related to financial reporting and accountability started in December 1992 when the Committee on the Financial Aspects of Corporate Governance (known as the Cadbury Committee) issued a report on the financial aspects of corporate governance. In 1995, the Greenbury Report on directors' pay and share options set out extensive disclosure in annual reports on remuneration and recommended the establishment of a remuneration committee comprised of non-executive directors. In January 1996, the Hampel Committee was established to review the extent to which the Cadbury and Greenbury Reports had been implemented and whether the objectives had been met. Consequently, in 1998 the Hampel Committee issued the publication of the Combined Code of Corporate Governance by combining the recommendations of the Cadbury report and the Greenbury report. In 1999, the 'Internal Control: Guidance for Directors on the Combined Code' (also known as the 'Turnbull Report') provided guidance to assist companies in the implementation of the requirements of the combined code relating to internal control. In October 2005, the Turnbull report was revised by the Financial Reporting Council (FRC) publishing report on 'Internal Control: Revised Guidance for Directors on the Combined Code', while the revision of the Combined Code was issued in 2003 by recommendations on board composition from the Higgs Report (2003) and the Smith Report (2003) on audit committees (Abraham and Cox, 2007). Subsequently, the revised version of the combined code was published in 2005 and 2007. Regarded as an integral part of the code, eventually the Financial Reporting Council has revised the combined code as the 'UK Corporate Governance Code', beginning on or after 29 June 2010 (FRC, 2010).

With regard to the other institute relating to development of risk disclosure in the UK, debate on risk reporting commenced in 1997 when the Institute of Chartered Accountants in England and Wales (ICAEW) published a discussion paper on "Financial Reporting of Risk – Proposals for a Statement of Business Risk". This paper found that information in financial statements was deficient in useful risk information and lacked a comprehensive discussion of the risks (Cabedo and Tirado, 2004; Linsley

et al., 2006; Amran et al., 2009). The issue of the need to report risk has historically grown in importance. The ICAEW has published two discussion papers on the topic of risk: "No Surprises: The Case for Better Risk Reporting" (1992) and "No Surprises: Working for Better Risk Reporting" (2002). These papers recommended that enhanced disclosure of the key risks can assist the investor's decisions, which is in contrast to the increased costs that would occur if sensitive information is omitted from any risk disclosures (Linsley and Shrives, 2005a).

2.3.3 The development of risk disclosures in the US and Germany

In the US derivative market, risk disclosures are required under Financial Reporting Release No. 48 (FRR 48), which was published by the US Securities and Exchange Commission (SEC) in 1997. These disclosures must be made by all SEC registrants as part of the "Management's Discussion and Analysis" (MD&A) section in Form 10-K (Amran et al., 2009). In 1998 the Financial Accounting Standards Board (FASB) issued FAS 133 on 'Accounting for Derivatives Instruments and Hedging Activities', which requires the disclosure of market risk arising from adverse changes in interest and foreign exchange rates, and in stock and commodity prices (Cabedo and Tirado, 2004). The fundamental accounting treatment of derivatives under FAS 133 is similar to International Accounting Standard 39 (IAS 39).

In 2001, the US Securities and Exchange Commission (SEC) issued guidance for the Critical Accounting Policy and Estimate (CAPE) disclosures to improve the quality and transparency of public company disclosures in MD&A section of Form 10-K. In 2003, this guidance was included in FRR 72 "Interpretation: Commission Guidance Regarding MD&A of Financial Condition and Results of Operations" with the purpose of making financial statement disclosures useful (Hughes et al., 2011). The collapse of several high profile companies during the US corporate crises of 2001 to 2002 (including Enron Corporation, WorldCom, Tyco, Global Crossing, Adelphia, HealthSouth, and Parmalat) represented significant failures of corporate disclosure and internal control. In 2002, US legislators introduced the Sarbanes-Oxley Act (SOX) to improve corporate governance and accountability. In addition, SOX aimed to increase corporate financial transparency based on an accepted internal control framework, such as the Committee of Sponsoring Organizations' (COSO) 1992 framework of internal

controls. In 2004, the COSO framework introduced a broader risk management into its integrated framework, which is known as COSO 2 (Fraser and Simkins, 2010).

In Germany, a reaction to risk reporting commenced in 1998 when amendments of paragraphs 289 (1) and 315 (1) of the German Commercial Code required companies to report risks in their annual report. Subsequently, in 2001, the German Accounting Standard Board regulated German Accounting Standard No.5 (GAS 5), Risk reporting, with GAS 5-10 about risk reporting by banks (Homölle, 2009). GAS 5 is seen to be a comprehensive approach that requires general disclosures covering all risk categories and the entire risk management (Dobler, 2008).

2.3.4 The development of risk disclosures: The adoption of IAS/IFRS

The International Accounting Standard (IAS) and International Financial Reporting Standard (IFRS) have responded to developments in the international financial market concerning disclosure and presentation related to financial instruments because the International Accounting Standards Board (IASB) and the IFRS interpretations committee play a key role in standard-setting body to bring about convergence of national accounting standards and IFRSs to high quality solutions. Consequently, a new framework of qualitative and quantitative information concerning both risk exposure and corporate handling of liquidity, credit and market risks has been developed by focusing on the risks of financial assets and liabilities in the long-term (Conti and Mauri, 2008). The following table illustrates the development of accounting standards that relate to risk disclosures.

Table 2.3 A summary of IAS/IFRS related to risk disclosures

Issue Year	IAS/IFRS
1997	IAS 1 Presentation of Financial Statements – Amendments to IAS 1 in 2011, effective in 2012.
1990	IAS 30 Disclosures in the Financial Statements of Banks and Similar Financial Institutions) – Superseded by IFRS 7, effective 2007.
1995	IAS 32 Financial Instruments: Presentation – Disclosure provisions superseded by IFRS 7, effective 2007.
1998	IAS 37 Provisions, Contingent Liabilities and Contingent Assets–revisions to IAS 37 in 2005.

Issue Year	IAS/IFRS
1998	IAS 39 Financial Instruments: Recognition and Measurement – Superseded by IFRS 9 (Financial Instruments), effective 2013.
2005	IFRS 7 Financial Instruments: Disclosures - Amendment to IFRS 7 related to disclosures on transition to IFRS 9 in 2011, effective 2015.

By now the coverage of IFRS 7 is embodied in three main risk topics: the disclosure of the significance of the measurement categories used in accordance with IAS 39, disclosure and presentation related to financial instruments under the previous standards IAS 32, and all disclosure requirements related to the financial statements of banks and similar financial institutions under IAS 30. Consequently, IFRS 7 is a higher standard because the financial regulators require a full disclosure approach (Bischof, 2009; Greuning and Bratanovic, 2009).

2.3.5 *The development of risk disclosures: The adoption of the recommendations of the Basel Committee*

Over the past decade, the issues of risk disclosure have been increasingly and strongly debated as part of financial market discussions. Focusing on public disclosures by banks and securities firms, in 1995 the Basel Committee on Banking Supervision (BCBS) released a paper that was titled, "Public Disclosure of the Trading and Derivatives Activities of Banks and Securities Firms". The aim of this paper was to recommend the importance of enhancing the adequacy of disclosures related to internal risk measurement and management systems in credit risk, market risk, and liquidity risk (BCBS, 1995). Since this paper merely introduced the significance of disclosures in order to promote quality of risk reporting, in 1998 the Basel committee issued a paper that was titled: "Enhancing Bank Transparency". This paper contained six broad categories of information, which were:

1) Financial performance;
2) Financial position (including capital, solvency and liquidity);
3) Risk management strategies and practices;
4) Risk exposures (including credit risk, market risk, liquidity risk, and operational, legal and other risks);
5) Accounting policies; and,

6) Basic business, management and corporate governance information (BCBS, 1998).

In June 1999, mandatory disclosures were introduced when the Basel Committee issued new capital adequacy accord (Basel II) under Pillar 3, which required market participants to have information about the bank's capital structure and its risk profile. In 2001, working paper on Pillar 3 was published to enhance the quality of risk disclosures. The revised framework was issued in 2004. The comprehensive version was subsequently issued in 2006. It covered highly detailed quantitative and qualitative risk disclosures in the areas of: capital structure, capital adequacy, risk exposures and assessment, credit risk, market risk, operational risk, equities risk and interest rate risk (BCBS, 2006b). Following the financial crisis of 2007 to 2009, Basel II was revised in 2009 and in 2010 the Basel III was introduced. Consequently, Pillar 3 on risk disclosure was improved to strengthen the transparency of regulatory capital and market discipline (BCBS, 2011a). Recently, the development of principles under the Basel III has been continually upgraded to address effective crisis management, recovery, and resolution measures in reducing both the probability and impact of a bank failure.

2.4 Prior Research

Risk reporting has gained interest in financial reporting practice, regulation, and international research. Consequently, there have been a number of studies that have explored the extent of risk disclosures in various countries. The majority of the existing studies are based on empirical evidence. This section will introduce a range of studies related risk disclosures by separately considering studies of single country and cross-country comparisons. Table 2.4 presents the prior research related to risk disclosure, containing the main findings and research sample from different countries of studies.

2.4.1 Studies in a single country

The first group of studies reviewed risk disclosures of companies within one country. Most studies aimed to examine risk disclosures by using content analysis. The following

section presents an assortment of applications and finding from different single country studies.

a) *Studies in the UK*

In their study, Elzahar and Hussainey (2012) focused on narrative risk disclosures in the interim reports of seventy-two non-financial listed companies during 2009 to 2010. Although the content analysis of these interim reports revealed that company size was positively associated with the volume of risk disclosures, the practical implication showed that the large companies were less likely to be associated with company risk level. These findings corroborate the findings of Linsley and Shrives (2005a; 2006) who examined risk reporting in seventy-nine annual reports of non-financial listed companies in 2000 and the findings of Linsley et al. (2006) who studied risk disclosure in twenty-two annual reports of banks in the UK and Canada. Moreover, Abraham and Cox (2007) analysed risk information in UK FTSE 100 annual reports in 2002. They found that although the number of executive and the number of independent directors is positively correlated with the level of corporate risk reporting, the number of dependent non-executive directors is not. They also found that corporate ownership by long-term institutions was negatively related to risk reporting, while corporate ownership by short-term institutions was positively related to financial risk reporting. Their implications showed that institutional investors did not pressure companies who have a lower risk to increase disclosure.

With regard to the perceived difference in disclosure quality, Linsley and Shrives (2005a; 2006) stressed that many companies do not reveal complete information about the risks that they face and that most risk disclosures were generalised statements of risk policy with minimal disclosure of quantified risk. Large generalised information can tend to obscure bad news and, therefore, bad news may be concealed (Linsley et al., 2006) or the release may be postponed because it may increase the level of volatility (Kothari et al., 2009). However, Linsley and Lawrence (2007) found no evidence that directors concealed bad risk news through their writing style in twenty-five UK annual reports of non-financial listed companies in 2000. Moreover, Iatridis (2008) who examined 284 financial statements of UK firms in 2004 also found that the disclosure of sensitive accounting information had not adversely affected the firms' profitability. The

quality of risk disclosures at this time was probably enhanced by the adoption of International Financial Reporting Standards (IFRSs).

In a longitudinal study in the UK of 420 prospectuses of IPO companies during 1991 to 2003, Hill and Short (2009) found that IPO companies disclosed less information relating to risk management and internal controls than was provided by listed companies. Furthermore, IPO risk statements tended to be forward looking, whereas listed companies disclosed more information related to the past. In terms of prior information in risk reporting, Linsley et al. (2006) also confirmed that qualitative and prior information were disclosed much more often than quantitative and future risk information.

b)   Studies in other European countries

Deumes (2008) conducted a content analysis of narrative risk disclosures in prospectuses to determine whether ninety Dutch companies reported risk information to prospective investors. His analysis showed that the future information of risk disclosed was useful for predicting the volatility of future stock prices, the sensitivity of future stock prices to market-wide fluctuations, and the likelihood of severe declined in stock price in the 30-month period after publication. With regard to future information of risk, Beretta and Bozzolan (2004) analysed eighty-five annual reports of Italian companies in 2001 and found that disclosed items were more focused on the present and the past than on the future. Furthermore, Beretta and Bozzolan (2004) found that voluntary disclosure had a bias towards the management's self-justification of expected negative impacts and that disclosed information tended to avoid the company's expected impact even though disclosure of future strategies were concerned. Meanwhile, Oliveira et al.'s (2011b) study of Portuguese firms also found that most risk disclosures were in the past rather than in the future, and the large proportion of disclosures contained generic and qualitative information.

In further research in Portugal, Oliveira et al. (2011a; 2011b; 2011c) found that public visibility (as assessed by size and company listing status), independent directors (2011b), shareholders, and corporate reputation (2011c), has an important influence on the improvement of risk reporting. However, Oliveira et al. (2011b) argued that the

adoption of IFRSs in 2005 did not positively affect the quantity and quality of risk disclosure. Moreover, Oliveira et al. (2011a) also found that both financial and non-financial institutions disclosed risk information with a lack of transparency in minimum binding disclosure requirements for market risk, liquidity risk, and risk management objectives and policies while only credit risk disclosures presented optimal levels of mandatory compliance.

c) *Studies in the United States of America (US)*

Abdelghany (2005) focused on the disclosure of selected significant accounting variables relating to market risk. He analysed the prospectuses of 323 companies listed in NYSE over a five year period (1997-2001) and found that companies with a higher ratio of current asset to current liabilities tend to have a higher degree of market risk. Abdelghany (2005) also found a close relationship between accounting measures and market risk. Meanwhile, Hughes et al. (2011) were interested in bank responses to SEC disclosure guidance between 2007 and 2008 because of the importance of the disclosure of critical accounting policies. They found that the quantity of accounting disclosures increased in 2008 but banks did not fully comply with SEC guidance regarding the critical accounting disclosures. However, they concluded that the 2008 disclosures were of higher quality and quantity than the 2007 disclosures.

With respect to longitudinal study of risk disclosures in banking sector, Pérignon and Smith (2010) examined sixty annual bank reports during 1996 to 2005. They found that there was a general upward trend in the quantity of information disclosed over the survey period. This finding is also consistent with the finding of Hughes et al. (2011), whose study covered a shorter period. Additionally, given VaR[19] disclosure as disclosure quality, Pérignon and Smith (2010) found that the quality of a bank's disclosure did not improve over time.

With regard to governance crisis during 2000-2002 in the US, Akhigbe and Martin (2008) studied the influence of disclosure and governance on risk of 201 US financial services firms following the introduction of Sarbanes-Oxley (SOX) in 2002. They found

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[19] Value-at-Risk (VaR) is a method for quantifying potential losses resulting from movements in market rates or prices (Emm et al., 2007).

that firms with the strongest disclosure and governance experienced smaller increases in risk. Based on the introduction of SOX, Akhigbe et al. (2008) examined 1,160 firms between 2001 and 2002, and also confirmed that market risk was lower for firms with improvement in board independence and monitoring after the mandates of the SOX legislation were released. Additionally, they also found that total return variance, market risk and idiosyncratic risk increased over a two year period of study even though the SOX Act had been introduced.

d) Studies in Asia

It seems that risk reporting by Malaysian companies is still at the initial stage. Amran et al. (2009) analysed risk management disclosure in one hundred Malaysian annual reports of listed companies. The recording unit was the sentence. It was found that the number of risk disclosures in Malaysian companies in 2005 was very much less when compared to UK companies in 2000, as reported by Linsley and Shrives (2006). However, the finding that company size and industry were positively associated with the volume of risk disclosures was consistent with the findings of Linsley and Shrives (2006). Related to the level of risk management disclosures, Ismail and Rahman (2011), who examined 124 Malaysian annual reports of listed companies during 2006 to 2008, found that most companies perform the same level of risk management disclosure practices from year to year. They also found that investors and director's education had an influence on risk management disclosures, while director's experiences did not affect an increase in information on risk.

Othman and Ameer (2009) also investigated the market risk disclosure practices among 429 Malaysian listed firms in 2006 and 2007. They found that, although the majority of the firms studied had complied with IAS 32 Financial Instruments − Disclosure and Presentation, most firms did not provide useful information related to speculative activities of hedging instruments. This may reflect the critical need for observing a certain standardised reporting format or for following guidelines for disclosing new financial instruments. Murugesu and Santhapparaj (2010) have recently published a study which examined the impact of risk disclosure on valuation and initial returns of 267 Initial Public Offerings (IPO) firms in Malaysia during 1999 to 2004. They found that riskier IPO companies had lower offer prices. They also found that firms who

provide greater information on their ability to control their risk tended to increase the value of their shares. Therefore, they concluded that the need for increasing both quality and quantity of risk disclosure in the prospectus can increase the value of these firms. In China, Tang (2011) was interested in the effect of risk disclosures on price difference between shares to domestic investors and shares to foreign investors by examining sixty-eight prospectuses of Chinese firms. She found that a greater difference in risk disclosures between domestic and foreign investors was related to a higher level of price difference between shares to domestic investors and shares to foreign investors. However, after controlling for investors' average information precision, she found that information asymmetry had no effect on the cost of capital.

e) Studies in Canada

Lajili and Zéghal (2005) analysed risk management disclosures in the annual reports of 228 Canadian companies in 1999. Their findings showed that almost all of the risk disclosures were narrative information. They also found that companies attained a high level of risk disclosure intensity reflecting both mandatory and voluntary risk management disclosures. However, the disclosure of risk assessment and analysis was limited. Additionally, although risk mitigation was noted, the potential effects and value creating opportunities were largely absent from these disclosures.

f) Studies in Australia

Taylor et al. (2010) studied the financial risk management disclosure patterns in the annual reports of 111 Australian listed companies during 2002 to 2006. They also focused on the question of risk reporting when companies adopted IFRS on reporting of financial risk management practices. The evidence of their findings shows that the implementation of IFRS has had positive results, with risk disclosures containing more transparent reporting in risk management, accounting policies and practices as well as company policies. In addition, firm size and leverage was found to be positively correlated with financial risk management disclosure. Taylor et al. (2010) also found that corporate governance and capital raisings of firms was positively associated with financial risk management disclosure patterns, while overseas stock exchange listing of

firms was negatively correlated. Consequently, it can be seen that Australian companies that raise capital tend to have more requirements to disclose information concerning financial risk management practices. Their evidence also showed that firms with an inherent uncertainty audit qualification disclosed significantly less financial risk information when compared with firms without an audit qualification.

g) Studies in Dubai

Hassan (2009) examined the relationship between characteristics and level of risk disclosure. In his content analysis study, he used a risk disclosure index to investigate this relationship in the annual reports of forty-nine companies listed on either the Dubai Financial Market or on the Abu Dubai Security Market. He found that company size was not significantly associated with the level of risk disclosure. This finding is inconsistent with the results that have been found in the UK (Linsley and Shrives, 2005a; 2006; Linsley et al., 2006; Elzahar and Hussainey, 2012), in Malaysia (Amran et al., 2009), and in Australia (Taylor et al., 2010). The reason for this disagreement is that this disparity was caused by the difference in business environment and political sensitivity between Europe and United Arab Emirates (UAE) countries. Meanwhile, Hassan (2009) indicated that the level of risk and industry type is related to risk disclosure. Additionally, he found that corporate reserve is negatively associated with level of risk disclosure and that corporate annual reports audited by high profile auditing firms achieved higher levels of disclosures.

2.4.2 Inter-country comparative studies

This section introduces the key findings of inter-country comparative studies. There are five main studies that have conducted a cross-country comparative study.

Firstly, Linsley et al. (2006) examined risk disclosure practices within the annual reports of eleven Canadian banks and eleven UK banks in 2001. Their content analysis showed that Canadian banks had greater risk information to disclose than banks in the UK. This finding is ascribed to the Canadian banks who adopted a more proactive approach towards transparency under the influence of the US banking regulations.

However, other findings showed that the level of risk disclosure is positively associated with both bank size and number of risk definitions, and in this there was no significant difference in risk disclosure levels between the Canadian banks and the UK banks.

Secondly, Poshakwale and Courtis (2005) examined disclosure level and cost of equity capital for 135 banks from Europe, North America and Australia during 1995 to 1999. The study found that higher levels of disclosures were consistently associated with lower cost of equity capital. They also found that disclosures related to risk management practices tended to be most influential in explaining the cross-sectional variation in the cost of equity capital. By comparing between European banks and non-European (US and Australian) banks, the evidence showed that the European banks seemed to have more benefit of reduced cost of equity capital from higher levels of disclosure. Poshakwale and Courtis (2005) explained this by referring to the differences in regulatory regimes on voluntary disclosures, bank accounting practices, and stock exchange mandatory disclosures.

Thirdly, Helbok and Wagner (2006) applied content analysis to 142 annual reports of banks during 1998 to 2001 from Europe, US and Asia. Their analysis showed that both the extent and content of the banks' disclosure on operational risk increased significantly over the survey period. Additionally, they found that operation risk disclosures were negatively associated with the bank's equity ratio and profitability. This meant that banks with a lower equity ratio and/or lower earning provided a higher level of disclosure with respect to operational risk. This reflected the intensified risk management efforts of banks to assure the market that operational risk was well managed. Although the sampling companies were chosen from different continental countries, the authors focused risk disclosure study of banks without comparing their findings among the different countries sampled.

Fourthly, with respect to the effects of IFRS 7 adoption on bank disclosure, Bischof (2009) examined 545 prospectuses of banks in 2006 and 2007 based on the year of adoption IFRS 7 from thirty-two European countries. Investigations in risk disclosures showed that in a sample of 171 banks from twenty-eight countries, the level of disclosure had significantly increased during the year of adoption IFRS 7. However, one-third of the banks in the sample did not fully comply with all requirements under IFRS 7 (e.g. customer ratings). The major part of the risk report revealed the three

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categories of risk exposure, which are: credit risk, liquidity risk and market risk. Additionally, voluntary disclosure of operational risks also increased, although it was not explicitly required by IFRS 7. Bischof (2009) concluded that the adoption of IFRS had contributed to an overall increase in the quality of bank disclosures in Europe. The conclusion that the adoption IFRS had positive effects in risk disclosures, was corroborated by Iatridis (2008) in the UK and Taylor et al. (2010) in Australia. Meanwhile, Bischof (2009) pointed out that the adoption of IFRS 7 was weaker in Italy and Denmark. The possible reason was explained by the effect on disclosure quality related to the national supervisory framework in each country.

Fifthly, and finally, Yong et al. (2005) studied the derivative and risk management disclosures of Asia Pacific banks by conducting a content analysis of 164 annual reports of banks in different Asia Pacific countries[20] in 2002. Based on Basel Committee and IOSCO[21] joint recommendations, which were used as the derivative and risk management disclosure benchmark, they found that Asia Pacific banks did not adopt many of the disclosure recommendations. This was likely to be due to the inability of the Basel Committee to enforce their recommendations. Yong et al. (2005) also found that most disclosures contained generalised information and narrative information with low quantitative and earnings information disclosure. This happened because certain factors tended to impact on the quality of disclosure, such as the complexity of quantitative information, cost of providing information, and the sensitivity of disclosure. In terms of cross-country comparison, Singapore, Hong Kong and Australia had a higher level of disclosure when compared to other countries. It was also found that banks in Australasia provided more disclosures than East Asian and South East Asian banks, while Philippine banks had the lowest mean disclosure scores among all of the sample countries. The authors felt that this happened because those countries that emphasised transparency tended to have a higher level of disclosure. Table 2.4 provides an overview of the studies that have been discussed in this section.

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[20] Sample banks were grouped into three regions, namely, East Asia (Hong Kong, Japan, South Korea and Taiwan), South East Asia (Malaysia, Philippines, Singapore and Thailand) and Australasia (Australia and New Zealand).

[21] The International Organisation of Securities Commissions (IOSCO) responded in a timely manner to information demands from stakeholders' by developing derivative and risk management disclosure guidelines in October 1999 to promote the transparency of all significant trading and derivative activities of banks and securities firms (Yong et al., 2005, p. 16).

Table 2.4 *Empirical studies of risk disclosures*

Study	Country	Research Sample Size/Media/Year	Key Findings
Beretta and Bozzolan (2004)	Italy	85 annual reports of non-financial listed companies (2001)	• The risk factors mainly concern strategy, financial structure of the company, and business processes. • Disclosed items are more focused on the present and the past than on the future. • Voluntary disclosure concerns future strategies but avoid conducting their expected impact. • Voluntary disclosure appears biased towards management's self-justification of expected negative impacts. • Disclosure quality is not influenced by size or industry.
Abdelghany (2005)	US	323 listed companies, database from S&P 500 (1997-2001)	• Companies with a higher ratio of current asset to current liabilities tend to have a higher degree of market risk. • The accounting measures most closely associated with market Beta. The financial manager may be able to influence the return on a stock measurement.
Lajili and Zéghal (2005)	Canada	228 annual reports of companies (1999)	• The risk assessment analysis appears to lack uniformity, clarity, and quantification. • Risk disclosure is almost exclusively qualitative information. • The most frequently cited risk categories are financial risk, commodity and market risk.
Linsley and Shrives (2005a)	UK	79 annual reports of non-financial listed companies (2000)	• The companies do not reveal complete information about the risks they face. • The highest proportion of risk disclosure is generalised statements of risk policy and there is minimal disclosure of quantified risk. • Levels of risk disclosure are positively associated with company size, but not company risk level.
Poshakwale and Courtis (2005)	Europe, Canada, US, and Australia	135 banks, database from various sources (1995-1999)	• Higher levels of disclosures are consistently associated with a lower cost of equity capital. • Disclosures related to risk management practices are most influential on reducing

Study	Country	Research Sample Size/Media/Year	Key Findings
			the cost of equity capital.
Yong et al. (2005)	Asia Pacific countries	164 annual reports of banks (2002)	• Many of the IOSCO and the Basel's disclosure recommendations (derivative disclosures) are not being adopted by the banks. • Disclosures contain low quantitative and earnings information.
Helbok and Wagner (2006)	US, Asia, Europe	142 annual reports of banks (1998-2001)	• The risk management disclosures mainly cover market and credit risk. • The extent and content of disclosure on operational risk are negatively related to a bank's equity ratio and profitability. • Disclosure increased in both extent and content, although reporting was not mandatory at that time.
Linsley and Shrives (2006)	UK	79 annual reports of non-financial listed companies (2000)	• A positive correlation exists between the volume of risk disclosures and company size. • Companies with lower levels of environmental risk provide greater amounts of risk information. • Risk disclosures are general statements of risk management policy and a lack of coherence in the risk narratives. • Qualitative risk disclosures are far more prevalent than quantitative risk disclosures.
Linsley et al. (2006)	UK and Canada	22 annual reports of banks (2001)	• Quantity of risk disclosure does not associate with either levels of risk or bank profitability. • There is a positive association between quantity of risk disclosure and either bank size or the number of risk definitions. • The highest proportion of risk disclosures are generalised statements of risk management policy. • Quantitative and future risk information is disclosed much less often than qualitative and past information.
Abraham and Cox (2007)	UK	100 annual reports of FTSE 100 (2002)	• Corporate ownership by long-term institutions is negatively related to risk reporting, while corporate ownership by short-term institutions is positively related

Study	Country	Research Sample Size/Media/Year	Key Findings
			to financial risk reporting.
			• The number of dependent non-executive directors is not related to the level of risk reporting.
			• UK firms with a US stock exchange listing disclose more risk information within the UK annual report than non-US-listed UK firms.
Linsley and Lawrence (2007)	UK	25 annual reports of non-financial listed companies (2000)	• There is no significant difference between the level of readability of the risk disclosures in bad news and in good news.
			• No evidence is found to suggest that directors are concealing bad risk news through their writing style.
Akhigbe and Martin (2008)	US	201 firms, The Corporate Library's Board Analyst database (2002)	• Corporate disclosure and corporate governance are significant determinants of the risk shifts surrounding the passage of SOX.
			• Firms with the strongest disclosure and governance experienced smaller increases in risk.
Akhigbe et al. (2008)	US	1,160 firms, database from CRSP (2001-2002)	• Total return variance, market risk and idiosyncratic risk increase from before to after the passage of SOX.
			• Post-SOX improvements in information certainty, board independence and monitoring are associated with smaller increases or greater decreases in risk.
Deumes (2008)	Netherlands	90 companies, database from DATASTREAM (1997-2000)	• Risk-relevant information can predict: volatility of future stock prices; sensitivity of future stock prices to market-wide fluctuations; and the likelihood of severe declines in stock price in the 30-month period after publication.
Iatridis (2008)	UK	284 firms, database from DataStream (2004)	• The disclosure of sensitive accounting information has not adversely affected firms' profitability.
			• The adoption of IFRS standards enhances the quality and the comparability of financial statements.
Amran et al. (2009)	Malaysia	100 annual reports of listed companies	• The number of risk disclosures in Malaysian companies is very much less when compared to UK companies in 2000

Study	Country	Research Sample Size/Media/Year	Key Findings
		(2005)	Linsley and Shrives (2006). • Company size is positively associated with risk disclosures.
Bischof (2009)	32 European countries	545 banks on database from BvD BankScope (2006/2007)	• In a sample of 171 banks from 28 countries, the level of disclosure has significantly increased during the year of adoption IFRS 7. • The major part of the risk report still covers the three areas of risk exposure: credit risk, liquidity risk and market risk. • Voluntary disclosure of operational risks has increased, although disclosure of operational risk is not explicitly required by IFRS 7. • One-third of the banks in the sample did not provide certain information required under IFRS 7 (e.g. customer ratings).
Hassan (2009)	Dubai	49 annual reports of listed companies (2005)	• Corporate size is not significantly associated with the level of risk disclosure. • Level of risk and industry type related to risk disclosures. • Corporate reserve is insignificant and negatively associated with level of risk disclosure. • Annual reports audited by high profile auditing firm attain higher levels of disclosures.
Hill and Short (2009)	UK	420 prospectuses of IPO companies (1991-2003)	• IPO risk statements tend to be forward looking, whereas listed companies disclose more information related to the past. • IPO disclosures contain less information relating to risk management and internal controls than is provided by listed companies. • Risk disclosure of IPO companies has increased across time, although none of the risk regulation was aimed. • Various signals of quality reduce the incidence of risk warnings.

Study	Country	Research Sample Size/Media/Year	Key Findings
Othman and Ameer (2009)	Malaysia	429 annual reports of listed companies, 2006/2007	• A large number of companies have complied with IAS 32 Financial Instruments – Disclosure and Presentation. • Most Malaysian firms did not engage in hedging any type of market risk over the reporting period of 2006 to 2007.
Murugesu and Santhapparaj (2010)	Malaysia	267 listing statistics of listed companies (1999-2004)	• IPO companies can increase the value of their shares by providing greater information on their ability to control their risk. • Riskier IPO companies have lower offer prices.
Pérignon and Smith (2010)	US	60 annual reports of banks(1996-2005)	• There is a general upward trend in the quantity of information. • VaRs are excessively conservative and their quality of disclosure did not improve over time.
Taylor et al. (2010)	Australia	111 annual reports of listed companies (2002-2006)	• Corporate governance and capital raisings of firms are significant and positively associated with Financial Risk Management Disclosure patterns, while overseas stock exchange listing of firms is negatively correlated. • The introduction of IFRS has a positive influence on risk disclosures. • Firm size and leverage are positively associated with financial risk management disclosure. • Firms with an inherent uncertainty of qualified audit report disclose significantly less financial risk information when compared with firms without an audit qualification.
Hughes et al. (2011)	US	20 banks, MD&A, article citing, newspaper, (2007-2008)	• The quantity of total sentences and accounting topics disclosed increased in 2008. • Banks did not fully comply with SEC guidance regarding the critical accounting disclosures.
Ismail and Rahman (2011)	Malaysia	124 annual reports of listed companies	• Most companies perform the same level of risk management disclosure practices from year to year.

Study	Country	Research Sample Size/Media/Year	Key Findings
		(2006-2008)	• Mandatory risk management disclosure is 71.11%, whereas management disclosure is 50% for voluntary risk. • Investors have an influence on risk management disclosure. • Directors' education influences risk management disclosure level. • Directors' experiences do not contribute towards increasing information on risk.
Oliveira et al. (2011a)	Portugal	111 annual reports of banks (2006)	• Stakeholder monitoring and corporation reputation are crucial factors that explain risk reporting practices. • Voluntary risk reporting appears to enhance legitimacy by fulfilling institutional pressures and by managing stakeholder perception of a corporation's reputation.
Oliveira et al. (2011b)	Portugal	81 annual reports of 42 listed and 39 unlisted companies (2005)	• Implementation of IAS/IFRS and the European Union's Modernisation Directive in 2005 did not affect the quantity and quality of risk disclosure positively. • Disclosures are generic, qualitative and backward-looking. • Public visibility has a crucial influence on companies to disclose risks. • The presence of independent directors improves the level of risk disclosure.
Oliveira et al. (2011c)	Portugal	190 financial institutions, 99 non-financial institutions, annual reports (2006)	• There were low levels of disclosure among financial holding companies. • There was a lack of transparency in minimum binding disclosure requirements for market risk, liquidity risk and risk management objectives and policies. • Only credit risk disclosures presented optimal levels of mandatory compliance.
Tang (2011)	China	68 firms, database from WISENEWS (1999)	• A greater disparity in disclosure to domestic and foreign investors is related to a higher level of price difference between domestic investor's shares and foreign investor's shares. • Information asymmetry has no effect on cost of capital.

Study	Country	Research Sample Size/Media/Year	Key Findings
Elzahar and Hussainey (2012)	UK	72 interim reports of non-financial listed companies (2009-2010)	• Company size is positively associated with the volume of risk disclosures. • Industry activity type is positively associated with levels of risk disclosure. • Profitability, liquidity, gearing* and cross listing** have an insignificant relationship with level of risk disclosure.

* [(Short term loans and overdrafts+long term liabilities) / Shareholders funds] $\times$ 100 %

** These are UK companies that are also listed on the US market.

2.5 Relevance for This Study and the Limitations of the Previous Studies

Having reviewed the application of content analysis within various studies of risk disclosures, this section will introduce the relevant studies that have influenced the rationales for this research study.

Table 2.4 shows that there are eight studies involving risk disclosures in banking sector, which can be divided into two groups: single country studies and cross-country studies. Single country studies have been conducted in the US (Pérignon and Smith, 2010; Hughes et al., 2011) and in Portugal (Oliveira et al., 2011a). Meanwhile, cross-country studies have been conducted by comparing: the UK and Canada (Linsley et al., 2006); European countries (Bischof, 2009); Europe, Canada, US, and Australia (Poshakwale and Courtis, 2005); US, Asia, and Europe (Helbok and Wagner, 2006); and, among Asia Pacific countries (Yong et al., 2005).

Six out of eight studies used a sample size of between one and two years to examine the effects of risk disclosures (Linsley et al., 2006; Yong et al., 2005; Bischof, 2009; Pérignon and Smith, 2010; Hughes et al., 2011; Oliveira et al., 2011a). Of the other two studies, Poshakwale and Courtis (2005) examined disclosure level and cost of equity capital over a five year period (1991-1995) while Helbok and Wagner (2006) employed a four year period (1998-2001) to investigate operational risk reporting. However, a short period of study seems inadequate for considering the effects of risk disclosures because there are various factors related to banking disclosures (such as law and

regulations, accounting standards, economic changes, financial crises and other potential factors affecting banking operation), therefore, a longitudinal study is considered more appropriate to be employed in this study. Time coverage will be one of the significant factors to be considered in the impact of economic changes, crises, regulation changes, accounting standard changes, and other effects.

None of the previous studies that were reviewed have focused on an inter-company comparative study. The review found no previous comparative study of banks which has examined the different effects on disclosures when banks face the same adverse conditions. For example, sampling banks were employed to examine derivative and risk management disclosures (Yong et al., 2005), risk disclosure practices (Linsley et al., 2006), the effects of IFRS 7 on disclosures (Bischof, 2009), the effects of SEC guidance on disclosures (Hughes et al., 2011), factors that affected the voluntary risk reporting (Oliveira et al., 2011a), and the level and quality of VAR disclosure (Pérignon and Smith, 2010). However, the failure of one bank may have a serious impact on all banks and markets. For example, the Lehman Brothers failure in 2008 immediately spread to other key banks and triggered an economic crisis (Holland, 2010). Consequently, an intrasectoral study will be applied in this study to examine the different disclosures among banks when they face various categories of banking risks.

Overall, although content analysis is widely employed in the study of disclosure, risk disclosures in UK banks has only been examined by Linsley et al. (2006). In addition, there has been little discussion about risk categories in the banking sector. These results have motivated this thesis to study the subject of risk disclosure of UK banks, including a longitudinal study and an in-depth sectoral study. A detailed discussion relating to this purpose is presented in the next chapter.

2.6 Summary

This chapter has presented three main perspectives, banking risks, risk disclosures, and prior research. Following the financial crisis of 2007, banking risks have received considerable attention from a large range of stakeholders (e.g. investors, shareholders, regulators, and researchers). Dealing with banking risk, four main risks have been categorised, which are: financial risks, operational risks, business risks, and event risks.

However, much attention has been paid to seven main risks that relate to market movements or economic changes, which are: credit risk, liquidity risk, capital adequacy, market risk, interest rate risk, currency risk, and operational risk. Related to these seven categories of risk, the Basel committee has published many papers on policy issue and risk management framework for those risks. Consequently, in the overview of the full spectrum of banking risks this chapter has described the conceptual issues in each risk category, including its definition. In addition to the operational framework of risk management, this chapter also offers the recommendations and principles of risk management related to the risk categories which these are requirements of the Basel committee. These requirements, moreover, have an influence on the justification for quality of risk disclosure in banking business, which this study also aims to measure the level of risk disclosures.

Because of the influence of various stakeholders, risk disclosures are expected to engage in the effectiveness of a bank's risk management and control systems, which affects an increase in shareholder value. In this study a broad definition of risk disclosures is discussed to identify information about any hazard, danger, harm, threat or exposure that the banks conduct to the relevant stakeholders. The importance of disclosure quality is one of the most significant discussions in a worldwide network of banking supervision. In this chapter, the development of risk disclosures has been provided to determine the nature and extent of risk disclosure in the various corporate reports in different countries. This chapter has also reviewed the prior research related to risk disclosure in various countries. The rationale underlying the purpose of this section is to find the various concepts relating to risk reporting and the potential relationship between them.

Chapter 3. Theory, Gaps in Research and Research Questions

This chapter has four sections. The first section starts with the theoretical framework, explaining a theory justification that shows why agency theory has been employed as the theoretical background to examine risk disclosures in this research. The second section describes the key points of discussion in the previous studies. It then explains the need for this present research project, which aims to address this research gap. The third section provides the main objectives of this study. Given the gaps in the previous research and the research objectives, the research questions have addressed four main points, which are detailed in the fourth section.

3.1 Theoretical Framework

This section describes the theoretical framework for examining risk disclosures in annual reports. It has two main subsections, which are theory justification, and agency problems.

3.1.1 Theory justification

The motives for risk disclosure have been explained by several relevant studies. For example, Amran et al. (2009) employed stakeholder theory to examine risk reporting of risk management. Meanwhile, Taylor et al. (2010) argued that agency theory provides a better conceptual framework for examining financial risk management disclosures in the annual reports of Australian listed companies. Some authors have suggested that a combination of more than one theory (i.e. agency theory, stakeholder theory, signalling theory, and media agenda setting theory) could achieve a better explanation of corporate disclosures (Brown and Deegan, 1998; Oliveira et al., 2011b; Elzahar and Hussainey, 2012). However, the review of prior studies in Chapter 2 showed how Abraham and Cox (2007), and Taylor et al. (2010) employed agency theory alone to investigate risk disclosures. In this research project, agency theory is used in the study of risk disclosures. A brief description of why the three other theories (i.e. stakeholder theory, signalling theory, and media agenda setting theory) will not be used is set out below.

Firstly, Freeman (1984, p.25) defined a stakeholder as any group (or individual) that can affect (or be affected by) the achievement of organisational objectives. Stakeholder theory is the basis of corporate accountability to many related parties (i.e. shareholders, lenders, regulatory, tax and supervisory authorities, and financial analysts) rather than to a single group or shareholders (Solomon, 2010). Consequently, companies are encouraged to disclose more voluntary information to support stakeholder use (Solomon, 2010). However, stakeholder theory does not exactly match with the aims of this study to examine the information richness of risk disclosures because agency theory is a better fit under the assumption of conflict of interest between principal and agent, which may cause the directors to delay or conceal useful information.

Secondly, signalling theory is used to explain the communication issues in the relationship between the sender (who must choose whether and how to convey signal information) and the receiver (who must choose how to interpret the signal) (Connelly et al., 2011). Consequently, based on signalling theory, problems of information asymmetry occur when some relevant information is known to some parties (i.e. information holders, managers) but not to all of the parties involved (i.e. shareholders, investors) (Levy and Lazarovich-Porat, 1995). Although signalling theory is deemed to fit risk reporting in the aspect of disclosure direction (bad news, good news and neutral news), it is not able to examine the other aspects of disclosure quality. Therefore, agency theory is better able to explain the broader aspect of information richness, including the aspect of disclosure direction.

Thirdly, the idea of media agenda setting theory is the relationship between the relative emphasis given by the news media to various topics and the degree of salience these topics have for the general public (McCombs, 1977). Consequently, the increased media attention may lead to increased community concern about a particular issue (Brown and Deegan, 1998). In addition, Dyck et al. (2008) pointed out that press coverage increases the probability of companies taking action to improve corporate governance. In their study of the relationship between risk reporting and public interest, Dahlstrom et al. (2011) indicated that an increase in levels of precise risk information in the media has a positive correlation with the rationale for risk perceptions in the public. Although media agenda setting theory is able to reflect the intensity of societal concern in risk reporting, this theory tends to focus on mass media (i.e. television news, newspapers) rather than

corporate annual reports that are of interest to this present study. Consequently, media agenda setting theory is not chosen for use as a theoretical background in this study.

After considering all of the relevant theories, this study has decided to employ agency theory as its theoretical assumption to examine risk disclosures in annual reports of UK banks. The next subsection will review agency problems, which are related to risk disclosures.

3.1.2 Agency problems

The first detailed theoretical exposition of agency theory was provided by Jensen and Meckling (1976), who defined the managers of the company as the agent and the shareholders as the principal (Solomon, 2010). However, Heffernan (2005) argued that there were a number of other principal agent relationships in modern banks, including: the contracts between the shareholders of a bank (the principal) and its management (the agent); the bank (the principal) and its officers (the agent); the bank (the principal) and its debtors (the agent); and, the depositors (the principal) and the bank (the agent). Hill and Jones (1992) also pointed out that agency theory could be applied to stakeholder-agency relationships. Consequently, this study agrees that agency theory may be subsumed within a stakeholder narrative (i.e. shareholders, debtors, investors, tax payers, and financial analysts).

Agency theory deals with a relationship in which one party (the principal) delegates authority to another (the agent) to perform work on their behalf, and the welfare of the principal is affected by the decisions of the agent (Jensen and Meckling, 1976; Eisenhardt, 1989; Wright et al., 2001; Saam, 2007). However, an agency conflict can occur when the manager (i.e. the agent) acts in their own self-interests instead of the best interests of the principal in order to gain private benefits at the expense of the shareholder (i.e. the principal) (Ness and Mirza, 1991). This conflict is referred to as an agency cost (Ness and Mirza, 1991). In terms of the agency problem, there are three main problems related to agency relationships. Firstly, the agency problem arises when the goals of the principal and the agent conflict (Eisenhardt, 1989; Wright et al., 2001; Saam, 2007). Secondly, the agency problem of different risk preferences arises when the principal and agent have different attitudes toward risk (Eisenhardt, 1989; Saam,

2007). Thirdly, the agency problem of information asymmetry arises when the principal does not receive useful information to verify the competences, intentions, knowledge, and actions of the agent (Mahaney and Lederer, 2003; Saam, 2007).

Transparency about risk disclosure is an important component in corporate monitoring and is able to help resolve agency problems (Jensen and Meckling, 1976; Eisenhardt, 1989). Transparency enables the principal to use information to verify the agent's behaviour and to monitor that the agent is more likely to act in the interests of the principal (Saam, 2007). Therefore, risk disclosure in the monitoring system is important for the monitoring and controlling of the behaviour of an individual firm (Sánchez-Ballesta and Lloréns, 2010). Lajili and Zéghal (2005) have also emphasised that risk disclosure should provide guidance in evaluating the management's effectiveness because this relates to firm-level economic value and growth, as well as trading volume sensitivity to different risks. Risk disclosures are also able to reduce the problem of information asymmetry between informed and uninformed investors (Poskitt, 2005).

3.2 Research Gaps

Chapter 2 has reviewed the previous literature on risk reporting. There are eight studies involving risk disclosures in the banking sector, which can be divided into two groups: single country studies and inter-country studies. Single country studies have been conducted in the US (Pérignon and Smith, 2010; Hughes et al., 2011) as well as in Portugal (Oliveira et al., 2011a). Meanwhile, inter-country studies on risk disclosures have been conducted by comparing: the UK and Canada (Linsley et al., 2006); European countries (Bischof, 2009); Europe, Canada, US, and Australia (Poshakwale and Courtis, 2005); US, Asia, and Europe (Helbok and Wagner, 2006); and, Asia Pacific countries (Yong et al., 2005).

So far, however, there has been little discussion about the use of longitudinal analysis and intrasectoral analysis in risk disclosures. Additionally, to date only a limited number of studies have focused on risk disclosures in UK banks (excepting the influential study by Linsley et al. in 2006). Therefore, one of the motivations for conducting this study was the desire to investigate risk disclosures in the UK banking sector by conducting an intrasectoral longitudinal study. Based on the small number of

studies relating to both aspects, four significant issues were found (i.e. risk category, quantity of risk disclosures, information richness, and societal concern) by which these interrogations of risk disclosures (particularly in UK banks) have been carried out. The following subsections outline the gaps in the previous research, which this study aims to address.

3.2.1   Longitudinal focus

Chapter 2 found that there were nine studies which had conducted a longitudinal analysis of risk disclosures. These, in turn, can be divided into two groups: the first group comprises short-term studies which focussed on a period of three to six years while the second group took a long-term approach and studies a period of ten to twelve years.

Most previous short-period studies have examined the association between risk disclosure and various associated factors. Those studies that examined risk management disclosures found that both investors and the educational level of the directors had an influence on risk disclosure levels, although the directors' experiences did not contribute towards increasing information on risk (Ismail and Rahman, 2011). Meanwhile, Taylor et al. (2010) found that corporate governance, capital raising, the adoption of IFRS, firm size, and leverage (i.e. debt to equity) are positively associated with risk disclosures. In addition to the auditor's opinion, Taylor et al. (2010) found that firms with a qualified audit report (i.e. having the issue of inherent uncertainty of going concern) disclosed significantly less financial risk information when compared with firms that have a non-qualified audit report. Focusing on the importance of risk disclosure, Murugesu and Santhapparaj (2010) found that IPO companies could increase the value of their shares by providing greater information on their ability to control their risk. Furthermore, Helbok and Wagner (2006) found that firms which had a lower equity ratio and/or were less profitable chose a higher level of risk disclosure. Both Murugesu and Santhapparaj (2010), and Helbok and Wagner (2006), found that it was possible to explain how investors were able to predict the potential returns from weighting compensation between adequate information and the risks they estimate. The evidence of Deumes (2008) also confirmed that adequate risk information could predict the volatility of future stock prices, the sensitivity of future stock prices to market-wide

fluctuations, and the likelihood of severe declines in stock price in the 30-month period after publication. Meanwhile, Abdelghany (2005) found that the financial managers had an influence on the return on a stock measurement when they changed the company's structure, including accounting measures. With regard to the other impacts of risk disclosure, Poshakwale and Courtis (2005) found that disclosures related to risk management practices were most influential in reducing the cost of equity capital. The overall trend to risk reporting in a short-term period shows that disclosure increased in both extent and content, although reporting was not mandatory (Helbok and Wagner, 2006).

There were two long-term studies that examined the effects of risk disclosures: Hill and Short (2009), and Pérignon and Smith (2010). Both of these studies found that risk disclosure had a general upward trend across time, although both focused on different samples and different periods of time. Hill and Short (2009) examined IPO companies during 1991 to 2003 while Pérignon and Smith (2010) chose US banks for sampling during 1996 to 2005.

The previous longitudinal studies that have been reviewed show that there has been little discussion on intrasectoral reporting (e.g. Poshakwale and Courtis, 2005; Abdelghany, 2005; Helbok and Wagner, 2006; Deumes, 2008; Hill and Short, 2009; Pérignon and Smith, 2010; Murugesu and Santhapparaj, 2010; Taylor et al., 2010; Ismail and Rahman, 2011). In addition, little is known about the quality (i.e. the qualitative characteristics) of risk disclosures and far too little attention has been paid to societal concerns about risks in the banking sector. Therefore, this study aims to address the question of information content quality by developing a method that allows the evaluation of risk disclosures in UK banks. To describe risk disclosure patterns, this study aims to examine disclosure content and its quality in six UK banks over sixteen consecutive and contiguous years (i.e. between 1995 and 2010).

3.2.2 In-depth sectoral study

With respect to an in-depth sectoral study, most studies in the field of risk reporting have focussed on inter-country comparative studies (e.g. Linsley et al., 2006; Poshakwale and Courtis, 2005; Helbok and Wagner, 2006; Bischof, 2009; Yong et al.,

2005). To date no previous study has investigated risk disclosures in the banking sector by conducting a comparative study among banks. This indicates a need to understand the various effects that exist among disclosures when different banks face the same adverse conditions. Far too little attention has been paid to the comparative study of a bank's risk disclosures, although some authors have examined risk reporting in banking sectors (e.g. Yong et al., 2005; Linsley et al., 2006; Bischof, 2009; Hughes et al., 2011; Oliveira et al., 2011a; Pérignon and Smith, 2010).

It should be noted that the failure of one bank may have a serious impact on all banks and markets, which can be seen in the Lehman Brothers failure in 2008, which immediately spread to other key banks and triggered a financial crisis (Holland, 2010). Consequently, an in-depth sectoral study will be applied in this study to examine the different disclosures among banks when they face various categories of banking risks.

3.2.3   *Focusing on risk categories*

Different studies of risk have used different risk categories in their research. For example, Akhigbe et al. (2008) examined market risk and idiosyncratic risk (i.e. firm-specific risk) while Othman and Ameer (2009) grouped interest rate, foreign exchange, and hedge instruments into market risk. The review of the previous literature found that there were two studies that have focused only on market risk. Firstly, Abdelghany (2005) found that companies with a higher ratio of current asset to current liabilities tended to have a higher degree of market risk. Secondly, Othman and Ameer (2009) found that most Malaysian firms did not engage in hedging any type of market risk over the reporting period of 2006 to 2007 and that the disclosure of interest rate was the most mentioned category in market risk. Meanwhile, Akhigbe et al. (2008) also examined market risk and idiosyncratic risk (i.e. firm-specific risk), and found that board independence and monitoring were associated with smaller increases or greater decreases in risk after the adoption of SOX.

In their study of operational risk, Poshakwale and Courtis (2005) found that higher levels of disclosures were associated with lower costs of equity capital. With the adoption of IFRS 7, which became effective in 2007, Bischof (2009) found that voluntary disclosure of operational risks increased even though disclosure of

operational risk was not explicitly required by IFRS 7. Helbok and Wagner (2006) confirmed that disclosure increased in both extent and content, although reporting was not mandatory during the survey period. However, they also found that banks tended to have a lower level of disclosure when they had a higher equity ratio and profitability.

Lajili and Zéghal (2005) found that the most frequently cited risk categories in Canadian annual reports in 1999 were financial risk, commodity, and market risk. However, Helbok and Wagner (2006) found that the risk management disclosures mainly contained market and credit risk in the bank's annual reports between 1998 and 2001. Meanwhile, Bischof (2009) argued that the major part of the risk report in European banks during 2006 to 2007 still covered the three areas of risk exposure, namely: credit risk, liquidity risk, and market risk. Whereas Oliveira et al. (2011c) showed that there was a lack of transparency in minimum disclosure requirements for market risk, liquidity risk, and risk management objectives and policies. They found that only credit risk disclosures presented optimal levels of mandatory compliance. The evidence of Linsley and Shrives (2006), who focused on financial and non-financial risks, is consistent with the finding of Oliveira et al. (2011c) in that risk disclosures were found to be general statements of risk management policy while there was a lack of coherence in the risk narratives.

Some of the previous studies of risk category have tended to focus on single risk categories (e.g. market risk, operational risk, and financial risk). In addition, some studies have examined a few risk categories, mainly focusing on market risk, credit risk, and liquidity risk. This indicates that most of the previous studies have broadly examined the main risks. Although Linsley et al. (2006) considered a wide variety of risks (they included a total of twelve risk categories),[1] they focused on the characteristics of risk disclosures in annual reports (i.e. qualitative and quantitative information, disclosure direction, past and future information) rather than investigating the effects of each risk category on risk disclosures in annual reports. So far, however, little attention has been paid to the disclosures of all risk categories in the banking

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[1] Linsley et al. (2006) classified risk categories based on three publications of Basel Committee on Banking Supervision (BCBS, 2001; 2002; 2003), in which the Basel Committee grouped risk into twelve categories: 1) Capital structure; 2) Capital adequacy; 3) Market risk internal modelling; 4) Internal and external ratings; 5) Credit risk modelling; 6) Securitisation activities; 7) Credit risk; 8) Credit derivatives and other credit enhancements; 9) Derivatives; 10) Geographic and business line diversification; 11) Accounting and presentation policies; and 12) Other risks.

sector. The aim of this study has, therefore, been to try and evaluate both the quantity and quality of risk disclosures in all risk categories of bank's annual reports that have been disclosed.

3.2.4 Quantity of risk disclosures

Previous risk disclosure studies have frequently found that the volume of risk disclosures has increased during the period that they surveyed. For example, Helbok and Wagner (2006) found an increased volume of risk disclosures in the US, Asian, and European banks during 1998 to 2001; Bischof (2009) found an increased volume of risk disclosures in European banks during 2006 to 2007; Hill and Short (2009) found an increased volume of risk disclosures in IPO companies in UK during 1991 to 2003; Pérignon and Smith (2010) found an increased volume of risk disclosures in US banks during 1996 to 2005; and Hughes et al. (2011) found an increased volume of risk disclosures in US banks during 2007 to 2008.

Although those authors who have studied risk disclosures in a single year have not been able to test an increase in the quantity of risk disclosures, they have found other relationships between risk reporting and some influential factors (i.e. company size, and implementation of IAS/IFRS) when companies disclose a higher level of disclosures. For example, levels of risk disclosure have been found to be positively associated with company size (Beretta and Bozzolan, 2004; Linsley and Shrives, 2005a; Linsley and Shrives, 2006; Linsley et al., 2006; Amran et al., 2009). Meanwhile, Oliveira et al. (2011b) found that implementation of IAS/IFRS and the European Union's Modernisation Directive in 2005 did not positively affect the quantity and quality of risk disclosures in Portugal. However, Taylor et al. (2010), who examined the risk disclosures of Australian listed companies in a longitudinal study during 2002 to 2006, argued that the adoption of IFRS had a positive influence on risk disclosures.

Little attention has so far been paid to how much banking risk is disclosed when banks face various categories of risk exposure in financial crisis, or when there are changes in regulations and accounting standards. Consequently, this study aims to propose a method for the analysis of risk disclosure by capturing the volume of risk disclosures, including the more extensive interrogation of qualitative characteristics and disclosure

quality, reflecting longitudinal banking sector risk reporting by total volume by company and by year.

3.2.5 *Focusing on information richness*

Recent developments in risk disclosure practices can make clear to financial communication practitioners if risk reporting in prospectuses can be viewed as a key factor for corporate risk communication. In particular, transparency about risk disclosure is an important component in corporate reporting. It enables the bank to achieve and maintain an accurate value of business, as well as confident and well-informed investors (Deumes, 2008). For example, Deumes (2008) found that risk information was an important area in best practice for corporate communication because risk information is able to predict the volatility of future stock prices, the sensitivity of future stock prices to market-wide fluctuations, and the likelihood of severe declines in stock price in the 30-month period after publication. Consequently, future information in risk disclosures plays a key role in risk communication with regard to the aspect of information richness. However, in previous studies of risk disclosure the proportion of risk disclosures related to future information in annual report is mixed. For example, most studies found that proportions of risk disclosures were more focused on the present and the past than on the future (Beretta and Bozzolan, 2004; Linsley et al., 2006; Oliveira et al., 2011b) while Hill and Short (2009) found that risk disclosures of IPO companies tended to be future oriented information.

Risk disclosure is driven by increased complexities in business, and an objective to promote transparency and enhance the quality of disclosure by reducing information asymmetries. In addition, risk disclosure has a number of potential benefits for shareholders, analysts, investors, and other stakeholders (Lajili and Zéghal, 2005). However, Linsley and Shrives (2005b) warned that disclosure itself will not create transparency when it lacks useful information. In addition, Beretta and Bozzolan (2004) pointed out that although disclosure concerned future information, its expected impact was avoided and it appeared biased towards bad news reporting. Meanwhile, Lajili and Zéghal (2005) found that Canadian annual reports in 1999 appeared to lack uniformity, clarity and quantification. Consistent with these findings, Linsley and Shrives (2005a, 2006), Yong et al. (2005), and Linsley et al. (2006) all found that companies did not

reveal complete information about the risks they faced and that most risk disclosures were generalised statements of risk information which contained low disclosure of quantified risk.

Based on the quantified information for measuring the level and disclosure quality of market risk in US commercial banks, Pérignon and Smith (2010) examined VaR[2] disclosure and found that the quality of disclosure did not improve in the survey period (i.e. 1996 to 2005). To improve the quality of disclosure, Iatridis (2008), who studied accounting disclosure of UK firms in 2004, found that the adoption of IFRS standards enhanced the quality and comparability of financial statements. On the other hand, Oliveira et al. (2011b), who examined risk disclosures in Portuguese firms, argued that the implementation of IAS/IFRS and the European Union's Modernisation Directive in 2005 did not positively affect the quantity or quality of risk disclosure.

Although there has been a discussion in the previous literature on the forward orientation of risk disclosures, it is not yet clear whether the proportion of forward-looking information in risk reporting is less than that for past and present information. Moreover, little is known about other interrogations of information richness, such as disclosure direction, the determinant of factuality and perception, as well as measurement of quality of disclosure. Although Pérignon and Smith (2010) attempted to measure quality of market risk by investigating VaR disclosure in the banking sector, this was partly to evaluate a specific area whereas banks contain complex systems and a wide variety of risks. Therefore, this study intends to investigate four interrogations of risk disclosures: the time orientation of disclosure (future, present, past information); the disclosure of factuality and perception; the disclosure direction (neutral news, bad news); and the quality of disclosure by risk categories, by companies and by year.

3.2.6 Societal concern

It is not widely known that press media reporting has a significant influence on attitudes and perceptions of risk (Vilella-Vila and Costa-Font, 2008). In addition, influence has seldom been empirically assessed (Dahlstrom et al., 2011). Some researchers found that

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[2] Value-at-Risk (VaR) is a method for quantifying potential losses resulting from movements in market rates or prices (Emm et al., 2007).

media attention positively influenced a firm's behaviour (i.e. Koning et al., 2010; Zyglidopoulos et al., 2012). In addition, Carvalho and Burgess (2005) found that media coverage has a significant impact on risk reporting. Meanwhile, Dyck et al. (2008) pointed out that press coverage increases the probability of companies taking action to improve corporate governance. In their study on the relationship between risk reporting and issues of public concern, Dahlstrom et al. (2011) found that an increase in the levels of precise risk information in the media has a positive correlation with the rationale for the public's perceptions of risk.

The review of previous risk disclosure studies in Chapter 2 found that Oliveira et al. (2011b) was the only study to have examined the association between risk disclosure and public visibility. Oliveira et al. (2011b) analysed the content of the annual reports of Portuguese non-finance companies that were published in 2005 and found that public visibility has an important influence on corporate risk disclosures.

Concerns have been raised by several relevant studies about societal awareness in risk reporting. So far, however, there has been little discussion about the association between the volume of risk disclosure in the banking sector and the intensity of societal interest. Even though Oliveira et al. (2011b) attempted to examine this relationship with regard to public visibility, they measured public visibility by company size and listing status, which may not reflect faithfully the public concern about risk. Therefore, one aim of this study is to shine a new light on this debate through an examination of the association between volumes of longitudinal banking sector risk disclosures against the intensity of societal discussion, as proxied by frequency, by year, by relevant newspaper citations, and by risk category.

3.3 Research Objectives

The main purpose of this research project is to develop an understanding of risk disclosures in the banking sector. Given the core principles for effective banking supervision, the Basel committee recommended that corporate governance, risk management, the importance of disclosure, and transparency in maintaining confidence in banks were all essential elements in the safe and sound functioning of banks (BCBS,

2011e). Therefore, the importance of corporate governance, risk management, and risk disclosures are also key motivations in this study.

Driven by increased complexities in the banking system, and an objective to promote transparency and enhance quality of disclosure by reducing information asymmetries, risk disclosure plays a key role in the banking sector. Coupled with the methods developed in the previous studies and the content analysis approach to the empirical research of the data, there are two primary aims to meet, which are set out in the following research objectives:

Research Objective 1: *To explore disclosure content in annual reports over a longitudinal period and to investigate any distinctive practices in the information content of risk disclosures on an inter-company basis.*

Studies in the field of risk reporting are mainly focussed on the impact of risk exposure on financial markets and how banks manage their risks in specific event impacts on disclosure patterns. Consequently, this study employs content analysis to examine risk disclosures in the annual reports of six UK banks over contiguous sixteen years between 1995 and 2010. A longitudinal timeframe is used to investigate changes in risk disclosures and content in individual samples, which is applied in an intrasectoral analysis, leading to the second research objective, which is:

Research Objective 2: *To develop a method to evaluate the content of risk disclosures in annual reports and to examine the association between risk reporting of UK banks against societal concern about risk issues.*

Based on the gaps in research that have been reviewed in Section 3.2, the main aim of this investigation is to develop a more sophisticated method that can capture disclosures in all banking risk categories reflecting aspects of information richness. This aspect has four interrogations: the time orientation of disclosure (i.e. future, present, and past information); the disclosure of factuality and perception; disclosure direction (i.e. neutral news, bad news); and the quality of disclosure. At the same time, this study will further examine the association between risk reporting of UK banks and societal concern about risk issues. Therefore, this study will provide insight on the qualitative

characteristics of risk disclosures, quality of disclosure, and the intensity of societal discussion on banking risks.

3.4 Research Questions

The mainstream literature on risk disclosure was reviewed in Chapter 2, while the gaps in the previous research were identified in Section 3.2 of this chapter. However, without a clear body of academic literature concerning the contents and semantic properties of corporate risk disclosure, this research has established two main objectives in Section 3.3 to examine risk disclosures in UK banks. Based upon these, this thesis sets out four main research questions, which are:

Research Question 1: *How can longitudinal banking sector risk reporting by total volume, by company, and by year be described?*

Research Question 2: *How can longitudinal banking sector risk reporting by risk category, by company, and by year be described?*

Research Question 3: *How can longitudinal banking sector risk reporting by information richness (i.e. the time orientation of disclosure, the disclosure of factuality and perception, disclosure direction, and quality of disclosure), by company, and by year be described?*

Research Question 4: *How can the association between volumes of longitudinal banking sector risk disclosures against the intensity of societal discussion as proxied by the frequency, by year, of relevant newspaper citations, and by risk category be described?*

To answer the research questions above, table 9.1 of Chapter 9 shows how the research questions of this study have been answered by summarising the main findings.

3.5 Summary

This chapter has provided a theory justification that has described how agency theory is employed for the theoretical background of this study of risk disclosures. In addition, this chapter has described the key points in previous studies and explained the need of this research, which aims to fill a research gap. This study is driven by the desire to investigate risk disclosures in the UK banking sector in both longitudinal and in-depth sectoral aspects. This chapter has also established the research objectives, as well as establishing four research questions. Following the identification of the gaps in the previous research and the establishment of the research objectives, this study will use content analysis (including the creation of research design). Consequently, Chapter 4 will describe the research method and Chapter 5 will describe the method development.

Chapter 4. Research Method

Communication lies at the heart of human interaction. It involves human relationships. It begins at the level of two individuals communicating and rises to the level of international diplomatic communication. Nations, institutions, organisations, and companies require the benefits of communication because it is fundamental and links all matters among people in all societies. For a business, the annual report is one of the most important communication channels to convey messages to investors. An annual report is used to convey a variety of information, such as the financial statement, management discussion and analysis, and corporate strategy. This information can help the shareholders to understand how their investment is doing. Consequently, it is becoming increasingly difficult to ignore the contents of annual reports. While the contents of the annual reports of large companies generally provide the mandatory information that is required by law, stock exchange regulations, and official accounting standards, most companies also include varying degrees of voluntary information.

So far, however, there has been an assumed problem because the decision makers who use the substantive contents in annual reports find that the reports are poorly comparable or standardised (especially the voluntary sections). Consequently, several techniques which aim to improve the interpretation of the contents of annual reports have been developed. For the purposes of this study, content analysis is considered to be the most appropriate method to assess how risk contents are disclosed in annual reports. This chapter aims to give in detail the reasoning behind this choice.

This chapter will first give a brief overview of content analysis, including a description of conceptual developments in the first section, definitions in the second section, and its advantages in the third section. The fourth section will outline the issues related to content analysis design. The fifth section will review the issues involving the measurement and level of measurement under analytical construct topic. The choice of measurement of reliability and validity is discussed in the sixth section. The seventh section will outline the limitations of content analysis.

4.1 Content Analysis: An Introduction

The conceptual and methodological development of content analysis has been an important research method for some considerable time and it has been used in a large number of disciplines. The term 'content analysis' was first used in the study of religious texts in the early seventeenth century (Carney, 1972). However, Berelson (1952, p.22) pointed out that a body of interrelated analytical method which was used under the name 'content analysis' was first used in the early 1930s by a school of journalism at Columbia University to study the content of American newspapers in the period when they were growing in importance. In addition, Berelson (1952) reported that 'content analysis' has also been used in the study of literature when it was used to analyse a variety of stylistic features in English poetry and prose. He further added that in the late 1930s the use of content analysis increased rapidly, including advances in the field of politics where it was used for the realisation of political values such as violence, bribery, negotiation, and symbol manipulation. The other major use of content analysis is in the study of communication where it is used in the study of public opinion. As a result of the rapid development of communication, content analysis was employed by several American government departments who used it in relation to mass communication to study the contents of newspapers, magazines, radio programs and even comic strips during World War II (Berelson, 1952).

Krippendorff (2004) reported that a wide variety of occupations have adopted content analysis. For example, psychologists have used content analysis to study a number of phenomena through verbal records, open-ended interview questions, data of verbal exchange, and measure of meaning form. Meanwhile, anthropologists have used this technique to study myths, folktales and riddles. Historians have employed content analysis to study historical documents and educational materials (Krippendorff, 2004). The history of content analysis shows that this analytical method has been used broadly in a number of different disciplines.

4.2 Defining Content Analysis

A large number of different concepts of content analysis are used in the study of the social sciences and humanities, often the choice of which specific method to use

depends on the theoretical background of the studies. Rosengren (1981) suggested that the different emphases on content analysis have led to the development of the different elements of the communication model. This indicates a need to understand the various definitions of content analysis (which are set out below) in order to inform the method preference that is used in this study. This sections aims to discuss the generally accepted definitions and approaches that are available across the literature.

The most commonly cited definition of content analysis is that offered by Berelson (1952, p.18), who described content analysis as a research technique for the objective, systematic and quantitative description of the manifest content of communication. Meanwhile, Holsti (1969, p14) defined content analysis as any technique that is used to make inferences by objectively and systematically identifying the specified characteristics of messages. Similarly, Weber (1990, p.9) defined content analysis as a research method that uses a set of procedures to make valid inferences from text. Rosengren (1981, p.34) added that the premise that content analysis relates to quantitative method defines this technique as consisting of division of the text into units of meaning and quantification of these units according to certain rules. The concept of content analysis as a quantitative method is also shared by Neuendorf (2002, p.10), who defined content analysis as:

> *A summarizing, quantitative analysis of message that relies on the scientific method (including attention to objectivity-intersubjectivity, a priori design, reliability, validity, generalizability, replicability, and hypothesis testing) and is not limited as to the types of variable that may be measured or the context in which the messages are created or presented.*

Krippendorff (2004, p18) also argued that content analysis is a systematic technique. He defined content analysis as a research technique for making replicable and valid inferences from text (or other meaningful matter) to the contexts of their use. Some differences have arisen as a result of the various definitions of content analysis. One of the most comprehensive definitions of content analysis was suggested by Riffe et al. (2005, p.25), who stated that:

> *Quantitative content analysis is the systematic and replicable examination of symbols of communication, which have been assigned numeric values according to valid measurement rules and the analysis of*

relationships involving those values using statistical methods, to describe
the communication, draw inferences about its meaning, or infer from the
communication to its context, both of production and consumption.

The definitions of content analysis have tended to change over time with the
development of the technique, based on a multi-purpose research study. However, in
order to be explicit about exactly what is meant by the term of content analysis, this
study adopts the definition that content analysis is a scientific tool for investigating the
symbols of communication by making inferences objectively based on systematic and
replicable processes.

4.3 The Advantages of Content Analysis

By definition, content analysis is one of the more practical methods that are used in the
social sciences. It may even be one of the most important research techniques in the
social sciences (Krippendorff, 2004, p.xiii). Several studies have agreed that content
analysis is a research method that is widely applied because it can answer a wide range
of questions that are important to many disciplines and it is a set of procedures that can
help the researcher to make an inference from the text (Berelson, 1952; Carney, 1972;
Kassarjian, 1977; Weber, 1990; Krippendorff, 2004; Riffe et al., 2005). There are six
main strengths of content analysis as a technique, which are described below.

Firstly, data accessibility is a notable characteristic of content analysis when it is used to
obtain data through experimentation in the laboratory, questionnaires, interviews, or in
artefacts used as documentary evidence (Holsti, 1969; Krippendorff, 2004). Content
analysis can be used by a researcher to overcome a number of difficulties that are
experienced by other research methods (e.g. questionnaires, interviews, and
observation), such as problems of accessing sources of data, the distance of study, and
respondents who are no longer alive (Holsti, 1969). This distinction confirms that
content analysis is a useful technique for use in studies that have multiple purposes.

Secondly, many studies have found that content analysis can be an unobtrusive
technique (Holsti, 1969; Weber, 1990; Kassarjian, 1977; Krippendorff, 2004; Riffe et
al., 2005). The other techniques (e.g. questionnaires, interviews, and observation)

require an interaction between researchers and the respondents, which may lead to the respondent's unwillingness or lack of reaction when they feel that the process of measurement is interfering with them. In comparison with these other techniques, content analysis is a significantly more powerful tool.

Thirdly, content analysis is necessary when analysts must use the data's own language for sensitive or skilled interpretation, for example psychiatric analysis of interviews and tests (Holsti, 1969; Krippendorff, 2004; Riffe et al., 2005). However, Weber (1990) argued that the problem of interpretation delivered from a translating procedure is that it may convey an incorrect meaning. Hence, analysts should be concerned with the appropriate procedure of translation before texts are analysed. Perhaps, therefore, content analysis may not be a sole technique when researchers face complex circumstances.

Fourthly, content analysis may be used as a combination of several techniques (Holsti, 1969; Carney, 1972; Weber, 1990). Holsti (1969) proposed that content analysis is useful to enhance validity in terms of supplementary source of data when analysts need to compare the results of interviews or questionnaires. Likewise, Riffe et al. (2005) suggested that the combination of method is helpful to increase the reliability of data when analysts need to indicate quantitatively the relationships among cultures, society, and political changes. Therefore, as an integrating method consisting of both qualitative and quantitative approaches, content analysis can be a flexible technique used to supplement several research studies.

Fifthly, it is possible to use content analysis where there is a large volume of material that may exceed the practical capabilities of other techniques (Holsti, 1969; Krippendorff, 2004; Riffe et al., 2005). In the study of mass media and many other forms of communication, it is often not worthwhile or practical to investigate all of the relevant data; consequently, sampling units in content analysis is a solution that has been used by many analysts (Holsti, 1969). Because of the ability of content analysis to execute large volumes of text, this technique can be operated repeatedly by many coders or even by computer applications, under the condition of having clear coding scheme (Krippendorff, 2004).

Finally, content analysis is useful for longitudinal studies because the contents often have a life beyond the communicators, their audiences, or the events presented in the communication contents (Holsti, 1969; Weber, 1990; Riffe et al., 2005).

As mentioned in this literature review, many of the distinctions in content analysis are attractive features that analysts employ widely in many disciplines and fields. Therefore, content analysis is applied in this study by determining which narratives of disclosure are evaluated as a risk disclosure. In the subsequent process, a content analysis instrument will be used according to the research design.

4.4 Designing a Content Analysis Instrument

The application of any research usually relies on a systematic process that consists of three components, these are: firstly, conceptualisation; secondly, planning, or research design; and thirdly, data collection and analysis (Holsti, 1969; Weber, 1990; Krippendorff, 2004; Riffe et al., 2005). In addition, the overall structure in this study is based on general prior research practice in content analysis. The first step begins with the conceptual definition, which plays an important role as a basic background on the rules and terminology of the research method. A conceptual definition of content analysis is established by reviewing the relevant literature and theories to create a framework for proceeding with an analysis (Holsti, 1969; Riffe et al., 2005). This step is described in detail in Section 4.2. The second step is research design. There are several different patterns of content analysis depending on the research questions being asked (Holsti, 1969). The relevant issues involving research questions have received considerable attention because they rely on several specialised procedures for handling texts. Therefore, this section will review the literature before proceeding to the next step. The third step is provided in the next section, which focuses on the measurement and levels of measurement under the analytical construct topic.

4.4.1   Categorising data in content analysis

The conceptual definition of categories is of central importance in content analysis based research design. According to Holsti (1969, p.95):

A central problem in any research design is selection and definition of categories, the "pigeonholes" into which content units are to be classified.

In general, content analysis is based on categories; therefore, clear articulate categories are necessary for researchers who wish to examine and navigate sets of related contents. In contrast, content analysis cannot be effective when the system of categories is poorly formulated (Berelson, 1952). It is recommended that clear categories should be generated from a reliable classification procedure. Riffe et al. (2005, p.87) defined a classification system as a collection of category definitions that assign values to recording units. Likewise, Krippendorff (2004, p.87) described the classification of a category as categorial distinctions whose units are defined by their membership in a class or category (i.e. by their having something in common).

Categorising data is required for content analysis (Weingast, 1950). In other words, as Titscher et al. (2000, p.58) argued, *"the core and central tool of any content analysis is its system of categories"*. One of the most significant issues in the use of content analysis categories is the choice of what should be included in the categories. A number of methods have been developed and introduced to categorise data in content analysis.

There are two typical approaches to categorise text in content analysis: form-oriented analysis and meaning-oriented analysis (Smith and Taffler, 2000; Sydserff and Weetman, 2002). Form-oriented analysis is an objective approach that sets keyword variables to generate the category, whereas meaning-oriented analysis is a subjective approach that relies on themes in the texts under investigation. To compare between words and themes, Weber (1990, p.36) argued that it is difficult to use words for classifying a category because this leads to ambiguity in word meaning, even though the categories are defined precisely. This happens because any word may have more than one meaning and as such a word alone is inadequate to indicate a category. Consequently, a theme is far more reliable than a word in this point because a theme contains the richness of description to identify the clear meaning of a category. However, Krippendorff (2004, p.109) argued that the use of a theme can easily be led in a different direction of categorisation, especially when there are a number of different interpretations given by different coders (even if they are well trained). A theme often has interrelationships between and among contents, which are given categories. This

means that it is not always easy to categorise texts clearly by theme. Although each approach has its own weaknesses, some researchers (Smith and Taffler, 2000; Sydserff and Weetman, 2002) have combined both approaches (i.e. form-oriented analysis and meaning-oriented analysis) to investigate texts. These approaches tend to enhance the clarity of categorising texts.

A number of studies have used different conceptual approaches, depending on their background, including Deese (1969; as cited in Riffe et al., 2005, p.88) who suggested that there are six approaches of conceptualising in content analysis categories, which are outlined in Table 4.1.

Table 4.1 *Approaches of conceptualising in content analysis categories*

Type	Description
1. Grouping	The content is placed into groups when the recording units share common attributes. The more shared attributes that a group has, the easier it is to classify the units and the smaller the amount of measurement error. The examples involved in this study are credit risk, market risk, and liquidity risk.
2. Class Structure	Class structure is similar to grouping but the groups have a hierarchical relation, with some classes (or groups) being higher than others. A categorical structure can be represented as a hierarchically ordered branching tree in which each node represents some set of attributes or markers which characterise all concepts below that node.
3. Scaling	Some content units can be classified on the basis of a numerical scale. Deese (1969) gave five abstract properties that typically involve scaling: (a) intensity, (b) numerosity, (c) probability, (d) position or length, and (e) time.
4. Spatial Representation	The meaning of words and language can be placed in a mental spatial model that allows a researcher to evaluate objects, issues, and people along continua or dimensions as representing a cognitive space or map (such as 7-point scales) as good-bad, effective-ineffective.
5. Abstract Relations	Unlike, scaling and spatial representation, this approach categorises recording units by relations that exist among elements within the expressed contents rather than the common characteristics (such as aggression) which is defined not by the behaviours of the aggressor (such as hitting) but by the impact on the victims.
6. Binary Attribute Structure	Characteristics attributed to a person or thing often have an opposite (such as good is the opposite of bad, and bright is the opposite of dark).

Different researchers have categorised data in a variety of ways. For example, Hsieh and Shannon (2005) proposed three distinct approaches to interpret the meaning of text data in coding categories, which are: the conventional approach, the directed approach, and the summative approach. The first is the conventional approach, in which coding categories are derived directly from the text data during analysis with clearly understood phenomena. The second is the directed approach, in which the researcher develops the initial coding scheme, which relies on existing theory or prior research, before analysing the data. The third is the summative approach, which is fundamentally different from the prior two approaches because it focuses on single words or related contents rather than analysing the data as a whole. The coding category for this last approach is constructed by interpretation of the context associated with the use of word or phrase in data. In addition, the meaning of the word is explored by word usage or summarising the range of possible meanings that are in common usage.

Other classifications include the concept that generating a category derives from inductive and deductive reasoning. Elo and Kyngäs (2008) argued that the category is derived from the data in an inductive way because there is insufficient former knowledge about the phenomenon or the relevant knowledge is fragmented. In contrast, the deductive approach is used when the structure of the analysis is operated on the basis of previous knowledge, theories, or models for categorisation. Although both approaches have their own strengths, both also have the weaknesses. Insch et al. (1997) criticised the deductive approach because it generates a category by imposing only the value of researchers, while the inductive approach is difficult to apply to the defined category because each set of texts has its own meaning. In fact, each approach has its own strengths and weaknesses. Therefore, Elo and Kyngäs (2008) proposed that it is appropriate to combine both the inductive and deductive approaches to generating a category, depending on the aim of the study and on the circumstances.

It has been suggested that the best approach should be chosen because it is most meaningful for a particular problem. Therefore, there should be a single set of categories for each and every unit that is coded (Berelson, 1952). However Neuendorf (2002) argued that it is possible to have multiple sets of categories when they are broken down into different measures. Weber (1990) also suggested that classifying a word or other recording units into a category depends on whether its category can answer the existing research question. A more appropriate method is for the relevant categories to

be produced to fit the problem. Therefore, a combination of approaches can be appropriately adapted for multiple problems and contents. This mixed method has been applied in a number of previous studies, and it is used in this present study (further details are provided in Chapter 5).

4.4.2 Unitising text in content analysis

The annual report is considered to be an informative source that can be used to study a company's reporting intent. Generally, the annual report can be divided into two parts, which are: financial statements and narrative sections. The financial statement will be audited by the auditors while the narrative sections (e.g. risk reporting, chairman's statement) are less controlled and may convey information which gives a better impression of the general situation of the company (Balata and Breton, 2005). When investigating the narrative sections, content analysis helps researchers to reduce the amount of qualitative data into a manageable number of relevant aspects by using unitising (Berelson, 1952; Weber, 1990; Krippendorff, 2004). Unitising is a process which breaks down any form of communication into specific computable forms (Carney, 1972, p.39). The form of designating units is an important process for almost all content analysis studies (Holsti, 1969) to determine the extent of a controversial issue (Berelson, 1952). Although the term *unitising* is commonly used to refer to the process of breaking down a whole text into smaller units, unitising may have a different scope of use depending on the aims of the researchers. For example, Neuendorf (2002, p.71) defined a unit as an identifiable message or message component which:

a) Serves as the basis for identifying the population and drawing a sample;
b) Measures a variable; or,
c) Which serves as the basis for reporting analyses.

In another definition, Krippendorff (2004, p.102) said that the importance given to these units derives largely from the early definitional requirement of content analysis that it be quantitative, which simply means that textual units have to end up being categorised or measured in numerical terms.

The concept of unitising has received considerable critical attention in the previous literature. The first step in the process of measurement is for the analyst to define the elements of content so that they can study textual units which are drawn from the entire

content of interest. Generally, unitising has a number of elements involving different forms of study. For example, Riffe et al. (2005, p.69) classified "study units" into four elements:

1) Sampling units;
2) Recording units;
3) Context units; and,
4) Analysis units.

However, Neuendorf (2002) classified his units into three elements:

1) Units of sampling;
2) Units of data collection; and,
3) Units of analysis.

Meanwhile, Krippendorff (2004) categorised units into:

1) Sampling units;
2) Recording/coding units; and,
3) Context units.

Holsti (1969) described recording units and context units under the heading of units of analysis.

In conclusion, the most common elements usually refer to three types of units, which are:

1) Sampling units;
2) Recording/coding units; and,
3) Context units.

In terms of analysis, units can be separated into analytical processes (see Krippendorff, 2004). Hence, unitising involves four elements, namely: sampling units, context units, recording units (further details are given in Section 4.4.3), and units of analysis (as described in Section 4.5 in terms of using units for measurement in analytical construct).

a)   Sampling units

In most cases, an entire population is too large for researchers to examine all of its members. Consequently, a sampling unit is carefully chosen from the entire content of interest (Riffe et al., 2005). To clarify the terms 'population' and 'sampling unit',

Neuendorf (2002, p.74) defined population as the set of units being or the set of units to which the researcher wishes to generalise. Krippendorff (2004, p.98) defined sampling units as units that are distinguished for selective inclusion in an analysis. The clear rationale for sampling units is that analysis is impractical when the researchers face very large content units (thousand or even million of units) under the limitations of time and budget (Riffe et al., 2005). In contrast, there is no necessity to generate sampling units in the case of a small population (Neuendorf, 2002). While content units in a small population may all be selected for analysing contents, it is necessary to use sample selection in a population containing a large number of content units. However, sampling units has a problem of sampling bias, in which there is a systematic error due to the use of a non-random sample of a population. This causes some parts of the population to be less likely to be included than others. Therefore, a sampling plan plays an important role in minimising the risk of such a bias arising (Krippendorff, 2004). Moreover, Krippendorff (2004) also pointed out that a sampling unit is not truly independent because it is natural for people who create content to make a link between time and several issues, which are then placed into units.

Upon consideration, the use of sampling units faces a number of problems. To reduce these problems of sampling units, many researchers of risk disclosure will use the annual report as the only texts of a particular population of texts (e.g. Lajili and Zéghal, 2005; Linsley and Shrives, 2005a; Linsley and Lawrence, 2007; Amran et al., 2009). For the purposes of this thesis, it is inappropriate to investigate the significant relationships between risks and disclosure in annual reports by using sampling units because they have a number of interconnected streams of content. Therefore, this study follows the advice of previous research and uses the annual reports of six companies as the defined population. The entire contents of the annual reports will be examined for evidence of risk disclosures in order to answer all of the relevant research questions in this thesis.

b)   *Context units*

The defined population contained within the whole narrative might be classified as a context unit (Krippendorff, 2004, p.101). Krippendorff (2004) also defined context units as units of textual matter that set limits on the information to be considered in the

description of recording units. Meanwhile, Holsti (1969, p.118) considered context units to be the largest body of content that may be searched to characterise a recording unit. To impose the range of context units; therefore, it has been suggested that the context unit can be the same as (or larger than) the recording unit but it cannot be smaller (Riffe et al., 2005, p.73).

Generally, the larger context is more meaningful than the smaller context for analysts to identify the direction of information, because the existing recording units are adequate for making inferences (Krippendorff, 2004; Riffe et al., 2005). Even if context units may contain several recording units, preceding recording unit (e.g. headlines, footnotes, indices) play a key role in identifying context units accurately because context units may not be independent of each other (Krippendorff, 2004). In addition, Holsti (1969) suggested that context units should be selected efficiently in order to meet the requirements of the research problem because the selection of units may affect the results of the analysis. Therefore, this study supports the idea of the paragraph as a context unit for the inference of accurate meaning of the themes on risk disclosures. The sentence is the recording unit chosen; capable of placing a recording unit into a given category (further details of this will be given in Chapter 5).

4.4.3 Issues in recording units

Unitising text has heightened the need to study the choice of recording units in a variety of ways. Unitising is defined as a process whereby smaller units can be constructed from larger information (such as paragraphs, articles, and publications) by combining smaller (or even smallest) units which are characterised by a given informative category (Riffe et al., 2005). Recording units, or coding units,[1] are distinguished for separate description, transcription, recording, or coding, as defined by Krippendorff (2004, p.99). Similarly, Riffe et al. (2005, p.72) defined recording units as the elements of content that will be classified in the coding process. In another definition, Holsti (1969, p.116) suggested linking units to categorisation, he defined a recording unit as the specific segment of content that is characterised by placing it in a given category.

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[1] Budd, Thorp, and Donohew (1967) called recording units "coding units" (cited by Riffe et al., 2005).

The choice of recording units is an important component in research design and it plays a key role in obtaining reliable information because different units may illustrate strikingly different results (Holsti, 1969). Many researchers suggested that recording units should not be too large because this leads to potential ambiguity when analysts must consider such large units that contain long and complex issues (Guetzkow, 1950; Insch et al., 1997; Krippendorff, 2004). Weber (1990, p.22) agreed that long or complex units should be broken down into shorter thematic units or segments. Therefore, defining recording units involves selecting types of recording units, categorising information, and combining units logically. However, a number of different types of recording units have been used, with each having its own advantages and disadvantages. Different authors have classified the different types of recording units. For example, Weber (1990), who is often cited in the literature on content analysis, proposed that there are six types of recording units that are commonly used: word, word sense, sentence, theme, paragraph and whole text. Meanwhile, some analysts (e.g. Berelson, 1952; Neuendorf, 2002) suggested the use of five types of recording units, which are: words, themes, characters, items, and time measures. The next section will review the research conducted on the three major and most-used types of recording units, which are: words, sentences, and themes.

a) *Words*

The word is the smallest unit that is usually applied in content analysis. This unit includes symbol and word compounds (such as phrases) as well as single words (Berelson, 1952, p.136). The word is widely used in studies on readability because it is more precise (Holsti, 1969) and is the most straightforward in terms of capturing meaning (Campbell and Rahman, 2010). Additionally, the word is the most powerful unit in terms of counting its frequency in the whole narrative using computer-aided text analysis (Neuendorf, 2002). In contrast, this analysis becomes difficult if the context contains a very large number of words and must be counted frequently by humans (Carney, 1972). A further possibility was put forward by Carney (1972, pp.84-85), who also suggested three conditions for the disadvantages of the use of the word: firstly, a word may convey a number of meanings simultaneously (such as the different sense of meaning in 'democracy', 'bureaucracy', and 'capitalism'); secondly, the meaning of a word can be shifted by place and time period; and thirdly, words become meaningless

when there is no 'ideal reality, no 'basic essence', and no 'inner picture'. Hence, it is not be possible to use words independently to make inferences without also including the defined context (Holsti, 1969) because individual words may appear in more than one category or may be a part of one or more subdivisions of overlapping discourse (Holsti, 1969; Campbell and Rahman, 2010). Therefore, the choice of recording units can be partly resolved by using sentences (Hackston and Milne, 1996; Milne and Adler, 1999).

b) Sentences

The sentence is often used when the analyst is interested in words or phrases that co-occur closely in sentences to enumerate such words clearly in terms of evaluating an idea from words (such as negative, positive, or neutral assertions) (Weber, 1990). This type of recording unit has been widely used in accounting research (D'Aveni and MacMillan, 1990; Tilt, 2001; Deegan et al., 2002). Moreover, analysts who need to infer meaning also prefer to use sentences in recording units (Gray et al., 1995) because this type of unit provides complete, reliable and meaningful data for further analysis (Milne and Adler, 1999). Based on research dealing with meaning for coding, a single sentence may exist in more than one category of content (Holsti, 1969; Weber, 1990; Beattie and Thomson, 2007; Steenkamp and Northcott, 2007). This leads to the criticism of the use of sentences as a recording unit that was made by Unerman (2000), who argued that using a single sentence alone may fail to convey the 'real' meaning. Additionally, the purpose of using a sentence is influenced by grammatical units and stylistic choice, which can affect the number of words contained in each sentence (Unerman, 2000). Therefore, this may affect the results of the analysis under consideration because of the amount of information that is being used.

c) Themes

Holsti (1969) suggested that themes may be the most useful method for content analysis because they are popularly used in the study of values, attitudes, and beliefs. However, Riffe et al. (2005) argued that units based on values, attitudes, and beliefs can lead to problems of reliability and validity among coders because the connotation of words in communication may involve more than the manifest contents. Regardless of value,

attitude or beliefs, another benefit of the use of theme is that it covers a wide range of codings, which may start from only one sentence of a summary and expand to a whole narrative (Berelson, 1952). The problem here is that it can be difficult to identify the boundaries of a theme clearly when compared with words (Holsti, 1969; Carney, 1972). However, Campbell and Rahman (2010) argued that this provides an advantage because there are no constraints of having to interconnect meaning by word, sentence, or paragraph among categories when categorising units by a whole narrative.

It is apparent from this study that each type of recording unit has its own benefits and disadvantages. The technique of combining recording units is an important consideration in choosing which method to use for further analysis; therefore, this study employs this approach. In this study, sentences were employed for recording units because they are capable of referring meaning clearly. The problem of ambiguous meaning across categories was resolved by using themes for categorising, which was completed before the themes were broken down into sentences. Additionally, words played a key role in terms of keywords that can support capturing meaning precisely for categorisation. Hence, the appropriate techniques that have been employed to collect data prior to analysis will affect the process of analytical construct, which will be reviewed in the next section.

4.5 Analytical Construct

Data analysis techniques about the context are formalised in the process of analysis in order to examine the relationships between the texts and the target of intended inferences that the analyst wants to understand. Although there are many analytical techniques, researchers should give careful thought to the context of a study's goals before any data are collected. Careful thought at this stage enables the researcher to identify the theoretical concepts that are involved, including issues of measurement. Measurement is developed to link the selected concepts and collected data by transforming data into numbers that can be analysed statistically. The theoretical concepts and data collection relate to designing a content analysis study (which has been reviewed previously in Section 4.4). The next section will assess the forms of measurement and the level of measurement.

4.5.1 *Forms of measurement*

There are many forms of measurement which are able to make sense of the results of quantitative research. The results involve variations, which link to the conceptualisation and analysis step. Recording units are considered to be quantification in the system of analysis (Holsti, 1969) and counting them is one of the simplest summarising measurements in quantitative content analysis (Riffe et al., 2005).

The frequency count can be used to establish two main approaches of frequency, which are related to qualitative and quantitative content analysis. The first approach has been described by Holsti (1969, p.119) as a simple dichotomous decision in which the coders focus on the appearance or nonappearance of attributes in messages without counting. He added that coding may vary considerably in the precision of assertion (e.g. favourable or unfavourable). This is often called a non-frequency approach. Holsti (1969) added that some researchers define this approach as qualitative content analysis. There are some advantages that arise from the qualitative method. Krippendorff (2004, pp.87-8) proposed five positive benefits of using qualitative analysis, which are:

1) Answering research question straightforwardly by using known literature to contextualise reading of given texts and rearticulating the meanings of those texts in view of the assumed contexts;

2) Reducing the sequence of analytical steps by focusing only on a defined unit in a whole body of texts;

3) Supporting multiple interpretations by considering alternative perspectives from different ideological positions;

4) Constructing parallelisms by engaging in triangulations and by elaborating on any metaphors, these research results tend to be compelling for readers who are interested in the contexts of the analysed texts; and,

5) The results have more reliability and validity than many alternative criteria in terms of inter-subjective verification.

However, a number of critics have pointed out that this approach can tend to focus on trivial issues (e.g. appearance or non-appearance) when the researchers capture the superficial issues in the research, which leads to misdirection of the justification of content analysis design (Hackston and Milne, 1996; Riffe et al., 2005). Moreover, ignorance of the weighted level of occurrence of contents may skew the results; such as,

whether a symbol that has occurred once or a hundred times receives the same score (Hackston and Milne, 1996; Beattie and Thomson, 2007).

The second main approach is frequency, which is the most widely used approach for measuring features of content by counting all occurrences of a given attribute (Holsti, 1969). In the other words, frequency combines the first approach and it also counts the number of appearances in the context. The forms of counting involved in a classification of the three different kinds of content analysis[2] can be explained by the three different purposes of counting, which are:

1) Counting the number of times that something is said, which is likely to have the effect of producing attitudes toward the context unit in a given audience;

2) Counting the number of times that the context unit is referred to; and,

3) Counting the number of times that the word appears.

It is apparent from this that quantitative analysis involves the process of counting; consequently, some investigators have described this approach as quantitative content analysis (Holsti, 1969; Riffe et al., 2005).

The advantage of frequency is that it is useful when analysts want to investigate a linear relationship between frequency, and it places importance upon content attributes (Holsti, 1969). Moreover, the distinction of this approach is not only the use of this relationship but also the correlation analysis among attributes that can be performed (Krippendorff, 2004). The important content usually exists over a long period, which means that analysts can trace the contents back to the investigation. Consequently, the advantage of frequency is that it can be used with a longitudinal study because it is based on quantitative information which outlives communicators (Riffe et al., 2005). However, the disadvantages of using units of analysis are that using large recording units (e.g. the whole article rather than a single sentence) tends to place undue emphasis on the unusual characteristics and that it is inclined to obtain neutral results which are meaningless for consideration because the result of counting is too small to analyse (such as two or three times) (Carney, 1972). Moreover, the use of frequency, and analysing values and attitudes can be insufficient to answer research questions because

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[2] Janis (1965) who is cited by Krippendorff (2004, p.44) and Rosengren (1981, p.56) wrote the three kinds of content analysis, which are: 1) Pragmatical content analysis-procedures, which classify signs according to their probable causes or effects; 2) Semantical content analysis-procedures, which classify signs according to their meanings; and, 3) Sign-vehicle analysis-procedures, which classify content according to the psychophysical properties of the signs.

this approach lacks the ability to take intensity into account (Holsti, 1969; Bos and Tarnai, 1999). Therefore, it is important to comprehensively assign the content elements to specific attitude categories.

Since this approach is a combination of qualitative and quantitative methods, the significant advantages of frequency outweigh many of the weaknesses involved. All readings of the texts use a qualitative method at the beginning of the content analysis process. Later, certain characteristics of a text are converted into numbers using quantitative methods. Therefore, qualitative and quantitative methods are interrelated and the qualitative method could adopt quantitative method to improve accuracy and reliability (Kracauer, 1952). Consequently, this study partly employs the frequency approach to measure the attributes of a given category in the annual reports.

4.5.2   Levels of measurement

Before developing a carefully constructed measurement procedure, researchers should first consider the level of measurement because the measurement assumes that each variable on each topic has a true value that a group of people want to discover (Neuendorf, 2002). Therefore, to concede a goal of measure, choices of appropriate level of measurement play an important role to illustrate the analysis.

Several studies have argued that there are four levels of measurement, which are: nominal, ordinal, interval, and ratio (Marston and Shrives, 1991; Neuendorf, 2002; Krippendorff, 2004; Riffe et al., 2005). The nominal measure is the least complicated or the most basic kind of measurement (Krippendorff, 2004; Riffe et al., 2005). There is no order of categories and no metric system because this measure is assigned to categorising by its attributes (such as gender, colour, marital status, and religion). Consequently, the first approach, appearance or nonappearance (which is mentioned in Section 4.5.1) can be called nominal measure. Krippendorff (2004, p.161) suggests that recording units in nominal categories are also called 'qualitative'.

Riffe et al. (2005, p.85) proposed that there are two forms of other concepts related to nominal measures. The first form is similar to appearance or nonappearance (see Section 4.5.1), although they give the example of 'includes' or 'excludes'. For example,

each risk category will get "1" if it appears in risk disclosures and it will get "0" (zero) if it does not appear in risk disclosures. Consequently, if credit risk and market risk appear in risk disclosures and do not appear in liquidity risk, then there are two variables in risk disclosures, which means that both credit risk and market risk get "1". The second form is the collection of all designated memberships of subcategories. From the previous example, there are three fundamental variables in risk disclosures, which are: credit risk, market risk and liquidity risk. In further consideration it might be useful to use nominal measures for multivariable approaches because this approach yields the same article (i.e. credit risk) to be categorised into more than one subcategory in the different main categories (i.e. credit risk disclosure in UK, US, or Germany) (Riffe et al., 2005). For example, if the credit risk disclosure of individual companies deals with more than one subcategory when such disclosures appear in more than one country, then the multivariable system might be used.

The second measure is ordinal measures or ordinal scales, which is the most widely used in social science because it is a compilation of the fact that the relationship between people and objects can be learnt from language, spoken, and written through recording in words (Krippendorff, 2004). Its characteristic is that content units classify sets with certain kinds of order structures on them, such as time (past, present, and future), and news (good, bad, neutral). Using 3, 5, or 7 point scales relate closely to language usage (Krippendorff, 2004): 3-point scales are used to identify paradoxical contents (good to bad, with neutral as its midpoint); 5-point scales have added simple adjectives (more and less); and, 7-point scales have added superlatives (most and least). However, Neuendorf (2002) emphasised that using numbers is for ordering purposes only and should not predominate equal interval measures when measured in a wide range of numbers (i.e. age, length, and weight). For example, two characters of 60 and 65 years of age may be grouped into the same ordinal scale as "5, elderly of 5-point scales" when using an ordinal measure, although both characters are evaluated to be different groups of age when this measure is based on interval measure.

The third measure is interval measures, which have the property of order; however, the number assignment also assumes that the differences between the numbers are equal (Riffe et al., 2005, p.85). For example, the difference between a temperature of 100 °F and 80 °F is the same difference as between 90 °F and 70 °F. Moreover, this level is a measurement where various recording units can be quantified in number. For example,

various recording units of time, distance, and volume can be assigned to numerical intervals. This measure might be used to quantify values and attitudes in semantic differential scales, such as measuring judgement and personality traits of characters (Krippendorff, 2004). Moreover, it is the preferred measure in empirical social research, largely because of the wealth of statistical techniques that are available and accessible such as, variance calculations, correlations, factor analyses, multidimensional scaling, and clustering (Krippendorff, 2004). This measurement is also used effectively in parametric statistical tests (Marston and Shrives, 1991). However, Krippendorff (2004) also suggested the use of other techniques (such as quantitative indices of phenomena) because using semantic differential scales may be inappropriate to interpret language precisely. To describe this weakness further, the Fahrenheit scale of temperature is a classic example where zero degree is not a lack of heat nor is 60 °F twice as warm as 30 °F (Neuendorf, 2002).

The fourth measure is the most sophisticated or highest level of measurement, which is called ratio (Neuendorf, 2002). This measure is similar to intervals in that the difference between numbers is typically equal but ratio scales include a meaningful zero point (Neuendorf, 2002; Riffe et al., 2005). There are many examples of ratio for level measurements, such as column inches of newsprint, inches on the map, frequencies of citations, sizes of pictures and audience sizes. The example used in this thesis is the percentage of forward-looking disclosures as a proportion of total sentences (in all companies) between 1995 and 2010. Moreover, it should be considered that a nominal classification system may be used in ratio measures (Neuendorf, 2002). For example, in this thesis, the contents differ between groups of risk disclosures with neutral news and bad news. The contents are then calculated to find the percentage of content units within the various categories (e.g. credit risk, market risk, and liquidity risk) and to compare the percentages for the disclosures of bad news with the percentages for the disclosures of neutral news. One of the advantages of using ratio measures (which are similar to interval measures) is that the ratio measure allows the use of more sophisticated statistical procedures (Krippendorff, 2004).

The choice of a measurement level for a category depends on the characteristics of the contents that the researchers aim to analyse. Data language means that all measures (nominal, ordinal, interval, and ratio) are important to help researchers clarify the

textual evidence in the same story. Moreover, the appropriate measures will affect the reliability and validity of the content analysis.

4.6 Reliability and Validity in Content Analysis

Recent developments in content analysis have highlighted the need for reliability and validity in the process of measurement because unreliable and invalid data in the process of measurement may lead to misleading and unreliable conclusions (Riffe et al., 2005). In other words, measurement is related to the reliability and validity in the research procedure, where coders agree on the readings, interpretations, responses to, or uses of given texts or data. Riffe et al. (2005) described reliability in terms of requiring the researcher to assign the same numbers that would be generated by different coders adopting the same classification criteria to the same content. Validity requires the reliable and accurate assignment of numbers which represent the subjective concept being examined. Therefore, reliability and validity are integral to the quality of inferences (Holsti, 1969). It is apparent from this that analysts require practicable measurement to analyse contents in a trustworthy way. This has been widely discussed within the social sciences and the issues concerning trustworthiness and productivity are often discussed under the main topics of reliability and validity (Rosengren, 1981). Consequently, this section will review reliability and validity in content analysis.

4.6.1 Reliability

By definition, content analysis requires an element of objectivity; whereby, analysts must minimise subjectivity in analysing communication content (Berelson, 1952). To minimize subjectivity, analysts must be confident that contents have been generated carefully against the distortions and biases with certain instruments of measurement that give the same results whoever employs them (Krippendorff, 2004). This leads to the importance of reliability. Riffe et al. (2005) showed that a reliable measurement instrument is required to provide the consistency of results, even though the analysis is conducted at different times, places, and by different analysts. Therefore, reliability is one of the distinguishing characteristics in measures and procedures that arise when research requires objectivity (Holsti, 1969).

Several studies have defined reliability as a measuring procedure that yields the same results on repeated trials, even though it is made by different coders (Holsti, 1969; Weber, 1990; Neuendorf, 2002; Krippendorff, 2004; Riffe et al., 2005). Consequently, reliability is crucial to content analysis. The problem of assessing reliability comes from testing coder agreement in order to verify the assumption that content coding is determined by the concept definitions (Riffe et al., 2005, p.124). Moreover, Holsti (1969, p.135) described reliability as a function of the coders' skill, insight, and experience. The clarity of categories and coding rules which guide their use is also important as is the degree of ambiguity in the data. From this proposition, it can be seen that two things are required to achieve reliability in content analysis. The first is the coders' ability, which means that coders are trained adequately to be able to classify content into the appropriate analytical categories (Milne and Adler, 1999; Riffe et al., 2005). Second is the clarity of the categories, which must be clear enough to support the coder's judgment on which recording units belong in the category and which do not (Holsti, 1969; Milne and Adler, 1999). Therefore, improving coders, categories, or both are seen to be opportunities for enhancing reliability (Holsti, 1969).

Some authors have suggested that there are three types of reliability: stability, reproducibility and accuracy (Carney, 1972; Weber, 1990; Krippendorff, 2004). Stability is the extent to which a measuring or coding procedure yields the same results on repeated trials (Krippendorff, 2004, p.215). Weber (1990) also described how stability means that the same coders achieve the same content even though the content is coded more than once. By definition, stability sometimes is mentioned as an intracoder assessment (Neuendorf, 2002, p.163), an intraobserver agreement, and a test-retest condition (Krippendorff, 2004, p.215). However, relying on a sole coder in stability is the weak point to assure reliability in measurement of content analysis because individual considerations may lead to bias or inconsistent interpretation of given coding decisions (Krippendorff, 2004; Weber, 1990). Therefore, agreement between two coders is likely to strengthen reliability while using more than one coder to code the same text is referred as reproducibility.

Reproducibility is the process of measurement that is employed by two or more coders working independently of each other under varying circumstances with the same measuring instruments (Krippendorff, 2004; Weber, 1990). This type of reliability is referred to as intercoder reliability, interobserver agreement, intersubjective agreement,

parallel-forms reliability, test-test conditions (Krippendorff, 2004, p.215) or intercoder reliability (Neuendorf, 2002, p.142). Using this type of reliability may cause a conflict of coding because the multiple coders usually have different cognition in the coding scheme; such as, when dealing with ambiguous text, instructions, or random recording errors (Weber, 1990). Therefore, an approach which provides a basis to cross-reference the coding results of each and every coding decision is employed (Hackston and Milne, 1996; Neuendorf, 2002). There are two reasons in this approach to achieve an acceptable level of intercoder reliability. The first reason is that the coding scheme is used by more than one coder where all coders have independence from individual subjective judgements. Secondly, similar results may be achieved when two or more coders crosscheck the assignment of splitting coding tasks. By comparing the first type, it should be noted that reproducibility is more reliable than stability because it provides a stronger measure.

The third type of reliability is accuracy, which is considered to be the strongest type (Weber, 1990; Krippendorff, 2004) because the process of recording results is compared with a well-known established standard (Milne and Adler, 1999). Weber (1990, p.17) referred to accuracy as the classification of text corresponding to a standard or norm. Furthermore, Krippendorff (2004, p.215) suggested that analysts must obtain data under test-standard conditions ,with such conditions meaning that they must compare the performance of one or more data-making procedures with the performance of a procedure that is taken to be correct. However, this type may be problematic in practice because it is not easy to have standard coding for text, particularly in newly developed research (Weber, 1990). Consequently, accuracy is infrequently adopted, except in certain areas where acceptable standards are readily available against standards that have been established by panels of experienced content analysts (Krippendorff, 2004).

Sometimes, content analysts accept the data when it has been tested by one type of reliability and feel confident because their coding achieves perfect agreement. However, there are some threats to reliability that give the illusion of high reliability, which are reviewed in the next section.

4.6.2 *Threats to reliability and their management*

All of the types of reliability described in Section 4.6.1 include a proper procedure to increase the quality of measurement since if any research uses an unreliable measurement then all of the contents related to such research become untrustworthy. Therefore, threats to reliability are issues which analysts should carefully take into account. A review of the literature shows that threats to reliability can be classified into two perspectives: procedures and coders. Threats to reliability in procedure may happen at the beginning of defining the categories and subcategories that are relevant to the study goals. Without clarity and simplicity of concept definition, the coders will fail to apply them properly when looking at the content (Riffe et al., 2005). Neuendorf (2002) also warned that the poor management of the coding scheme may cause a failure of the content analysis. To execute this threat, Riffe et al. (2005, p.131) suggested using a coding sheet to record the content attributes of each unit of content in the study. This coding sheet has the same level of importance as a questionnaire in a random sample survey and the same rules for clarity of presentation apply. To address this threat, Krippendorff (2004) suggested that it is important to establish coding instructions that contain clearly formulated coding, practical data language, and step-by-step instructions on their use.

The second perspective is focused on coders. Threats to reliability involving coders include inadequate coder training, coder fatigue, and biased coders (Neuendorf, 2002). There are several approaches to minimise this risk to reliability. This study will provide three methods to minimise risk, which are: coder training, coder reliability tests, and computer aids. Firstly, coder training is a good solution to resolve the problem of categorising that which is ambiguously defined (Holsti, 1969; Neuendorf, 2002; Krippendorff, 2004; Riffe et al., 2005). Secondly, a coder reliability test ensures that all coders who work independently of each other generate reliable and comparable data (Krippendorff, 2004). Various authors have introduced different methods (such as percentage, ratio, and statistical calculations) to measure the level of agreement among coders. The key concept of measurement relies on comparing coding results among coders to ensure agreement. This agreement focuses on coders' performance, in which each category in the analysis is assessed by observing whether the coders have agreed on coding rules, coding definition, and procedures (Neuendorf, 2002; Krippendorff, 2004; Riffe et al., 2005). Where there is a single coder, the test can be done by

themselves at different points of time (Milne and Adler, 1999; Riffe et al., 2005). Thirdly, computer aids are becoming increasingly useful to resolve problems involving human data handling and to eliminate the problem of unreliable coding (Krippendorff, 2004). Recent developments in the field of computer content analysis have led to the development of many tools of investigation for processing large volumes of textual data and the development of software that can serve the needs of content analysts (Holsti, 1969; Neuendorf, 2002; Krippendorff, 2004).

Although computer aids are used in many research studies, they do have some limitations. For example, Holsti (1969) pointed out that it tends to be impractical or expensive when a large volume of data is not in computer readable form. In addition, he proposed that using a computer may be inappropriate when dealing with thematic analysis because thematic analysis usually needs the occurrence or co-occurrence of certain words and the relationship between them to be specified, and this exceeds the capacity of some computers. Therefore, although computer applications can be indispensable for research, using computers in certain specific research contexts or in some parts in research will solve the problems of achieving reliable coding.

4.6.3 Validity

The term 'validity' has been used in a variety of ways in the method literature. It is interpreted in different ways depending on what assessment is being considered, for example: the assertion of findings based on an acceptable judgement or common trust is labelled as 'face validity' (Holsti, 1969; Weber, 1990; Krippendorff, 2004); if the research finding is supported by social concerns then it is labelled as 'social validity';[3] and, if the research finding is the result of empirical processes then it is labelled as 'empirical validity'.[4] In terms of content analysis, Weber (1990) defined validity as concerning the validity of the classification scheme, or variables derived from it, or the validity of the interpretation relating content variables to their causes or consequences. To assert that a category or variable is valid is to assert that there is a correspondence between the category and the abstract concept that it represents (Weber, 1990, p.18).

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[3] Krippendorff (2004, p.314) defines social validity as quality of research findings that leads us to accept them on account of their contribution to the public discussion of important social concerns.
[4] Krippendorff (2004, p.315) defines empirical validity as the degree to which available evidence and established theory support various stages of a research process.

The most common ways in which validity is used is in terms of internal validity and external validity (Weber, 1990; Neuendorf, 2002; Krippendorff, 2004; Harwood and Garry, 2003; Riffe et al., 2005). To help clarify the concept, this study refers to the definitions to Neuendorf (2002), who defined external validity as generalisability and relates it to whether the results of a measure can be extrapolated to other settings, times, and places. Internal validity, in contrast, is the matching of a conceptual definition and an operational definition (measurement) (Neuendorf, 2002, p.115).

By definition, the stronger validity is external validity because of the measurement based on external criterion (Weber, 1990). This may happen because the judgement is made on a multiple-dimensional basis.

In the field of content analysis, Riffe et al. (2005, p.162) also agreed that content analysis can be a very strong research technique when it relies on external validity. In all concepts of validity, the weakest aspect is face validity (Weber, 1990) because the finding can be accepted without evidence or detailed reason if it makes sense. However, it is possible that face validity has most frequently been relied on by content analysts (Holsti, 1969) because, fundamentally, content analysts are grounded on common sense and shared cultures to interpret texts and, therefore, their assessment is considered sufficient for accepting validity (Holsti, 1969; Krippendorff, 2004).

4.7 Limitations of Content Analysis

This chapter has described how the use of content analysis as a research method is applied to many purposes because it can answer a wide range of questions that are important to many disciplines and fields under a defined set of procedures to make inferences from a text. However, Krippendorff (2004, p.40) recommended that every research technique has its own powers and limitations, and content analysis is no exception to this. Therefore, caution must be applied when using content analysis and the limitations of its use need to be addressed.

Firstly, a high level of reliability does not ensure validity, whereas a low level of reliability is able to limit validity (Holsti, 1969; Krippendorff, 2004). As described in the previous section, reliability is accepted by the agreement among coders who tend to

have the same conceptual framework, knowledge, or interest without concerning the world outside of the research process. Therefore, although reliability can achieve such an agreement, it may rarely have the chance of being declared as valid by the substantial agreement of results among analysts who share a worldview reflecting real phenomena because they have differences in cultural understanding or frame of reference that may be dividing coders. Consequently, a reliable process may or may not lead to valid outcomes. Conversely, in cases of low levels of reliability, even among coders who disagree with the results, this indicates that validity is difficult for others who tend to lack an insight into what actually happened. Hence, an unreliable process is less likely to consider existing validity in its results.

Secondly, the requirement of objectivity limits merely manifest content (Holsti, 1969).[5] This accords with Berelson's (1952, p. 18) definition of content analysis as a research technique for the objective, systematic, and quantitative description of the manifest content of communication. In addition, Berelson (1952, p.16) also indicated that the categories of analysis should be defined so precisely that different analysts can apply them to the same body of content and secure the same results. This links to the first limitation about reliability and validity in that placing emphasis on manifest content is likely to assure high reliability, although it may still not have validity. Using merely manifest content, however, Neuendorf (2002, p.23) suggested that content analysis may apply latent content[6] when using a set of manifest variables representing measures of one or more latent contents (for example, using twenty-seven manifest variables measures stereotypic images of women). He also provided more examples of studies to describe how latent content can be used in terms of integrating quantitative content analysis and qualitative message analysis. Likewise, Krippendorff (2004, p.19) argued that content analysis should not limit merely quantitative description of the manifest content, although quantification is important in many scientific endeavours because texts have no single meaning that can be identified for what they are. In addition, texts can be interpreted from numerous perspectives; therefore, they can have several designations and data can be subjected to various analyses (Krippendorff, 2004, p. 22). Hence, using a content analysis tool may be related to both manifest content (the surface

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[5] Manifest content or surface are elements that are physically present and countable (Gray and Densten, 1998, p.420 cited by Neuendorf, 2002, p.23).

[6] Latent or deep content is defined as consisting of unobserved concepts that cannot be measured directly but can be represented or measured by one or more indicators (Hair et al., 1998, p. 581 cited by Neuendorf, 2002, p.23).

meaning of the text) and latent content (the deeper layers of meaning) because content analysis may apply the use of latent constructs as a way of integrating a wide variety of manifest indicators (Neuendorf, 2002).

Thirdly, content analysis cannot claim to be a purely qualitative or quantitative method. Holsti (1969) described the relation between qualitative and quantitative method as the initial step in categorising deals with qualitative application. The investigators will judge text containing any attributes before coding them and counting the frequency of the coding characteristics that are related to quantitative method for the final step of categorisation. For example, analysts may read over a sample of data to identify the feel of interpretation for the type of symbols or themes prior to coding them. Subsequently, after the coding and data analysis have been completed, the analysts may check the quantitative results of coding and counting by rereading all of their texts, which is related to qualitative method (Holsti, 1969). Consequently, although qualitative and quantitative methods are used in different orders of the process in content analysis, several studies have agreed that qualitative and quantitative methods are mutually supportive and mutually enriching (Holsti, 1969; Perreault and Leigh, 1989; Weber, 1990; Harris, 1996; Neuendorf, 2002; Krippendorff, 2004; Riffe et al., 2005). A broad definition integrating both qualitative and quantitative methods will be adopted in this present study.

The content analysis that content analysts must adopt may vary from one analysis to another because there are a number of different reasons to use content analysis. The same body of texts can, therefore, yield very different findings when examined by different analysts. The analysts should carefully consider using both manifest and latent content, and integrating qualitative and quantitative methods under acknowledged limitations, to ensure that the analysis of texts proceeds to achieve their research objectives.

4.8 Summary

This chapter has introduced the conceptual and methodological developments of content analysis, including the various definitions employed in previous relevant studies. From the evidence of these studies, there are several distinctions in content analysis which are

attractive for analysts employing the technique widely in a range of disciplines and fields (e.g. Smith and Taffler, 2000; Sydserff and Weetman, 2002; Hsieh and Shannon, 2005; Lajili and Zéghal, 2005; Linsley and Shrives, 2005a; Linsley and Lawrence, 2007; Elo and Kyngäs, 2008; Amran et al., 2009). However, analysts should acknowledge its limitations and a note of caution should be applied.

Content analysis is a technique that is applied in this study by the determination of which narratives of the disclosures are evaluated as risk disclosures and these are analysed according to the design of the content analysis. Content analysis design consists of categorising data, unitising text and recording units. Categorising data is the classification of texts into categories, depending on whether its category can answer the existing question. Therefore, a more appropriate way is useful for relevant categories to fit the problem. The next step of designing the research is uniting, which involves a given category in which there are three elements of units: sampling units, context units, and recoding units. Each type of unit has its benefits and disadvantages. In practice, the technique of combining recording is an important consideration in choosing a research method; for example, using themes for categorising as context units and counting them by using sentences as recording units. Consequently, this study has decided to apply the integrated method.

This chapter has also outlined the issues of measurement. Measurement is developed to allow coded texts to be turned into numbers that can be analysed statistically. Regarding data analysis, selecting a measurement level for a category depends on the characteristics of narratives that the researchers aim to analyse. All measures (i.e. nominal, ordinal, interval and ratio) are important to help researchers clarify textual evidence in the same narrative because the appropriate measures will affect the reliability and validity in content analysis. All types of reliability involve a proper procedure to increase the quality of the measurement because if any research uses unreliable measurement then all of the contents related to the research can become untrustworthy.

For the purpose of this study, content analysis is considered to be the most appropriate method to evaluate characteristics of contents in annual reports. The next chapter will explain its use in this study.

Chapter 5. Method Development

The concept of content analysis was discussed in the previous chapter. The methodology that was developed and applied in this study optimises the use of the content analysis method to study risk contents, both in diversity and in depth. This study has adopted a way of integrating both qualitative and quantitative methods by using frequency count as a quantitative method to investigate qualitative characteristics in the information content of risk disclosures on a qualitative basis.

This present chapter aims to describe the detailed development of the content analysis method that was used in this study. The first section starts with a description of the selection of samples (including time frame) and it gives the reasons why annual reports were used in this study. The next section gives an overview of the use of a coding matrix to examine risk disclosures for six interrogations. The first interrogation is the main tool for categorising data and linking to the other interrogations. The next three interrogations which deal with the characteristics of disclosure are described in: Section 5.4 - Disclosure Direction; Section 5.5 - Time Orientation of Disclosures; and, Section 5.6 - The Disclosure of Factuality and Perception. The recording units and coding instructions used for the three interrogations are described in Section 5.7. Meanwhile, the fifth interrogation relating to the quality of disclosure is addressed in Section 5.8. The last interrogation is described in Section 5.9, which was developed to examine how press media reporting has influenced risk categories. Section 5.10 describes how the method was tested, its reliability, and it outlines the problem of measuring the quality of risk disclosure that was found in the pilot study. Finally, Section 5.11 describes how the main study changed after the lessons were learned from the pilot study.

5.1 Sample

An understanding of increasing uncertainty in a world which is both volatile and complex is important in order to comprehend how a risk management strategy can help a company to survive (Merna and Al-Thani, 2008). Moreover, the pattern of risk involves anticipating, understanding, and taking action to make the right decisions to

create competitive advantages (Shaw, 2003). Consequently, the concepts of risk and risk management have received increasing attention (Power, 2004).

The effectiveness of how annual reports communicate with their readers is thought to play an important role in providing risk information to those who need it. In terms of contents in annual reports, shareholders and other stakeholders require companies to disclose narrative contents that pertain to their future performance and sustainability. Such disclosures should provide not only clarification and validity but also useful insights into value creation (Beretta and Bozzolan, 2004). Therefore, to date, a number of studies have tended to focus on narrative information in their assessment of disclosure quality (Courtis, 1998).

All companies have to deal with risk and risk management; therefore, the selection of samples drawn from the interested population plays an important role in research development. It is becoming increasingly difficult to ignore risk in banks when studying risk disclosures. According to the rationale for risk-based practices that is provided by Bessis (2002, p. x), banks can be seen as 'risk machines' since they take risks, they transform risk, and they then embed risk in their banking products and services. However, selecting samples from all of the companies in the banking sector in the whole world is too large to be reasonably examined because of time and energy constraints. Selecting a particular country in the world in order to study its risk disclosure is necessary in the sampling frame. The UK is one of the most important countries in the banking sector in the EU. It holds banking assets that are worth over 25% of all banking assets in the EU (Kosmidou et al., 2006). It is also the largest single international banking centre, accounting for 20% of the world's cross-border lending (Kosmidou et al., 2006). Moreover, the UK banking sector has traditionally been one of the most diverse and competitive banking operations in the world, having both bank and non-bank services such as credit cards, insurance and loans (Farquhar and Panther, 2008). Consequently, because of their importance in the global market, UK banks were selected to serve as a sampling frame in this study in order to examine their risk disclosures.

5.1.1 *Sample selection*

Although UK banks comprised the sample for this research, considerably more work needed to be done to determine which companies in the UK banking sector should be selected. The large size of UK banks was an important factor for sampling when performing this phase.

The sample selection had two stages. The first stage in the sampling process involved choosing sources of information. During this stage this study used a list of banks listed on the London Stock Exchange[1] at the end of 2009, which was the year that this study commenced. This list consisted of forty-eight banks, which included each bank's market capitalisation. It was found from this list that there were both small and large banks. The second stage in the sampling process was to determine company size. Many studies have found that there is a significant relationship between firm size and the number of risk disclosures. Linsley and Shrives (2006), Iatridis (2008) and Hill and Short (2009) all found a significant relationship between firm size and the number of risk disclosures in UK firms. Beretta and Bozzolan (2004) found a significant relationship between firm size and the number of risk disclosures in Italian firms. Meanwhile, Linsley et al. (2006) found a significant relationship between firm size and the number of risk disclosures in UK and Canadian banks. Moreover, several studies have found that firm size is positively related to the volume of voluntary disclosures generally (Patten, 1992; Hackston and Milne, 1996; Cormier and Gordon, 2001; Kolk et al., 2001; Campbell et al., 2003; Othman and Ameer, 2009). Therefore, this study draws upon control of size effects by selecting large companies, which has been made under the sampling frame that is based on companies incorporated in the UK and listed on the London Stock Exchange. The following table shows the results of this decision:

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[1] A list of all companies in London Stock Exchange can be downloaded at
http://www.londonstockexchange.com/statistics/companies-and-issuers/companies-and-issuers.htm

Table 5.1 *A list of UK banks listed on the London Stock Exchange*

	Company	Market Capitalisation as at 31 December 2009 (£ million)
1	HSBC	123,362
2	Lloyds Banking Group plc	32,327
3	Standard Chartered	31,667
4	Barclays	31,442
5	Royal Bank of Scotland Group plc	16,553
6	European Islamic Investment Bank	60
7	Islamic Bank of Britain plc	37

When the samples were considered in terms of company size, the European Islamic Investment Bank and the Islamic Bank of Britain plc were not selected because both were small UK banks that had a market capitalisation of less than £100 million. Meanwhile, when the samples were considered in terms of UK banks, Standard Chartered was not selected because its largest shareholder is Temasek Holdings,[2] which is owned by the government of Singapore. Consequently, with the selection being based on large UK banks listed on the London Stock Exchange, four banks were included in the selection: HSBC, Lloyds, Barclays and Royal Bank of Scotland (RBS).

In order to increase the number of sampling companies, HBOS plc (which is owned by Lloyds) and National Westminster Bank plc (or NatWest, which is owned by RBS) were chosen as additional sample companies. Hence, six large UK banks were chosen because of their known size effects, which are: HSBC, Lloyds, Barclays, RBS, HBOS, and NatWest.

5.1.2   Sample period

When the sample companies were selected, the period of time during 1995 to 2010 was framed for investigating risk disclosures in annual reports of six UK banks in both longitudinal and intrasectoral studies. In terms of longitudinal study, choosing the starting year is important for analysis.

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[2]   See Standard Chartered Annual Report, 2009, p.77.

The starting year for a longitudinal analysis is important when considering the relevance in risk reporting. For this study, the year 1995 was chosen because several controversial issues of risk reporting occurred in and around that year. Public concern about banking standards was raised in 1995 when Barings bank collapsed and Shell experienced reputational damage with the disposal of Brent Spar (an old oil storage and loading buoy) in the North Sea. Discussions about the idea of risk reporting have become more significant following these events (Power, 2004). In the UK, Linsley and Shrives (2005b) explained that the publication of 'Enhancing Bank Transparency' by the Basel Committee on Banking Supervision in 1998 was at the root of the risk disclosure debate. This is consistent with the Combined Code on Corporate Governance that was published by the London Stock Exchange in 1998, which required risk management and which also encouraged companies to report key risks (Beretta and Bozzolan, 2004). However, the Turnbull Report (1999) responded directly to the Combined Code by replacing the whole system of internal control with the aim of compelling companies to disclose risk (Solomon et al., 2000). Moreover, the Institute of Chartered Accountants in England and Wales (ICAEW) issued three discussion documents (in 1998, 1999, and 2002) to encourage company directors to disclose risks with deep insight (Linsley and Shrives, 2006). This stemmed from the publication of 'Financial Reporting of Risk: Proposals for a Statement of Business Risk' (ICAEW, 1997), which revealed that many companies financial statements lacked risk information and also lacked formal risk reporting (Cabedo and Tirado, 2004).

Since 1997 the requirements of risk disclosures have extended beyond the purely operational reporting to embrace the broad range of risks that are experienced by companies. As a result of this, and coupled with public concern about risk reporting in 1995, this study includes the annual reports of sample companies from the year 1995 to 2010 in a contiguous longitudinal study.

5.1.3 Annual reports: Media selection

Many researchers have accepted the importance of an annual report as the major media for disclosure (Tilt, 2001). It also has an advantage for analysing the comparability of management attitudes and policies across reporting periods (Guthrie et al., 2004). The annual report is a formal public document that is arranged by the directors to comply

with mandatory legal requirements and which is considered as an important part of the accountability of an organisation (Linsley and Shrives, 2005a). However, Stanton and Stanton (2002) discussed how annual reports may be produced for a proactive purpose which seeks an opportunity to manage corporate image or to reduce the effects of events that are perceived as negative. Because of this supposed benefit, directors tend to provide voluntary disclosures or report more than the minimum mandatory reporting requirements. Generally, the annual report can be divided into two parts, which are the financial statements and the narrative sections. The financial statement will be audited by the auditors while the narrative sections are less controlled (they are auditor 'reviewed') and may convey information which gives a better impression of the general situation of the company (Balata and Breton, 2005).

Following the requirement of more detailed and useful information for a greater depth of risk disclosures, the annual report is used by investors and other interested parties to investigate whether its contents provide useful information (Woods et al., 2008). Moreover, the annual report has been recognised as a tool for communicating with the many different audiences of the firm (Stanton and Stanton, 2002; Breton, 2009). Without considering the distinction of annual report, it is not necessary to study the content of the narratives sections on risk disclosures, management attitudes, or even the financial statements. It has recently been widely recognised that annual reports have an influence on their users (Balata and Breton, 2005); therefore, the trustworthiness of the annual report is crucial. In the process of generating annual reports, there is a third-party certification (i.e. they are audited) which helps to assure credibility in two ways: the annual report is prepared according to generally accepted accounting standards and it has been audited by an independent audit firm (Kothari et al., 2009). Consequently, annual reports were chosen to be investigated in this study. In addition, the analysis of the risk disclosures for the sample companies was performed on all narrative sections, including the notes to the accounts that include details of the preparation of the financial statement, a summary of significant accounting policies, details of the assets and liabilities, and other additional information that relate to the company's periodic reports.

The next step was collecting information. The annual reports were obtained primarily through the companies' own websites. In cases where the annual reports were not available, particularly in the early years of the investigation, companies were asked to provide the electronic document files via email. However, most companies replied that

they had no electronic files for their earlier annual reports and, therefore, the hard copies were obtained from the database at Companies House.

5.2 Coding Matrix

The explanation and interpretation of risk disclosures depends on the specific context and application. Although on the positive side risk can mean an opportunity, it is basically a negative outcome that includes any hazard, danger, harm, threat or exposure, that has already impacted upon the company or may impact upon the company in the future (Linsley and Shrives, 2006). To reduce the failure from risk, investors and other stakeholders need better tools to assess and manage risk. The risk disclosure in an annual report is one of the most useful items of information to avoid an unsatisfactory outcome. In order to examine risk disclosures in a specific context, understanding the multiple dimensions related to risk reporting is essential. Risk disclosures in annual reports from six sample companies during 1995 to 2010 were analysed by content analysis to investigate their risk disclosures in several ways, which is illustrated in figure 5.1.

Figure 5.1 *Coding matrix*

To develop reliable and valid measures, six interrogations were performed. These interrogations used the content analysis instrument to analyse risk disclosures. Taken together, an exploratory matrix was developed and tested. The first interrogation of the risk categories is discussed in Section 5.3. Each category was then used to develop the

other interrogations, using three types of recording unit, which are: sentences, themes, and phrases.

Firstly, the sentence was employed as the coding unit to examine the characteristics of disclosures for three interrogations:

1) Disclosure direction (Section 5.4);
2) The time orientation of disclosure (Section 5.5); and,
3) The disclosure of factuality and perception (Section 5.6).

To develop these three interrogations, the coding instruction was defined to increase the reliability and the validity of the research method (see Section 5.7). Secondly, risk categories were employed as themes to examine the quality of disclosures, which is the fifth interrogation (see Section 5.8). Thirdly, each risk category was used as a keyword to retrieve the number of newspaper hits in LexisNexis in the sixth interrogation (see Section 5.9). Moreover, each interrogation played a central role in its main function and the correlations among them were formulated to examine their relevant effects in this study.

5.3 Risk Categories

One of the most significant issues in the use of content analysis categories is the choice of what should be included in the categories. The success of content analysis is directly involved in the coding process (Hsieh and Shannon, 2005). The basic coding process in content analysis is to organise large quantities of text into much fewer content categories (Weber, 1990). Defining the categories is the first step which is brought into the verifiable scope of the research process so that it can be used to carry out a test to investigate the reliability of the application (Bos and Tarnai, 1999). However, there are several different ways to generate risk categories. The difference of perspectives in the quality of narrative has been captured by various researchers (see Raar, 2002; Coy and Dixon, 2004). In this study, four previous studies have influenced the formulation of the conceptual framework for risk categorisation because they had examined the issues of risk disclosures similar to those employed in this study.

The first study used the model ICAEW (1998), which was developed by a professional accountancy firm to study risk disclosures in the annual reports of seventy-nine UK

companies in the year 2001 (Linsley and Shrives, 2006). Their risk classification was comprised of six categories and thirty-six sub-categories.

The second study reviewed the three sources of disclosure (i.e. corporate, analyst, business press) from 889 U.S. publicly traded corporations between 1996 and 2001 (Kothari et al., 2009). They developed six risk categories by using a business word classification scheme.

The third study examined the impact of disclosure level on the cost of equity capital. It selected 135 banks from Europe, North America and Australia, between 1995 and 1999, to serve as sample companies (Poshakwale and Courtis, 2005). They categorised the disclosures using the PwC ValueReporting's Best Practice model (PwC, 1999), having twenty-nine key financial industry-specific performance measures that were derived from a banking survey.

The fourth study investigated the risk disclosures in the annual reports of nine UK banks and nine Canadian banks in the year 2001 (Linsley et al., 2006). They classified risk categories based on three consecutive editions of the Basel Committee on Banking Supervision (BCBS, 2001; 2002; 2003), in which the Basel Committee grouped risk into twelve categories.

Table 5.2 provides an overview of the formation of categories used in the prior risk disclosure studies.

Table 5.2 *Category comparisons of previous studies in risk disclosure*

Linsley and Shrives (2006), ICAEW (1997)	Kothari et al. (2009)	Poshakwale and Courtis (2005), PwC (1999)	Linsley et al. (2006), Basel (2001,2002,2003)
1. Financial risk • Interest rate • Exchange rate • Commodity • Liquidity • Credit 2. Operations risk • Customer satisfaction • Product development	1. Market risk 2. Firm risk 3. Organizational risk 4. Reputational risk 5. Performance risk 6. Regulatory risk	1. Strategy • Plans for growth • Delivery channels • Product innovation • IT expenditures • Degree of diversification 2. Customers and markets • Customer retention	1. Capital structure 2. Capital adequacy 3. Market risk internal modelling 4. Internal and external ratings 5. Credit risk

Linsley and Shrives (2006), ICAEW (1997)	Kothari et al. (2009)	Poshakwale and Courtis (2005), PwC (1999)	Linsley et al. (2006), Basel (2001,2002,2003)
• Efficiency and performance • Sourcing • Stock obsolescence and shrinkage • Product and service failure • Environmental • Health and safety • Brand name erosion 3. Empowerment risk • Leadership and management • Outsourcing • Performance incentives • Change readiness • Communications 4. Information processing and technology risk • Integrity • Access • Availability • Infrastructure 5. Integrity risk • Management and employee fraud • Illegal acts • Reputation 6. Strategic risk • Environmental scan • Industry • Business portfolio • Competitors • Pricing • Valuation • Planning • Life cycle • Performance measurement • Regulatory • Sovereign and political		• Customer penetration • Market growth • Market share 3. People and reputation • Quality of management • Employee satisfaction • Brand equity • Regulatory reputation 4. Risk management • Risk management practices • Asset/liability management • Asset quality • Market risk exposure 5. Financial position • Capital adequacy • Capital management • Assets under management • Investment performance • Core deposit growth 6. Financial performance • Earnings • Loan loss ratio • Return on risk-adjusted capital • Fee-based revenue growth • Economic profit • Performance by business segment • Cost/income ratio	modelling 6. Securitisation activities 7. Credit risk 8. Credit derivatives and other credit enhancements 9. Derivatives 10. Geographic and business line diversification 11. Accounting and presentation policies 12. Other risks

As shown in table 5.2, it appears that the formation of categories in the first study (Linsley and Shrives, 2006) and the second study (Kothari et al., 2009) were developed to examine risk disclosures of companies from a range of industrial sectors rather than focusing solely on the banking sector. However, managing bank risk is different from managing risk in other industries (Bessis, 2002). The details of risk reporting in the banking sector also have its own peculiarities which tend to differ from other industries. Therefore, the first and the second models were not applied in this study. For the third study (Poshakwale and Courtis, 2005) and the fourth study (Linsley et al., 2006), although both models were developed for the banking sector, there are some points that need to be considered. The PwC model in the study of Poshakwale and Courtis (2005) may not be entirely appropriate for capturing current risk disclosure practices because this model was developed over ten years ago. Meanwhile, the fourth study (Linsley et al., 2006) used the Basel Committee framework, and grouped risk into twelve categories. This framework was developed by the Basel Committee for their own disclosure review purposes (Linsley et al., 2006).

Not all of the prior models that were found in the literature review are relevant to the purposes of this study. Different firms have their own concept of risk management and different requirements for risk disclosure; therefore, it is necessary to study these firms independently (Linsley and Shrives, 2006).

This study has employed a combined approach that includes the conventional approach[3] as well as the directed approach[4]. This combined approach codes risk categories that are derived directly from risk disclosure in annual reports during analysis (which is the conventional approach) and relies on prior research before analysing risk disclosure and coding risk categories (which is the directed approach). Consequently, articulation and structuring of data related to risk disclosures was conducted to obtain risk categories in two aspects. In the first aspect the risk categories were classified by name, as given by the companies. In the second aspect the risk categories were classified as the companies disclosed risks, without grouping risk categories. Therefore, the narrative was analysed and grouped on the basis of the definition of risk categories that is given in Chapter 2.

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[3] The conventional approach is that coding categories are derived directly from the text data during analysis with clear understanding of the phenomenon by researchers. For more detail see Chapter 4, Section 4.4.1.

[4] The directed approach is that the researcher develops the initial coding scheme which relies on existing theory or prior research before analysing the data. For more detail see Chapter 4, Section 4.4.1.

Consequently, thirty-five risk categories were used in this study, as illustrated in table 5.3.

Table 5.3 *Risk categories used in this study*

Risk Category		
1. Risk management	2. Liquidity and funding risk	3. Credit risk
4. Cross-border risk	5. Market risk	6. Interest rate risk
7. Currency risk	8. Risk related to derivatives	9. Hedged risk
10. Economic risk	11. Operational risk	12. Legal and Regulation risk
13. Capital management risk	14. Insurance and Investment risk	15. Strategic and Business risk
16. Reputation risk	17. Pension risk	18. Risk related to fair value
19. Financial crime risk	20. Competition risk	21. Tax risk
22. Financial report risk	23. Safety and security risk	24. Leasing risk
25. Sustainability risk[5]	26. Customer treatment	27. People risk
28. Political risk	29. Industry risk	30. Risk related to impairment
31. Special purpose entities	32. Technology risk	33. Equity risk
34. Change risk	35. Governance risk	

5.4 Disclosure Direction

This interrogation of the narrative in content analysis concerned the news direction of disclosures. These generally have three directions of disclosures that are grouped as bad news, good news, and neutral news (see Gray et al., 1995; Linsley and Shrives, 2005a; Linsley et al., 2006; Hill and Short, 2009). However, some prior studies have focussed on the disclosure of good and bad news to examine the patterns of disclosures without considering neutral news (Skinner, 1994; Linsley and Shrives, 2006; Shin, 2006; Linsley and Lawrence, 2007; Suijs, 2007; Hassan, 2009)**.** Good and bad news are key messages for analysts to use to investigate risk disclosures. Consequently, the directors need to carefully choose what news should be declared in annual reports. Generally, good news is used to create a good corporate image (Linsley and Shrives, 2006). Meanwhile, bad news tends to be concealed (Linsley et al., 2006) and its release is often postponed because it may increase the level of volatility (Kothari et al., 2009).

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[5] HSBC and Barclays have addressed this risk including social and community issues, environment, and responsible global citizenship, whereas the other banks mean this risk as environmental risk.

Although good and bad news play a key role in engaging the firm's risk position, neutral news is the largest proportion of risk disclosures in annual reports (Beretta and Bozzolan, 2004; Linsley and Shrives, 2005a; Linsley et al., 2006). Linsley and Shrives (2005a) found in their study of disclosure direction in the UK public companies that 25% of disclosures were 'good news', 21% of disclosures were 'bad news', and 54% of disclosures were 'neutral news'. In their comparative study of UK and Canadian banks, Linsley et al. (2006) identified 25% of disclosures as 'good news', 21% of disclosures as 'bad news', and 54% of disclosures as 'neutral news'. Beretta and Bozzolan (2004) demonstrated 10.3% of disclosures as being positively signed, 4.8% as being negatively signed, 0.4% as 'equal', and 84.5% as not disclosed (i.e. does not contain any risk information).

Several previous studies have tried to explain the reason for the predominance of neutral news. For example, Suijs (2007) found that companies disclose neutral information, and delay bad and good information because neutral information tends to be more attractive to investors in terms of the level of risk considerations, which become risk factors in predictions for investment opportunities when publishing further good and bad news information. Moreover, Kothari et al. (2009) found that disclosures of good and bad news mean that market participants are more aware of the risks, and this is reflected in the firm's cost of capital, stock return volatility, and dispersion in analysts' earnings forecasts. This leads to a criticism that companies could omit to disclose some good and bad news that they deem to be too commercially sensitive to reveal in their public disclosures (Linsley et al., 2006).

In the study of disclosure, it is difficult to precisely define and code the news disclosure direction. However, Gray et al. (1995, p.99) coded the definition of disclosure direction as in table 5.4. In this study, this coding instrument has been adopted in the pilot test.

Table 5.4 *Disclosure direction as defined by Gray et al. (1995, p.99)*

Direction	Definition	Examples from Barclays (2008)
Neutral	Statement of policy or intent within statutory minimum with no details of what or how. Statement of facts whose credit/discredit to the company is not obvious, which are unaccompanied by editorialising.	The majority of the environmental and social risks associated with our business are indirect (p.67).
Good	Statements beyond the minimum which include (for example) specific details where these details have a creditable or neutral reflection on the company. Any statements which reflect credit on the company. Upbeat analysis/discussion/statements.	To support risk taking, Barclays has continue to strengthen the independent and specialised risk teams in each of its businesses, supported by matching teams at group level, acting in both a consultancy and oversight capacity (p.77).
Bad	Any statement which reflects, or which might reflect, discredit on the company. Including, for example, numbers made redundant (if redundancy is spoken of as a human rather than an economic act), and any increase in accidents.	The group may be liable for damages to third parties harmed by the conduct of its business (p.73).

As can be seen from the above coding, the pilot study found that there were many units of analysis facing an ambiguous classification of good news. The difficulty with coding ambiguous narrative is exemplified in the three examples which follow.

The first announcement was made by the HSBC in 2008, it states that: '*Additionally, HSBC Bank is now benefiting from having intentionally reduced its market share in 2006 and 2007 as property prices continued to rise*' (HSBC, 2008, p.212). The first example might seem at first to be good news from the meaning of 'benefiting' the bank; however, HSBC's market share decreased following this announcement, despite HSBC's intention. This may then be considered to be bad news when the result of the decrease in market share is considered in the long term.

The second announcement was also made by HSBC in 2008, it states that: '*The maintenance of good credit quality in difficult market conditions is attributable to the business model pursued by HSBC in the UK*' (HSBC, 2008, p.211). The second example shows that HSBC put the positive word 'good' in the negative situation that company was facing in difficult market conditions. Lightstone and Driscoll (2008, p.15)

pointed out that some companies tend to blend optimistic information with bad news, such as: "we are satisfied", "we are pleased", "gives us a boost", "building a resourceful management team", "establishing a strong presence", "remain encouraged", and "highly successful". Consequently, this optimistic language can mislead shareholders into ignoring the financial jeopardy that companies may be experiencing.

The third announcement was made by Lloyds TSB in 2008, it states that: *'As part of the completion process, we have amended Lloyds TSB Group high level policies so that they could be introduced for Lloyds Banking Group'* (Lloyds TSB, 2008, p.47). In this example there is no sign of disclosure direction, the 'amendment' to policies could either be good news or bad news

In these examples, the disclosure patterns may affect investors' decision. Linsley and Shrives (2005a) found that companies may discuss bad news by referring to uncontrollable external factors in order to describe the good news that they have mitigated the risk effectively. They do this because the good news occurs in companies who are working in a negative situation in market conditions which tend to be expected favourably by investors who receive the explanation of good news that directors can manage the risk. In other words, good news is likely to balance the level of sensitive reaction because the response to bad news disclosures is more sensitive than the response to the good news (Skinner, 1994). Additionally, Suijs (2007, p. 392) found that if disclosure by the firm reveals that its return is worse than the investor's outside option,[6] then the investor responds unfavourably by investing more of his capital in the outside option and less in the firm when compared to the investments made if the firm had not disclosed. Similarly, if disclosure by the firm reveals that its return is better than the investor's outside option, then the investor responds favourably by increasing his investment in the firm. However, Aljifri and Hussainey (2007) found that the companies having lower profitability tend to convey positive disclosures to shareholders.

Although the release of bad news may be delayed in disclosure, there are two reasons to pressure directors to disclose bad news in a timely manner (Skinner, 1994). Firstly, investors may sue if the directors do not reveal the adverse effects in the large volatility

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[6] The model that Suijs (2007) considers consists of a single (representative) investor and a single firm. The investor has a limited amount of capital available which they can invest in three different projects, namely: the firm, the risk free asset and some alternative risky investment project, henceforth referred to as the outside option.

of stock price on earnings announcement days. Secondly, a reputational cost may be incurred when directors fail to disclose bad news at a proper time. For example, investors may choose not to hold the stocks of firms whose directors have a reputation for withholding bad news and analysts may choose not to follow these firm's stocks (Skinner, 1994, p.39). Moreover, Linsley et al. (2006) proposed that companies need to be prepared to reveal bad news to avoid the suspicion that they are concealing problems.

The ambiguous information relating to good news disclosures means that many companies are very conscious of the opportunity to manage their image through good news statements. Therefore, it is difficult to judge whether such disclosures are really good news, which may lead to the management's preferable disclosures becoming incredible (Kothari et al., 2009). However, it has been argued that this bias against positive information may hinder directors from revealing understandable warning signs (Deumes, 2008). Good news is essential for risk disclosures, even if it seems to distract attention from more serious issues and it is difficult to verify its credibility. Therefore, coding good news was not skipped but it was merged with neutral news to increase the reliability of measures of disclosure in this study, as shown in table 5.5.

Table 5.5 *Disclosure direction definitions*

Direction	Definition
Neutral	From statement of policy or intent within statutory minimum with no detail of what or how, the statement of fact whose credit/discredit to the company is not obvious - which are unaccompanied by editorialising statements beyond the minimum which include (for example) specific details where these detail have a creditable or neutral reflection on the company's upbeat analysis/ discussion/ statement.
Bad	Any statement which reflects (or which might reflect) discredit on the company; including, for example numbers made redundant (if redundancy is spoken of as a human rather than an economic act), and any increase in accidents or reports on adverse performance against targets and/or tolerances.

5.5 The Time Orientation of Disclosures

The risk disclosures published in the annual report can be classified into three categories, which are:

    1) Backward-looking information, or past information;

2) Present information; and,

3) Future, or forward-looking, information.

However, many studies relating to risk disclosures focus on forward-looking information because it can be employed to predict the risks faced and the firm's future performance (Beretta and Bozzolan, 2004; Linsley and Shrives, 2005a, 2005b, 2006; Linsley et al., 2006; Aljifri and Hussainey, 2007; Deumes, 2008; Bozzolan et al., 2009; Hill and Short, 2009). Even though predictability is the distinctive feature of future information, both present and past information have their own strengths. For example, the current financial risk disclosures (i.e. the present information) are required to provide sufficient information relating to the financial status of companies in order to assess the effects of both strategic and operational risks (Beretta and Bozzolan, 2004). Meanwhile, past information (or backward-looking) can provide insight into the company's background and performance.

Since the recent collapse of several large companies that were subsequently found to have created a fake image of having a low risk and high profitability (e.g. Enron and WorldCom), the relevant and understandable disclosure of forward-looking information about risk has heightened the need for revising the conceptual framework that is used by regulators (Deumes, 2008). Beretta and Bozzolan (2004) used ICAEW's (1998) document to show that in the UK, companies had provided only 13% of some meaningful discussions relating to future trends and only 18% of some relevant risks and uncertainties involving the main effect on future results in their major business. Linsley and Shrives (2005a) also found that the Institute of Chartered Accountants in England and Wales (ICAEW) intended companies to disclose not only past risk information but also forward-looking risk information. They further explained that the Department of Trade and Industry (DTI), as a part of the extensive company law review that was commenced by the UK government in 1998, issued a consultative document in May 2004 that was entitled "Draft Regulations on the Operating and Financial Review and Directors' Report" (DTI, 2004), which shows that the British government envisaged improving forward-looking reporting through adopting a new Operating and Financial Review (OFR) in their requirements for the corporate annual report.

There are various arguments about including forward-looking information in annual reports. Firstly, forward-looking information is thought to be helpful to investors in their investment decision-making (Aljifri and Hussainey, 2007; Linsley and Shrives,

2005a). However, directors may be reluctant to provide this information because forward-looking information has an inherent risk of unreliability and, therefore, investors may claim that they gain adverse results from using this information (Linsley and Shrives, 2005a). Consequently, directors prefer historical information to uncertain future information when they convey messages to shareholders (Deumes, 2008). Secondly, some findings show that high levels of forward-looking disclosure in annual report can improve the ability of stock markets to forecast future earning changes (Schleicher and Walker, 1999; Hussainey et al., 2003; Aljifri and Hussainey, 2007). In another study, Gietzmann (2006) provided evidence that forward-looking disclosures increased share price volatility; however, these disclosures tend to decrease the degree of variability in shareholdings in which the major institutional shareholders invest. In contrast, Aljifri and Hussainey (2007) warned that it can be the difficulty to predict future corporate performance with accuracy. Thirdly, Hussainey et al. (2003) showed that forward-looking disclosures in the annual report help the market make a better forecast about the firm's future earnings. However, it may be argued that providing useful information about forward-looking information might affect a company's competitive position in the market (Healy and Palepu, 2001; Aljifri and Hussainey, 2007).

From the research discussed above it can be concluded that forward-looking disclosures are valuable to investors because they have a significant effect on forecast properties, although concern should be exercised over their accuracy.

Time orientation of risk disclosure includes past risk, present risk, and future risk; however, each timely disclosure has different volumes and different purposes between senders and receivers. In terms of receivers, Linsley et al. (2006) found that information relating to future risks is more useful to stakeholders than information relating to past risks. Meanwhile, from the point of view of the sender's purpose, Beretta and Bozzolan (2004) found that firms focus upon disclosing information on past and present risks rather than future risks. For the purposes of this study, the time orientation of disclosure is an important component in the risk disclosures, both from the sender's perspective and from the receiver's perspective; therefore, the relevance and the proportion of timely disclosures, past risk, present risk, and forward-looking risk are examined in this study.

To investigate forward-looking disclosures it is necessary to establish a relevant definition in the coding scheme. Aljifri and Hussainey (2007, p.883) defined forward-looking information as the class of information that refers to current plans and future forecasts, enabling investors and other users to assess a company's future financial performance. Meanwhile, Bozzolan et al. (2009, p.435) defined forward-looking information as disclosed with the characteristics of being quantified and directed (and financial). It should also be financially verifiable because it facilitates the comparison with its subsequent realisation in relation to expected future financial performance. Based on the Factiva[7] classification headings for all Regulatory News Service (RNS) announcements, Gietzmann (2006) examined forward-looking disclosures by categorising them into 5 types, which are:

1) Plans and strategy;
2) Regulation;
3) Performance including earnings projections;
4) New products; and,
5) Research and development.

In this study, the relevant definitions of forward-looking information were applied to generate keywords that were then used to identify the forward-looking disclosures in each sentence. This was done because words play a key role in terms of keywords that can support capturing meaning precisely for categorisation. In addition, when using only sentences it is difficult to identify the boundaries of meaning of forward-looking information clearly when compared with the use of words.

Other research studies have applied keywords to identify forward-looking disclosures (Hussainey et al., 2003; Aljifri and Hussainey, 2007; Hussainey and Aal-Eisa, 2009). Using keywords can be a reliable method for dealing with risk disclosures in annual reports containing various issues because it is deemed to be straightforward in the coding plan. Consequently, indicative words were used to help capture forward-looking disclosures in this study. Table 5.6 lists the keywords as given by four sample companies and by Hussainey et al. (2003).

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[7] Factiva is a business information and research tool that is owned by Dow Jones & Company (Wikipedia).

Table 5.6 *A comparison of indicative words used by the sample companies and by previous studies*

HSBC (2008)	Lloyds (2008)	Barclays (2008)	NatWest (1999)	Hussainey et al. (2003, p.277)
'expects', 'anticipates', 'intends', 'plans', 'believes', 'seeks', 'estimates', 'potential', 'reasonably possible' and variations of these words and similar expressions	'believes', 'anticipates', 'estimates', 'expects', 'intends', 'aims', 'potential', 'will', 'would', 'could', 'considered', 'likely', 'estimate' and variations of these words and similar future or conditional expressions	'may', 'will', 'seek', 'continue', 'aim', 'anticipate', 'target', 'expect', 'estimate', 'intend', 'plan', 'goal', 'believe' and other words of similar meaning	'target', 'goal', 'objective', 'expect', 'estimate', 'project', 'anticipate', 'should', 'intend', 'probability', 'risk', 'VaR' and similar expressions or variations on such expressions	1. accelerate, 2. anticipate, 3. await, 4. coming (financial) year(s), 5. coming months, 6. confidence (or confident), 7. convince, 8. current (financial) year, 9. envisage, 10. estimate, 11. eventual, 12. expect, 13. forecast, 14. forthcoming, 15. hope, 16. intend (or intention), 17. likely (or unlikely), 18. look forward or look ahead, 19. next, 20. novel, 21. optimistic, 22. outlook, 23. planned (or planning), 24. predict, 25. prospect, 26. remain, 27. renew, 28. scope for (or scope to), 29. shall, 30. shortly, 31. should, 32. soon, 33. will, 34. well placed or well positioned, 35. year(s) ahead.

There are several views of the adoption of proper content analysis tools that are used to study the time orientation of disclosures; however, this study has applied indicative words that are based on both the previous studies and on the companies providing these words in the annual reports under the headings of cautionary statement regarding forward-looking disclosures. In terms of past and present information, a grammatical

tense was employed in this study to code past information, while present information was coded by using the gap when a recording unit was neither past nor forward-looking information. Table 5.7 contains the forward-looking characteristics, their example keywords, and the coding of past and present information which were employed in the study.

Table 5.7 *Time orientation coding*

Time Orientation	Characteristic	Guidance	Example Words
Forward-looking	Future statement	Words related to future tense or similar inflection.	may, anticipate, will, potential, should, soon, shall, next, possible, continue, and variations of these words and similar expressions
	Predictive statement	Information referred to projection, plan, appraisal, and management.	plan, target, goal, objective, hope, schedule, aim, believe, expect, estimate, intend, project, and variations of these words and similar expressions
	Conditional statement	Change in condition.	change in, depend on, if, based on assumption , condition, uncertain, fluctuation in, and variations of these words and similar expressions
Past	Using past tense for coding.		
Present	If it is not forward-looking and past information, it will be classified as present information.		

However, Aljifri and Hussainey (2007) warned that categorising past and forward-looking narratives may not be simple when some recording units convey relevant messages between past and future information. Therefore, to enhance the reliability for measuring time-oriented disclosures, this study classified such ambiguous classifications, containing both past and future information, in the same recording unit as forward-looking information.

5.6 The Disclosure of Factuality and Perception

This quality of the disclosure of factuality and perception can play a key role in communication because the directors need to convey messages to investors so that they

will support the director's decision making. Arnold et al. (2011) suggested that the investor's main decision in their investment should be based on the factual information and that the next decision should be regarded as the relevant information that contains the reliability of the control system to assess the firm's future performance. In terms of non-factual content or managerial perception, Hooper and Pratt (1995) noted that the directors have an incentive to disclose in their rhetorical statements because they can support confidence in the factual information that they claim. Since they are explanatory, rhetorical disclosures tend to be made in large volumes and they should gain less credibility than factual disclosures in content analysis (Toms, 2002). In addition, rhetorical disclosures may be made to manage a corporate image or to reduce the effects of events that the company has faced. However, it is inevitable that annual reports contain both factual information and rhetorical information; consequently, this feature has become an important component in risk disclosure.

In order to classify risk disclosures that have been disclosed as factual or non-factual information it is important to define both terms. Campbell and Rahman (2010) defined factual information as something that has actually happened or something that is expressed in a proven or verifiable manner. However, Beattie and Thomson (2007, p.152) defined a fact as only information that is capable of verification while, perception means judgement or unsubstantiated statement. Santos and García (2006, p.753) defined perception as "the internal sensation that results from a material impression made on our senses… the act and fact of perceiving," or, in other words, "receiving external images, impressions or sensations through one of the senses". Similarly, Mezias and Starbuck (2003, p.4) interpreted the term 'perception' as the sense of mind in which there are many alternative terminologies, such as awareness, beliefs, cognition, estimations or sense-making.

There are several factors involved in the coding of factual disclosures. Arnold et al. (2011) suggested that the adequacy of a company's control systems may prevent or detect misstatements in financial reporting. Meanwhile, since factual information is based on the verifiable facts, Toms (2002) pointed out that the credibility of information can increase when such information is submitted voluntarily to audit. However, it has been argued that audited information may be merely managerial perception and that this can possibly lead to false, misleading, or untruthful accounting; such as, Arthur Andersen's demise and the collapse of several large companies, including Enron,

Global Crossing, WorldCom and Tyco Corporate (Bayou et al., 2011). Consequently, audited information is not necessary to indicate its factuality when it is linked, directly or indirectly, to false, misleading, or untruthful accounting. However, a financial statement which is audited by an external auditing firm can be used to support the credibility of evidence for classifying factual information. Another issue relating to factual information is that the quantified disclosures tend to be factual information. Beattie and Thomson (2007, p.153) found that the intellectual capital disclosures of Next plc in their annual report for the year 2004 presented 51% quantified disclosures, 68% of disclosures were factual, and approximately 33% of disclosures were neither quantified nor factual. Consequently, almost all of the quantified disclosures were also recorded as factual.

Although the quantified disclosures support the determination of factuality, all of the quantified information must be analysed with its context before it can be classified as factual disclosures. To clarify the characteristic of disclosures, this study has defined the factual disclosures and perception as shown in the following table.

Table 5.8 *Definitions of factuality and perception, including examples*

Definition	Examples
Factuality is information reported as fact which is immediately verifiable or objective in nature.	As at 31 December 2008, total loans and advances to customers and banks net of impairment allowance were £542,118m (2007: £410,789m), a rise of 32% on the previous year (Barclays, 2008, p.89).
Perception is subjective information which is not immediately verifiable or which is opinion.	The Group ensures that the collateral held is sufficiently liquid, legally effective, enforceable, and regularly valued (Barclays, 2008, p. 86).

5.7 The Recording Unit and the Coding Instruction

The choice of recording unit is an important component in research design and it plays a key role in obtaining reliable information because different units may produce strikingly different results (Holsti, 1969). The types of recording unit which were reviewed in Chapter 4 (i.e. numbers of words, themes and sentences) can all be adopted in content analysis; however, coding a sentence as a recording unit has been widely used in previous studies of disclosure (e.g. Hackston and Milne, 1996; Beretta and Bozzolan,

2004; Linsley and Shrives, 2005a; Linsley and Shrives, 2006). Coding a sentence as a recording unit has been widely used in previous studies because it suits analysts who need to infer the meaning of the content (Gray et al., 1995). In addition, this recording unit provides complete, reliable and meaningful data for further analysis (Milne and Adler, 1999). Unlike coding at the level of the phrase, clause or themes, sentences offer the advantage of convenient measurement and second coder verification.

Each type of recording unit has its own strengths and weaknesses and the sentence is no exception. Using the sentence for the measurement of contents is more accurate than the measurement of pages and themes because both themes and pages face the problem of difference in length of unit when considering the different annual reports. For example, print size, column size and page size may not be compared accurately from one annual report to another; however, when comparing measurements between words and sentences, words overcome sentences in this point because words can be counted with a high degree of accuracy (Unerman, 2000). Meanwhile, the length of sentences can often depend on a company's writing style (Abraham and Cox, 2007) and, therefore, counting them is sometimes less accurate than counting words. Although this weakness was accepted in this study, it would probably not significantly affect the results because all of the sample companies are UK banks whose writing style is based on the same linguistic culture.

In this study, using sentences as recording units was performed in three interrogations of the characteristics of disclosures, as guided in the coding matrix (see Section 5.2): disclosure direction, the time orientation of disclosures, and the disclosure of factuality and perception. Three interrogations were used because the meaning in each interrogation has the interconnection of meaning for coding that a coder needs to infer the meaning of the content. Consequently, the distinction of the sentence approach is that it is better able to perform coding than using the word approach alone. Although some authors employed sentences for coding and words for counting (Abraham and Cox, 2007; Zéghal and Ahmed, 1990), this study agrees with Linsley and Shrives (2006, p.393) in that the unit of analysis should be consistent for coding and counting.

A further decision that is required in all content analyses is coding instruction. Recording units are considered to be quantification in the system of analysis (Holsti, 1969) and counting them is one of the simplest summarising measurements in

quantitative content analysis (Riffe et al., 2005). The importance of reliability in coding rules is also of concern; hence, it is important to justify the characteristics of risk disclosures by having a clear coding instrument that can be used so that coding will give the same results whether it is performed by the same coder or by different coders. Table 5.9 shows the coding instruction for risk disclosures in this study:

Table 5.9 *Coding instructions for the disambiguation rules used in this study*

Decision Rules for Risk Disclosures

- Risk disclosures shall be classified according to table 5.3 in Section 5.3, identifying thirty-five risk categories.   - All sentences are to be coded as risk disclosures if the reader is informed of any information given by company's grouping under the heading of risk categories.   - All of the sentences in a whole paragraph are to be coded as risk disclosures if the reader is informed of any information relating to any hazard, danger, harm, uncertainty or exposure without giving the heading of risk categories.   - Although some disclosures may be interpreted as risk, disclosures must be specifically stated, which means that they will not be implied.   - If a disclosure is rather vague about its reference to risk, then it will not be recorded as a risk disclosure.   - If a sentence has more than one possible risk category, then the sentence should be classified as to the activity most emphasised in the sentence.   - Any disclosure that is repeated will be recorded as a risk disclosure sentence in each time of disclosure.   - One sentence is to be coded for three rounds according to the definition of characteristics in each type as defined.
    The first round is for disclosure direction (neutral news or bad news), as defined in table 5.5.
    The second round is for the time orientation of disclosures (past, present, and forward-looking information), as provided in table 5.7.
    The third round is for the factuality and perception, as defined in table 5.8.   - If a sentence has contained both neutral and bad news, it will be classified into bad news.   - If a sentence has contained both past and forward-looking information, it will be classified into forward-looking information.   - If a sentence has contained both present and forward-looking information, it will be classified into forward-looking information.   - If a sentence has contained both present and past information, it will be classified into past information.   - If a sentence has contained both factuality and perception, it will be classified into perception.

Based on the coding instructions in table 5.9, each sentence has been analysed for three rounds (the first round for disclosure direction, the second round for time orientation,

and the third round for factuality and perception) according to the definition that is given in Sections 5.4, 5.5, and 5.6. The recording results were counted and the sum of the results was then filled in on the recording sheet in each risk category and each company for the individual company analysis. The results in each company were added together in totality in order to analyse the overall pattern.

Figure 5.2 shows an excerpt from the examples of the recoding sheets for the characteristics of disclosures (for both individual company's and for all companies).

Figure 5.2 *Examples of recording sheets for characteristics of disclosures*

(Overlapping individual company recording sheets: RBS, NatWest, Lloyds, HBOS, Barclays, HSBC)

HSBC	1995	1996	1997	1998	1999	2000
Risk management	48	26	26	45	71	33
B= Bad news	0	0	0	0	0	0
C= Neutral news	48	26	26	45	71	33
D= Forward looking	11	10	11	20	27	13
E= Present	27	16	15	25	34	20
F= Past	10	0	0	0	10	0
G= Fact	0	0	1	0	3	0
H= Perception	48	26	25	45	68	33
Liquidity and funding risk	0	0	0	0	0	21
B= Bad news	0	0	0	0	0	0
C= Neutral news	0	0	0	0	0	21
D= Forward looking	0	0	0	0	0	8
E= Present	0	0	0	0	0	9
F= Past	0	0	0	0	0	4
G= Fact	0	0	0	0	0	3
H= Perception	0	0	0	0	0	18
Credit risk	26	48	49	28	36	157
B= Bad news	0	1	1	0	0	6
C= Neutral news	26	47	48	28	36	151
D= Forward looking	8	14	17	13	16	58
E= Present	12	17	27	9	13	61
F= Past	6	17	5	6	7	38
G= Fact	4	9	6	5	12	21
H= Perception	22	39	43	23	24	136

All companies	1995	1996	1997	1998	1999	2000
Risk management	134	100	134	168	269	293
B= Bad news	0	1	1	2	0	5
C= Neutral news	134	99	133	166	269	288
D= Forward looking	39	41	51	77	110	127
E= Present	80	59	80	86	144	162
F= Past	15	0	3	5	15	4
G= Fact	9	5	4	2	8	57
H= Perception	125	95	130	166	261	236
Liquidity and funding risk	37	40	65	48	53	80
B= Bad news	0	0	0	0	0	1
C= Neutral news	37	40	65	48	53	79
D= Forward looking	17	20	28	21	26	49
E= Present	13	14	31	26	25	26
F= Past	7	6	6	1	2	5
G= Fact	6	3	6	1	1	3
H= Perception	31	37	59	47	52	77
Credit risk	273	274	297	331	319	436
B= Bad news	4	4	3	7	9	13
C= Neutral news	269	270	294	324	310	423
D= Forward looking	84	88	105	108	110	177
E= Present	133	131	130	111	135	196
F= Past	56	55	62	112	74	63
G= Fact	50	47	48	55	62	48
H= Perception	223	227	249	276	257	388

The recording sheet in each risk category and each company for individual company analysis were added together in totality to analyse the overall pattern.

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As shown in figure 5.2, each sentence was analysed for three rounds, based on each risk category of individual company. The first round was conducted for disclosure direction. When a company (e.g. HSBC) disclosed bad news, a sentence was coded as 'B'. When the other sentences were analysed, the number of 'B' sentences was counted and then the sum of the results were filled in on the recording sheet in each risk category. For example, in the year 2000, HSBC had no bad news disclosure in the risk management category, so the recording sheet showed zero. Similarly, when a company disclosed neutral news, a sentence was coded 'C'. Then the number of 'C' of all sentences in each category was counted and the sum of the results was filled in on the recording sheet in each risk category. For example, in the year 2000, HSBC had thirty-three sentences of neutral news in the risk management category.

The second round was conducted for time orientation. When a sentence contained forward-looking information, it was coded as 'D'. Meanwhile, if a sentence was present information then it was coded as 'E', and if a sentence was past information then it was coded as 'F'. The process of counting each code and filling in on the recording sheet in each risk category was performed the same as categorising disclosure direction. For example, risk management disclosure of HSBC in the year 2000 contained thirteen forward-looking sentences, twenty present sentences, and no past sentence.

The third round was conducted for factuality and perception. If a sentence was fact, it was coded as 'G' and if a sentence was perception then it was coded as 'H'. The same process of counting each code and filling in on the recording sheet in each risk category was performed next. For example the year of 2000, risk management disclosure of HSBC had no sentences of fact, but there were thirty-three sentences of perception.

After the process of counting each code and filling in on the recording sheet in each risk category was completed, the results in each company were added together in totality to analyse the overall pattern. For example, as shown in the lower figure of figure 5.2 all companies in the year 2000 disclosed 293 sentences in the risk management category with three characteristics. Firstly, disclosure direction was comprised of 5 sentences of bad news and 288 sentences of neutral news. Secondly, time orientation was comprised of 127 sentences of forward-looking information, 162 sentences of present information, and 4 sentences of past information. Thirdly, factuality and perception was comprised of 57 sentences of fact and 236 sentences of perception.

5.8 The Quality of Risk Disclosures

Research into disclosures in annual reports has recently become increasingly interested in their quality (Bayou et al., 2011), especially following the collapse of several large companies (e.g. Enron, Global Crossing, WorldCom and Tyco Corporate). Beretta and Bozzolan (2004, p.285) proposed that the quality of disclosure depends both on the quantity of information disclosed and on the richness offered by additional information.[8] In terms of quantity, they examined the amount of content disclosure provided by companies, whereas the richness of information concerning the future prospects was proposed for three factors, which are:

1) The economic sign attributed to expected impacts;[9]
2) The types of measures used to quantify and qualify the expected impacts;[10] and,
3) The managerial approach to the management of risks.

However, Botosan (2004, p.293) found that this framework is difficult to follow and is not sufficiently well developed to measure the quality of a firm's risk disclosures. For example, Botosan (2004) argued that this framework meant that the future prospects may help analysts to forecast a company's earnings more accurately than being assessed as risk disclosures. This controversial opinion may stem from the different definitions of risk that were used by Beretta and Bozzolan (2004), who defined risk as both opportunities and failures, while Botosan (2004) only focused on the adverse effects of risk. Botosan (2004) also proposed the well-known conceptual frameworks for information quality of the International Accounting Standards Board (IASB), which identified four qualitative characteristics of information that enhance the usefulness of information to economic decision makers, which are:

1) Understandability;
2) Relevance;
3) Reliability; and,
4) Comparability.

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[8] Beretta and Bozzolan (2004) studied the framework of risk communication of nonfinancial companies (chemical, clothing, electronic, food, media, transport, and utility) listed in the ordinary market of the Italian Stock Exchange at the end of 2001.

[9] The economic sign communicates the direction of the expected impact of risks upon the future performance of the firm (Beretta and Bozzolan, 2004, p.270).

[10] The type of measure used in order to specify the economic sign. The measurement can be expressed in qualitative or quantitative terms, using either monetary or nonmonetary scales (Beretta and Bozzolan, 2004, p.270).

To examine the quality of disclosure, some authors have employed a content analysis approach that focuses on the volumetric count as a proxy of disclosure (Beretta and Bozzolan, 2004; Lajili and Zéghal, 2005; Linsley et al., 2006; Hill and Short, 2009). In contrast, other authors have argued that this approach appears unable to provide understandable information reflecting its quality by counting (Laan Smith et al., 2005). Therefore, some authors have used indices of disclosure to measure the different level of quality disclosed (Marston and Shrives, 1991; Wallace and Naser, 1995). However, unlike the scale metric, the competency of assessing the different level by such indices still faces the problem of clarity (Marston and Shrives, 1991). When compared to quantitative information, qualitative information deals with the increasing level of complexity of business strategies, operations, and regulations (Marston and Shrives, 1991); hence, the measurement of quality is more complex than the measurement of quantity (Linsley and Shrives, 2006).

Each method has its own advantages. So far, however, this study has employed the volumetric count for examining characteristics of disclosures (as discussed in Sections 5.4, 5.5, and 5.6). In terms of the indices of disclosure, this method was also used for the interrogation of quality of risk disclosures by scoring the distinct levels of quality.

Since information in the annual report consists of both qualitative and quantitative data, both were used in this study to distinguish the level of disclosure quality. In order to weight disclosures, the researcher needs to justify the disclosure quality of both qualitative and quantitative information (Beattie and Thomson, 2007). In terms of qualitative information, the narrative component of financial communication is able to convey messages for clarifying and validating; it is also able to offer useful insights into risk reporting. Understandability and relevance are factors in the IASB framework, which provide sufficient information about risk and offering management, or mitigation, of risk. Consequently, the importance of sufficient information and disclosures of risk management were considered in order to classify the distinct level of quality.

There are two striking points of quantitative disclosures that enable them to gain higher scores when companies disclose quantified information in risk reporting. Firstly, with regard to the importance of quantified information, some authors have examined the proportion of quantitative risk disclosures in annual reports. For example, Linsley et al.

(2006) found that the proportions of qualitative and quantitative disclosures in annual reports were 67% and 33%, respectively. Beretta and Bozzolan (2004) reported that 15.2% of risks disclosed were quantitative against 31% qualitative, while 53.8% were not disclosed. From the previous studies, it is evident that the volume of quantitative disclosures is lower than qualitative disclosures. This happens because quantified risk information is easier to understand than qualitative information. Therefore, it is not necessary to disclose as much as quantitative risk information as qualitative risk information (Linsley et al., 2006). Consequently, quantitative risk information is considered to possess greater information value than qualitative disclosure. Accordingly, in this study quantitative risk information was weighted more highly than pure qualitative risk information in an index of the pilot study. Secondly, since comparability is one of the disclosure qualities in the IASB framework, longitudinal analysis and cross-sectional analysis are key issues and they require that risk disclosures should be assessed for comparability of these disclosures (Beretta and Bozzolan, 2004). Therefore, this study has adopted both methods to examine the quality of disclosures. Moreover, regarding the usefulness of qualitative information and comparability, this study also gave a higher level of quality when companies disclose a comparison of numeric information.

From the literature review it was found that quantitative information and comparability should be weighted more than pure qualitative information (Beck et al., 2010). Consequently, this study generated the indices to measure disclosure quality in the pilot study by having four levels, from the level of minimal discussion with pure narrative (level 1) to the level of providing comparison of quantified information, including qualitative explanations (level 4) (see Section 5.10.3). However, these indices have faced the problem of the definition of the meaning of qualitative information, and the effects of mixing qualitative and quantitative measurement. Therefore, new indices were developed for the main study following the lessons that were learned in the pilot study (see Section 5.11).

5.9 Frequency (By Year) of Newspaper Hits by Risk Category

News reports are some of the most important sources of information about society and politics (Ohkura, 2003; Boykoff, 2008). Many researchers accept that news media have

an influence on public perception when events and concepts are reported (Barkemeyer et al., 2010; Zyglidopoulos et al., 2012; Pasquaré and Oppizzi, 2012; An et al., 2011; Joshi et al., 2011). Furthermore, authors understand the role of media attention in different ways. For example, Norris (2001) proposed that the media serve three key functions, which are: to act as a civic forum; to act as a mobilising agent for change or action; and to act as a watchdog overseeing behaviour. Meanwhile, Yoo (2011) identified four factors that influence behaviour and attitude towards online newspapers, which are: information-seeking; pastime; entertainment; and socialisation. Meanwhile, Semetko and Valkenburg (2000), and Pasquaré and Oppizzi (2012) suggested the five frames that are used in the news media, which are: conflict; (economic) consequences; responsibility; human interest; and morality.

News coverage can differ considerably depending on people's behaviour and their attitudes related to the issue being discussed. However, it is commonly believed that a careful analysis of media coverage in a particular issue can influence not only the level of awareness of particular issues but also the prominence of their coverage (Barkemeyer et al., 2010; Zyglidopoulos et al., 2012). Therefore, this study has measured the number of newspaper hits about risk issues in order to analyse the public concern about the importance of risk in the banking and finance sector. Moreover, the correlation between risk issues published in the UK newspapers and risk disclosures in annual report was also examined.

It is not widely known that media reporting can have an influence on attitudes and risk perception (Vilella-Vila and Costa-Font, 2008). These relationships also articulate public opinion and become more intense as concerns about risk rises in society, which include the relevance of risk disclosure by these companies. Some researchers have found that media attention influences firm behaviour (Koning et al., 2010; Zyglidopoulos et al., 2012). In addition, Carvalho and Burgess (2005) found that media coverage has a significant impact on risk reporting. Moreover, Dyck et al. (2008) pointed out that press coverage increases the probability of companies taking action to improve corporate governance. In their study of the relationship between risk reporting and public interest, Dahlstrom et al. (2011) indicated that an increase in levels of precise risk information in the media has a positive correlation with the rationale for risk perceptions in the public. Meanwhile, critical news that is reported by regulators

through the media is also indicated to impact awareness among investors, they can also change the companies' reporting behaviour (Koning et al., 2010).

The review of the influence of media coverage on public perception which was conducted in this study has found that newspapers are one of the most important mass media channels that provides in-depth coverage of the issues. The number of newspaper citations can help to convey the public's interest in many subjects (Joshi et al., 2011). Consequently, in this study, content analysis of the news coverage through the UK newspapers was conducted over the period from 1995 to 2010 (see Section 5.1.2 for a more detailed discussion of why this time period was adopted in the longitudinal sample). Furthermore, using the defined risk categories to retrieve the number of newspaper citations was performed on the LexisNexis electronic database. LexisNexis has become the most popular online searchable tool in content analysis for searching an archive of important newspapers and magazines, financial records, interview questions and results of opinion polls, legislative materials and court decisions (Krippendorff, 2004, p. 274). This may be because text analysis is the most widely used tool by many researchers who wish to examine news content (Neuendorf, 2002). In this study, LexisNexis was also used via Newcastle University database archives to search citations of risk news. Although the LexisNexis database includes hundreds of sources of UK and international news, only UK newspapers were selected in this study. Furthermore, text searches were based on the keywords of thirty-five risk categories (as defined in table 5.3) to capture risk issues and to count the number of newspaper citations.

The semantic validity of the search results of an archive depends on the quality of the archive's collections and on the systems of access (Krippendorff, 2004, p. 275). To retrieve the relevant newspaper hits, this study has used two stages dealing with the archive's collections. The first stage was the assignment of the number of UK newspaper publishers. There are one hundred publishers stored within the database archive of UK newspaper publishers. However, not all of the publishers met the criteria that they had to provide risk news according to the keywords of thirty-five risk categories over a period of sixteen years between 1995 and 2010. In addition, many publishers have not been stored in the database contiguously during this period (i.e. 1995 to 2010). After a verifiable process was set according to these criteria, it was found that there were fourteen publications that met the selection criteria:

1) Daily Mail and Mail on Sunday;   2) Daily Record & Sunday Mail;

3) The Evening Standard (London);   4) The Guardian (London);

5) The Herald (Glasgow);   6) The Independent (London);

7) The Mirror and The Sunday Mirror;   8) The Northern Echo;

9) The Observer;   10) The People;

11) The Scotsman & Scotland on Sunday;   12) The Sunday Time (London);

13) Times Higher Education Supplement;   14) The Times (London).

The second stage was the creation of groups of keywords to meet programmed criteria. It is difficult to capture all of the newspaper hits in a database archive if thirty-five risk categories are used as search keywords because one keyword can have more than one close meaning. Moreover, the meaning of some words which are used to refer to risk categories in annual reports may differ from their meaning in newspaper publications. Therefore, some risk categories which have a close meaning were expanded in order to retrieve all of the number of newspaper hits related to this group of keywords, as in table 5.10:

Table 5.10 *The group of keywords as used in LexisNexis*

Risk Categories	Group of Keywords
Liquidity and funding risk	Liquidity risk, Funding risk
Cross-border risk	Country risk, Cross-border risk
Currency risk	Currency risk, Foreign exchange rate risk
Risk related to derivatives	Risk related to derivatives, Risk of derivatives, Derivative risk
Hedged risk	Hedging risk, Hedged risk
Operational risk	Operation risk, Operational risk
Legal and Regulation risk	Legal risk, Regulation risk, Regulatory risk, Compliance risk
Capital management risk	Capital management risk, Capital risk
Insurance and Investment	Insurance and investment risk, Insurance risk, Investment risk
Strategic and Business risk	Strategic and business risk, Strategic risk, Strategy risk,
Reputation risk	Reputation risk, Reputational risk
Risk related to fair value	Risk related to fair value , Fair value risk, Risk of fair value
Financial crime risk	Fraud risk, Financial crime risk
Safety and security risk	Safety and security risk, Safety risk, Security risk
Leasing risk	Leasing risk, Residual value risk, Risk of lease
Sustainability risk	Sustainability risk, Environment risk, Environmental risk
Customer treatment	Customer risk
People risk	People risk, Staff risk
Risk related to impairment	Risk related to impairment, Impairment risk

Using the keywords as detailed in table 5.10, the number of newspaper citations in each risk category between 1995 and 2010 that were retrieved from the LexisNexis database were recorded on a recording sheet. Figure 5.3 is an excerpt from an example recording sheet that was used to record the frequency (by year) of newspaper hits by risk category.

Figure 5.3 *An example of the recording sheet as recorded the frequency (by year) of newspaper hits by risk category*

The number of newspaper hits in each risk category as given keywords	1995	1996	1997	1998	1999	2000	2001	2002	200
risk management	340	177	255	522	428	438	437	455	4
Liquidity risk or funding risk	1	-	1	2	4	4	5	6	
Credit risk	62	32	42	82	85	51	76	88	
Country risk or Cross-border risk	13	15	4	17	8	4	13	17	
Market risk	51	23	21	67	47	42	43	83	
Interest rate risk	20	6	11	18	18	11	15	11	
Currency risk or foreign exchange rate risk	26	19	34	95	78	89	43	24	
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.....									
.....									
.....									
Total number of newspaper hits, all risk categories	864	502	559	1,123	966	942	1,038	1,136	9

5.10 The Pilot Study

To develop the research method, it is important to test a particular research instrument before a major study is undertaken. The pilot study is an appropriate choice for developing and testing the accuracy of the research instrument. Moreover, it is crucial that the coding scheme should be reflected upon at the conclusion of such a study because it affects the reliability of the method. Therefore, to achieve both accuracy and reliability, the annual reports of all sample companies (i.e. Barclays, HSBC, HBOS, Lloyds, RBS, and NatWest) in 2008 (the latest year that annual reports existed in the time of testing) were employed to perform the pilot study, with three concerns: testing the method, reliability, and any problems that may be found in the pilot study.

5.10.1 *Testing the method*

Testing the coding scheme presents a number of problems, including the possibility of making an inaccurate 'scope of testing' on the basis of pilot data (such as problems related to inappropriate assumption) and any other problems arising from testing. The research supervisor plays a key role in supporting the assessment of whether each coding rule is difficult or ambiguous, and also in checking that all coding decisions are able to answer the research questions. The supervisor in this study performed both these roles, beginning with the test. The following issues were the key points that were found in the pilot study, and addressing these issues was essential to improving the coding scheme.

Firstly, the areas of analysis covered all sections in the annual reports because the initial performance of the test found that risks may be disclosed in all sections, which are not specific to merely risk management in the financial overview section.

Secondly, all of the risk disclosures must be straightforwardly captured by using the words according to the risk categories that are given in table 5.3, which means that the vague disclosures (those that may or may not be intended as risk disclosures) will not be counted. Although some statements in annual reports that provided the heading of risk categories were clearly able to be classified as risk categories, some texts had no such signification and it would be unreliable to code them as risk disclosures. Therefore, only texts that contain words of risk or any information relating to hazard, danger, harm, exposure, and uncertainty were ultimately considered for coding.

Thirdly, the use of sentences as a unit of analysis aims to measure three characteristics of risk disclosures. This was reflected upon and the three qualitative interrogations were finalised:
1) Disclosure direction;
2) The time orientation of disclosure; and,
3) The disclosures of factuality and perception.

The method development for examining these characteristics was described in Section 5.4, Section 5.5, and Section 5.6. Their coding instruction was concluded in table 5.9 of Section 5.7.

Fourthly, regardless of the number of sentence, the quality of disclosures was assessed by using risk categories as themes. This method was developed and described in Section 5.8.

Fifthly, based on the indicative terms for each risk category, another interrogation for examining risk disclosures was developed by using the LexisNexis online database. Some words that are used to refer to risk categories in annual reports may differ from their meaning in newspaper publications; therefore, some indicative terms of risk categories which have a close meaning were expanded in order to retrieve all of the number of newspaper hits related to this group of keywords. Additionally, all of the UK newspaper publishers that have been stored in the database contiguously during 1995 to 2010 were verified to select only those publications that met these criteria. The details of this development are described in Section 5.9.

Sixthly, the recording sheets were well organised to support the multiple variables according to three main recording, sentences, themes, and newspapers hits. These recording sheets had advantages, both for rechecking their accuracy and for creating new sheets that could enhance understanding for the relevant variables.

Finally, all of the recording sheets in this pilot study were submitted to the supervisor in order to obtain his advice and to discuss their use. The results of the discussion were used to improve the coding scheme and the new coding rules then were then brought to practise again before being used in the main study.

5.10.2 *Reliability*

Reliability was discussed in detail in Chapter 4. Several studies have defined reliability as a measuring procedure that yields the same results on repeated trials, even though it is made by different coders (Holsti, 1969; Weber, 1990; Neuendorf, 2002; Krippendorff, 2004; Riffe et al., 2005). Consequently, reliability is crucial to content analysis. The problem of assessing reliability comes from testing coder agreement in order to verify the assumption that content coding is determined by the concept definitions (Riffe et al., 2005, p.124). Moreover, Holsti (1969, p.135) described

reliability as a function of coders' skill, insight, and experience, the clarity of categories and coding rules which guide their use, and the degree of ambiguity in the data.

The coder's ability is one of the most important factors for achieving reliability in content analysis. Consequently, a coder should receive adequate training in the classification of categories (Milne and Adler, 1999; Riffe et al., 2005). Moreover, the clarity of categories that is defined clearly to increase the precision in coder's judgment is also a critical factor in content analysis (Holsti, 1969; Milne and Adler, 1999). Therefore, testing the method is able to improve both the coder's ability and the clarity of the coding rules, which both affect the level of reliability.

In this study, stability (test-retest condition or intracoder assessment) is one of three types of testing for reliability that was adopted. This type of reliability test is referred to as the extent to which a measuring or coding procedure yields the same results on repeated trials (Krippendorff, 2004, p.215). Unlike reproducibility and accuracy, which are both types of reliability test that require more than one coder, in stability or intracoder assessment on coder can measure the reliability in coding when performing the test more than once (Weber, 1990). Since this study had a single coder, stability was tested to verify the results of coding. The complete coding rules were tested twice at different points in time. The first recording of results from sample companies (i.e. six banks) in 2008 was performed after revising the coding rules. It was then re-recorded two weeks later to test for the stability of recording. The results from the different points in time were recorded in recording sheets, which were then compared with the prior test. The results of this comparison showed that there was no significant difference in coding. Moreover, turning to the process before having completed the coding rules, the results of testing were discussed with the supervisor. Following this, the coding rules were revised. The test was then performed as described in stability. Regardless of the results in the changing rules part, the other results had no substantial difference in results as compared with the previous test before the rules were changed.

5.10.3 The problem of measuring the quality of risk disclosure

Based on the literature review in Section 5.8, this study has generated the indices in table 5.11, which are based on the study of Beck et al. (2010),[11] in order to measure the level of disclosure quality in the pilot study.

Table 5.11 *The definitions of quality levels of risk disclosures*

Quality Level	Definition
1	Disclosing with mention only, or mention with minimal discussion, pure narrative.
2	Disclosing with contextualised explanations, pure narrative.
3	Disclosures provide issues related to category in a numerical way, including qualitative explanations, and narrative and quantitative disclosures.
4	Disclosures provide issues related to category in comparison of quantified information, including qualitative explanations, and narrative and comparison of quantitative information.

According to the above indices, the testing method in the pilot study faced two problems. Firstly, quality level 2 was defined too broadly to capture the quality of risk disclosures when considering the sufficiency of information to justify its level. This happened because some risk categories provided merely general discussion, which achieved the same level as some of the risk categories that contained a large volume of description in risk and exposure (including how companies managed and mitigated that risk). Secondly, mixing quantitative disclosures with qualitative disclosure has misled the appropriate consideration of the quality level because both quantitative and qualitative reporting have their own distinctive characteristics of quality level, which means that it can be the difficulty to measure two different quality levels in the same measurement. For example, some risk categories provided only minimal risk discussion while they should reach quality level 1, but when these categories were added to the comparison of numeric information they jumped to achieve quality level 4. The evidence of this problem is corroborated by Bozzolan et al. (2009, p.466), who found

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[11] Beck et al. (2010, p.213) evaluated information content by five different levels of disclosure content as follows: 1) disclosure addresses issue related to category definition, pure narrative; 2) disclosure addresses issue related to category and provides details, pure narrative; 3) disclosure addresses issue related to category in numerical way, purely quantitative; 4) disclosure addresses issue related to category in numerical way, including qualitative explanations, narrative and quantitative; and 5) any numerical disclosure to the category including qualitative statements demonstrating year comparisons; narrative, quantitative and comparable.

that quantity and quality effects must be separated. Consequently, new indices were developed from the above issues, which will be described in the next section.

5.11 Following the Pilot Study

Following on from the problem of measuring quality of risk disclosure in the pilot study (see Section 5.10.3), there were two main problems about the definition of qualitative disclosures and the effects of mixing quantitative and qualitative measurements. Therefore, new indices were developed from two issues: separating quantitative disclosures from qualitative disclosures and improving the definition of qualitative disclosures. Table 5.12 and table 5.13 provide the new indices that were developed from the lessons learned in the pilot study.

Table 5.12 *Definitions of the quality levels of qualitative disclosure*

Qualitative Disclosure Level (QL)	Definition
QL1	Disclosing with mention only, or mention with minimal discussion.
QL2	Disclosing with contextualised explanations of risk and exposure.
QL3	Disclosing with contextualised explanations of risk and exposure, including a description of management or mitigation of that risk.

Table 5.13 *Definitions of the quality levels of quantitative disclosure*

Quantitative Disclosure Level (QN)	Definition
QN1	Disclosure of issue related to the category in a numerical way.
QN2	Numerical disclosure to the category against comparison.

As both indices were developed, each risk category disclosed in the annual report was recorded as a theme. The narrative was analysed on the basis of the defined qualitative level that is given in table 5.12, while the coding of numerical disclosures was based on the defined quantitative level that is given in table 5.13. All of the contents related to each defined table were interpreted in overall assessment in order to identify the quality level in each risk category and each sample bank. Figure 5.4 provides an excerpt from

an example of a recording sheet which was used to record the qualitative and quantitative disclosure level in each risk category, for all companies and for all years.

Figure 5.4 An example of a recording sheet that was used to record quality level

Risk category/UK Banks	2010 NatWest		RBS		Lloyds		Barclays		HBOS		HSBC		2009 NatWest		RBS		Lloyds		Barclays	
Content analysis: Quality level -->	QL	QN	QL	QN	QL	QN	QL	QN	QL	QN	QL	QN	QL	QN	QL	QN	QL	QN	QL	QN
Risk management	3	0	3	1	3	1	3	0	2	0	3	0	3	0	3	1	3	0	3	2
Liquidity and funding risk	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
Credit risk	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
Cross-border risk (Country risk)	3	2	3	2	0	0	3	2	0	0	3	2	1	0	3	2	0	0	0	0
Market risk	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
Interest rate risk	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
Currency/ foreign exchange rate risk	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
Derivatives	3	2	3	2	3	2	3	2	3	2	3	2	1	2	3	2	0	0	3	2
Hedged risk	3	0	3	0	3	0	3	0	3	0	3	2	3	0	3	0	1	0	3	0
Economic risk	3	0	3	1	0	0	0	0	0	0	3	1	0	0	3	0	2	2	0	0
Operational risk	3	1	3	2	3	2	3	2	2	0	3	1	3	1	3	2	3	0	3	2
Legal and regulation risk	3	0	3	0	3	0	3	0	3	0	3	1	3	0	3	0	3	0	3	0
Capital management risk	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
Insurance and Investment risk	0	0	3	2	3	2	3	0	3	2	3	2	0	0	3	2	3	2	3	2
Strategic/ business risk	3	0	3	1	3	2	3	2	2	0	3	0	3	1	3	1	3	0	1	0
Reputation Risk	3	0	3	0	0	0	0	0	0	0	3	0	3	0	3	0	1	0	1	0
Pension risk	3	2	3	2	3	0	1	0	0	0	3	2	3	0	3	0	3	0	0	0
Fair value of financial instrument risk	3	0	3	2	0	0	3	2	3	0	3	0	3	2	3	2	0	0	3	2
Financial crime risk (fraud)	3	0	3	0	2	0	3	0	0	0	3	0	0	0	3	0	1	0	1	0
Competition risk	2	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0

As shown in figure 5.4, each risk category (by year) of the annual report of each individual company was analysed as a theme for two rounds. Firstly, the narrative was evaluated on the basis of the defined qualitative level which is given in table 5.12. Three different levels of qualitative disclosure were used as coding categories (i.e. QL1, QL2, and QL 3), although a fourth field (i.e. zero, for non-disclosure of that category) was also present. For example, in 2010, HSBC disclosed information in the risk management category with contextualised explanations of risk and exposure, including a description of management, or mitigation, of that risk (i.e. QL3); therefore, the recording sheet showed '3' in the qualitative disclosure level of risk management category.

Secondly, the numerical disclosure of each risk category was evaluated on the basis of the defined quantitative level that is given in table 5.13. Two different levels of quantitative disclosure were used as coding categories (i.e. QN1 and QN2), although a third field (i.e. zero, for non-disclosure of that category or no numerical disclosure) was also present. For example, in 2010, HSBC disclosed information in the risk management category with purely qualitative information without any numerical

information; therefore the recording sheet showed 'zero' in the quantitative disclosure level of the risk management category.

5.12 Summary

The stages of method development have been described and presented in this chapter. The first stage began with sample selection. The annual reports of six banks (Barclays, HSBC, HBOS, Lloyds, RBS, and NatWest) over a sixteen year period between 1995 and 2010 were selected to examine risk disclosures, in both longitudinal and intrasectoral effects. The risk disclosures of all sample companies were investigated by constructing a coding matrix. This matrix was developed to analyse the risk disclosures for six interrogations.

The first interrogation was risk categories, consisting of thirty-five categories. Establishing risk categories brought the other interrogations into the verifiable scope of the research process. According to the defined risk categories, the characteristics of risk disclosures were examined by developing three interrogations, which are: disclosure direction (second interrogation), the time orientation of disclosures (third interrogation), and the disclosures of factuality and perception (fourth interrogation). The final coding instrument in each interrogation had various sub-categories. Disclosure direction consisted of two directions, neutral news and bad news. The time orientation of disclosure had three indicating terms: present, past, and forward-looking. For the interrogation related to factuality and perception, risk disclosures were distinguished between fact and perception according to defined rules. To analyse the characteristics of disclosures containing three interrogations stated above, sentences as units of analysis and their coding rules were established for the clarity of decision in analysis.

With regard to the strength of theme, risk categories were used as themes in developing the fifth interrogation in order to examine the quality of disclosures containing both a qualitative aspect and a quantitative aspect. The sixth interrogation was developed to examine how press media reporting has influenced risk categories disclosure. By developing this interrogation, the number of newspaper citations related to risk categories was retrieved from fourteen publishers on the electronic database, LexisNexis.

The next stage addressed in this chapter was the pilot study, which was used to develop and test the accuracy of the research instrument. Testing on the basis of pilot data was performed to gain clear coding rules. Stability, or test-retest condition, was employed in this study to increase the reliability of the research method. Finally, the problem of measuring the quality of disclosures was found and was improved after the lessons were learned from the pilot study.

Chapter 6. Overall Findings and Analysis

The previous chapters have presented the underpinnings and development of the content analysis method. In Chapter 5, the sample selection was described and justified. The findings and analysis in this chapter include an overall view of the findings for all six companies (i.e. RBS, NatWest, Lloyds TSB, HBOS, Barclays, and HSBC) in ninety-six annual reports that were published between 1995 and 2010. A total of 65,256 sentences were found and investigated, they were then used as recording units related to risk disclosure. The analysis of the risk disclosures for all years, and all companies was performed on all narrative sections, including the notes to the accounts (which are comprised of the basis of financial statement preparation, the summary of significant accounting policies details of assets and liabilities, and other additional information relating to a company's periodic reports).

The following sections outline the findings of the analysis of the longitudinal data by all years and all companies. Section 6.1 analyses by total volume, and by risk category. Section 6.2 analyses by information richness. And finally, Section 6.3 analyses the association between volumes of longitudinal banking sector risk disclosures against the intensity of societal discussion as proxied by the frequency, by year, of relevant newspaper citations, by risk category.

6.1 Analysing Longitudinal Risk Category Membership in All Years and in All Companies

In terms of sufficient risk information, the amount of risk information plays an important role in supporting stakeholder decision-making. Consequently, to perform volumetric analysis for the sample companies, sentences from all narrative of the annual reports were used to examine risk disclosures. The risk categories were classified and then the numbers of sentences in each risk category were counted to reflect the longitudinal patterns and trends.

The data in table 6.1 presents the ranking number of sentences disclosed (from the most risk disclosure to the least risk disclosure) by risk category (in all years and in all

companies), including an average number of sentences per annual report, a minimised number of sentences per annual report, and a maximised number of sentences per annual report.

Table 6.1 *Overall statistical number of risk disclosures in each risk category, in all years and in all companies*

Ranking Number	Risk Category	Total	Mean Per Annual Report	Min	Max
	Total number of sentences (in all companies and in all years)	65,256	4,079	1,075	9,941
1	Credit risk	14,958	935	273	2,446
2	Risk management	7,996	500	100	1,425
3	Market risk	5,530	346	61	774
4	Insurance and Investment risk	4,393	275	3	727
5	Liquidity and funding risk	4,176	261	37	732
6	Capital management risk	3,887	243	72	721
7	Legal and regulation risk	3,443	215	69	638
8	Risk related to derivatives	3,441	215	165	301
9	Interest rate risk	2,510	157	58	234
10	Operational risk	2,243	140	-	493
11	Risk related to impairment	2,144	134	-	406
12	Risk related to fair value	1,662	104	-	480
13	Strategic and Business risk	1,441	90	-	396
14	Currency risk	1,284	80	37	115
15	Hedged risk	857	54	17	140
16	Special purpose entities	854	53	-	286
17	Cross-border risk	746	47	18	141
18	Sustainability risk	654	41	-	133
19	Economic risk	550	34	-	164
20	Pension risk	406	25	-	116
21	Reputation risk	257	16	-	62
22	Tax risk	253	16	-	64
23	Leasing risk	237	15	-	37
24	Safety and security risk	219	14	-	38
25	People risk	215	13	-	88
26	Financial crime risk	195	12	-	54
27	Equity risk	166	10	-	29
28	Customer treatment	165	10	-	41
29	Industries risk	147	9	-	77
30	Governance risk	73	5	-	23
31	Competition risk	56	4	-	22
32	Change risk	33	2	-	10

Ranking Number	Risk Category	Total	Mean Per Annual Report	Min	Max
33	Political risk	29	2	-	10
34	Financial report risk	22	1	-	19
35	Technology risk	14	1	-	11

The statistical data in table 6.1 presents the overall view of findings which is found by counting the number of risk disclosure sentences for all six companies with ninety-six annual reports over sixteen years between 1995 and 2010. The total number of risk disclosures over sixteen years was 65,256 sentences, the average number of risk disclosure was 4,079 sentences per annual report, and the highest was 9,941 sentences while the lowest was 1,075 sentences.

To identify what risk categories have an influence on disclosures of all banks, the volume of sentences was counted and the risk categories disclosed were ranked. The top ten risk categories included credit risk, risk management, market risk, insurance and investment risk, liquidity and funding risk, capital management risk, legal and regulation risk, risk related to derivatives, interest rate risk, and operational risk. Meanwhile, the minimum risk categories show that there were twenty-three out of the thirty-five risk categories that showed zero. This means that the companies did not disclose some categories in their annual reports for certain years. To describe the development of risk disclosure of all companies by focusing on risk categories, figure 6.1 shows the average number of risk categories between 1995 and 2010, for all companies.

Figure 6.1 *Average number of categories of risk disclosure, for all companies*
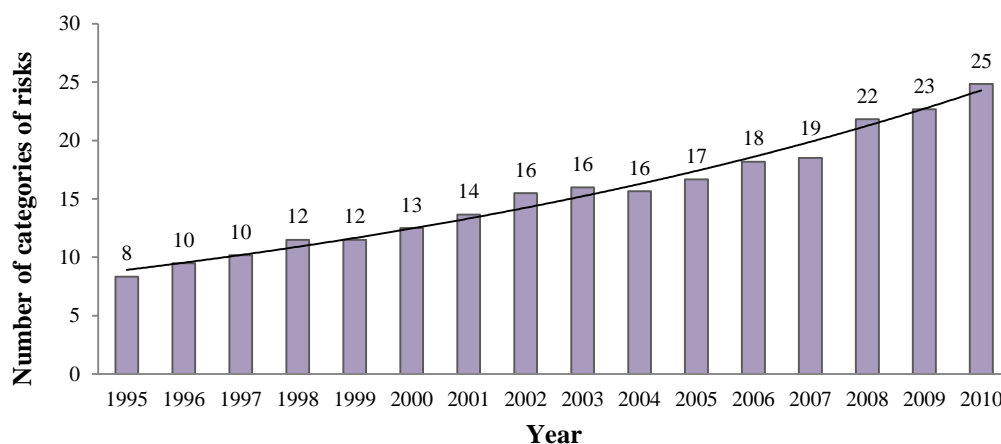
As can be seen from figure 6.1, the number of risk categories disclosed has risen over time in all companies. The average lowest category disclosed was eight categories in 1995 and the average highest was twenty-five categories in 2010. To analyse risk categories disclosure, volumetric analysis was developed on the basis of the content of disclosures and topics that have been disclosed by all of the sample companies. Figure 6.2 shows the overall trend of risk disclosures measured by the number of sentences disclosed over a period of 1995 to 2010, for all risk categories and for all companies.

Figure 6.2 *The number of sentences disclosed, in all risk categories and in all companies, by year*
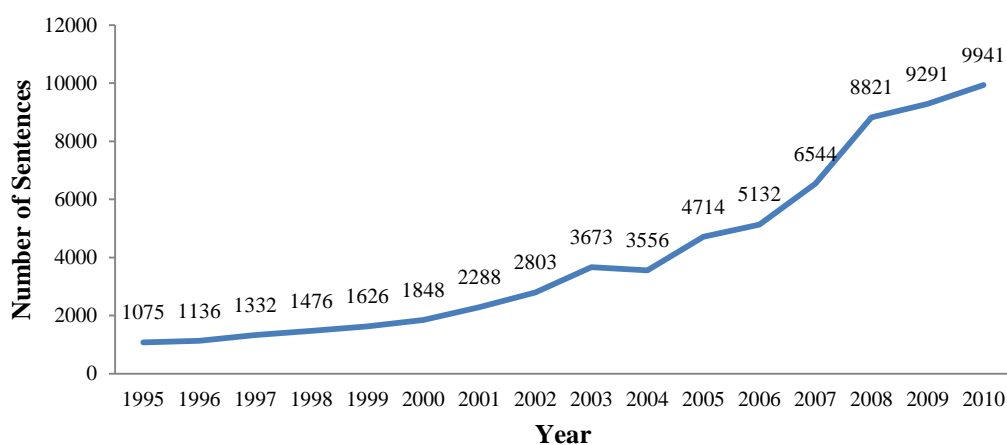
The above figure shows that the number of sentences (for all risks and for all companies) has increased over time from 1,075 sentences in 1995 to 9,941 sentences in 2010, which is an approximate nine times increase. When considering the results of increasing both number of risk categories (see figure 6.1) and the volume of disclosures (see figure 6.2), it can be seen that there was a smooth upward trend in the quantity of risk disclosures over the period of 1995 to 2010. However, although number of sentences has experienced a smooth increase over time, this is likely to conceal some switch-points and fluctuations in certain risk categories. Therefore, the following findings and analysis are divided into three main patterns of disclosure, which are:

1) A smooth increase in volume;
2) Change in volume with switch points; and,
3) Volume fluctuation.

Each of these three categories will be explored in more depth in the subsections which follow.

6.1.1 A smooth increase in volume

The increase in volumetric disclosures depends on business activities (such as key assumptions underpinning risk appetite) and the management decisions which are anticipated to be necessary to mitigate risks. Consequently, it was found that there were three risk disclosures which contained a smooth change in volume, which are detailed in figures 6.3 to 6.5.

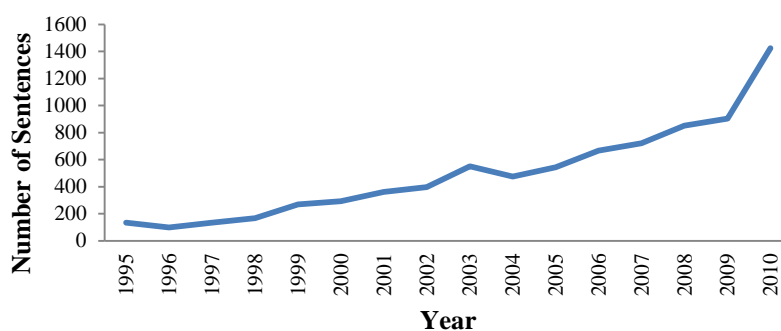**Figure 6.3** *Disclosure of risk management, for all companies*

Figure 6.4 *Disclosure of market risk, for all companies*
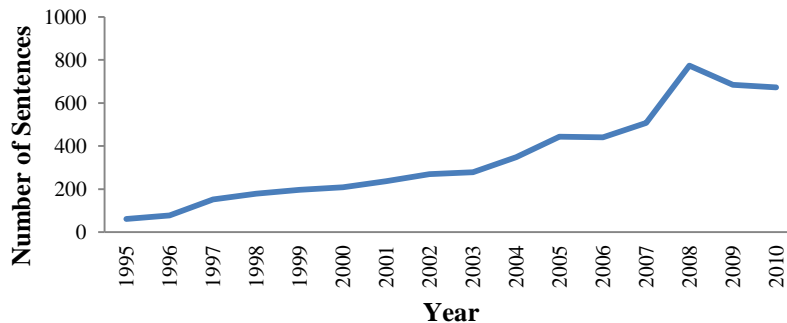
Figure 6.5 *Disclosure of risk related to capital management, for all companies*
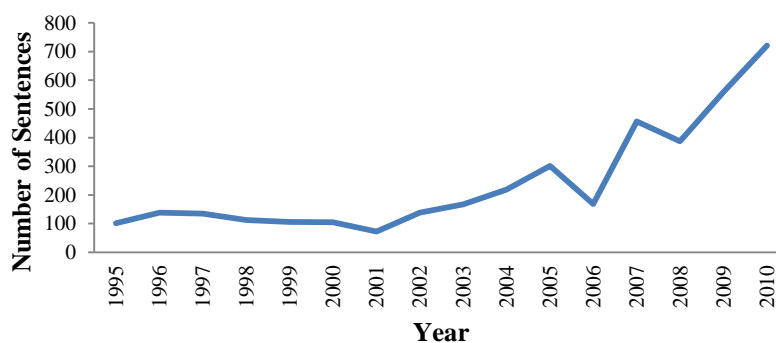
From these figures it can be seen that there were clear smooth longitudinal volumetric increases in risk management, market risk, and risk related to capital management.

6.1.2 Change in volume with switch points

It should be highlighted that in the period between 2005 and 2009 there was a range of time occurring volumetric increases with clear switch points in seventeen risk categories, as detailed in table 6.2 below:

Table 6.2 *Risk categories with switching increase in volume of risk disclosure (all companies), by year*

Switching Year	Risk Categories
2005	1) Risk related to fair value
	2) Risk related to impairment
	3) Hedged risk
	4) Insurance and investment risk
	5) Tax risk
2006	6) Sustainability risk
	7) Economic risk
	8) Pension risk
2007	9) Liquidity and funding risk
	10) Credit risk
	11) Operational risk
	12) Financial crime risk
	13) Special purpose entities
2008	14) Strategic and business risk
	15) Reputation risk
	16) Equity risk
2009	17) Legal and regulations risk

To illustrate the characteristic of switching increase in volume of disclosure, Figure 6.6 shows the sample of risk categories which have a clear switching increase in volume of risk disclosure in 2005.

Figure 6.6 *Disclosure of insurance and funding risk, for all companies*
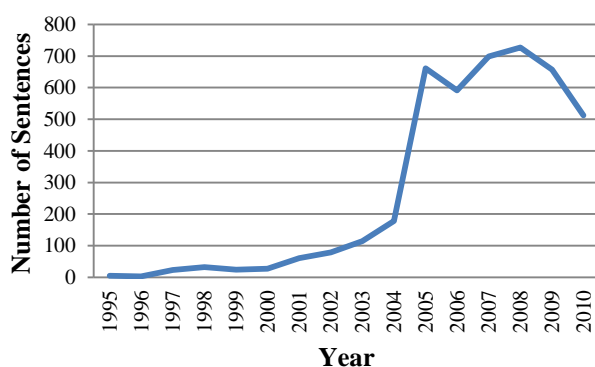
Appendix A contains all of the figures that illustrate the risk categories (for all years and for all companies) that have a significant switching increase in volume of risk disclosure, as classified by year. Meanwhile, the following sections describe the possible reasons why these risk categories have a significant switching increase in volume of risk disclosure, as classified by year.

a) *Switch point in 2005*

The year 2005 was a switching year for five risk categories, which are: risk related to fair value; risk related to impairment; hedging risk; insurance and investment risk; and, tax risk. The reason for this significant increase was that in 2005 the International Accounting Standard 32 'Financial Instruments: Presentation' ('IAS 32'), IAS 39 'Financial Instruments: Recognition and Measurement' ('IAS 39'), and IFRS 4 'Insurance Contracts' ('IFRS 4') were all adopted for the first time. This introduction led to an increased level of risk disclosures in all companies, which was related to financial instrument and insurance risk. It also impacted on tax disclosures because of the effects of the change in accounting standards.

b) *Switch point in 2006*

The year 2006 was a switching year of three risk categories: sustainability risk, economic risk, and pension risk. The remarkable increase in disclosure of sustainability risk reflects the policy and actions of companies in response to the needs of sustainable development in order to mitigate environmental effects. In 2006 many companies responded to environmental concerns, including risk disclosures on issues of environmental awareness. The public concern about environmental risks at that time may relate to a 2006 documentary film 'An Inconvenient Truth', directed by Davis Guggenheim about former United States Vice President Al Gore's campaign to educate citizens about global warming via an informative slide show. Carbon neutral awareness attracted wide-ranging public interest and this in turn led to a marked growth in disclosures in 2006. In addition, sustainability risk also involves social and community issues, the environment, and the need for responsible global citizenship, which are all likely to affect a firm's corporate image.

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The disclosures of economic risk and pension risk were also at a switching point in 2006, which was the beginning period of the current economic slowdown. The UK Consumer Price Index ('CPI') inflation rate increased through the year, from 1.9% in January to 3% in December. This rise in inflation was coupled with large increases in the prices of petrol and gas. In response, the Bank of England raised the interest rate from 4.5% to 5%. At the same time, a number of households were struggling with the burden of debt as personal insolvencies and repossessions increased as a result of an increase in the unemployment rate.

c) Switch point in 2007

The year 2007 was a switching year for five risk categories: liquidity and funding risk, credit risk, operational risk, financial crime risk, and risk related to special purpose entities. It is evident that these risk categories, which experienced a switching increase pattern, were related to the 2007 financial crisis. This crisis revealed that massive financial frauds and misconduct have long been a part of the enormous risks taken by many banks and financial institutions (Tomasic, 2011). The crisis of 2007 developed from the sub-prime credit problems that followed the collapse of the US housing market and the subsequent devaluation of many American mortgages. The severity of the crisis affected credit markets, constraining the banks' ability to lend because of the deterioration in credit quality. This was coupled with a lack of liquidity in the market, which led to the need to manage liquidity resources and capital in order to run the ongoing banking systems.

In August 2007, the interbank markets experienced severe pressure to raise massive amounts of liquidity; however, it was very difficult to increase capital at that time due to significant changes in the collateralised markets and high levels of low quality collateral (Allen and Carletti, 2010). Moreover, a lack of confidence among financial institutions and investors, especially fears about their financial stability, made it much more difficult for them to improve their liquidity. This crisis of confidence, which became known as the credit crunch, later caused a credit crisis (Andersen et al., 2012). During the autumn of 2007 the prices of subprime securitisations continued to worsen and many financial institutions began to face adverse effects. Although the financial system, and in particular banks, came under tremendous strain during this time, this was not the

riskiest or the worst effect. This period has been identified as the initial phase of the crisis (Pisani-Ferry and Sapir, 2010).

d) *Switch point in 2008*

The year 2008 was a switching year for three risk categories: strategic and business risk, reputation risk, and equity risk. The significant increase in volumes of risk disclosure was related to the most critical stage of the crisis, which started in September 2008 when Lehman Brothers collapsed, inducing significant losses in many counterparties. Large amounts of money were withdrawn from money markets in the week following Lehman's collapse. More disruptive consequences spread to the international markets, affecting the majority of cross-border banks. This severe downturn led the financial services industry into extraordinary turbulence. A shortage of liquidity, lack of funding, pressure on capital and the adverse effects on price volatility across a wide range of asset classes led governments and central banks to undertake unprecedented intervention that was designed to stabilise the global and domestic financial systems, to stimulate new lending, and to support systemically important institutions that were at risk of failing. Hence, all of the companies in this study proposed how to manage equity, potential strategy, and business risk reflecting a switching increase in volume of risk disclosure of strategic and business risk, reputation risk, and equity risk.

e) *Switch point in 2009*

The year 2009 witnessed a significant increase in legal and regulation risk, which happened because the European Commission, the UK Tripartite Authorities (i.e. HM Treasury, the Bank of England and the Financial Services Authority 'FSA'), the US Government and others made a number of proposals for adjustment in regulatory regimes aiming to improve the banking sector's ability to absorb shocks, risk management, and the strength of bank transparency and disclosure.

6.1.3 Volume fluctuation

Apart from the patterns of smooth increase and switching increase in risk disclosures, this present study found that all sample companies disclosed risk information with the pattern of volume fluctuation in six risk categories over the period of investigation. Six risk categories were consequently developed from these volume fluctuation patterns, which are:

1) Currency risk;
2) Interest rate risk;
3) Cross-border risk;
4) Derivative risk;
5) Leasing risk; and,
6) Safety and security risk.

To illustrate the characteristics of volume fluctuation, the first of these six risk categories is illustrated below in figure 6.7 (the complete figures for the six risk categories are given in Appendix B):

Figure 6.7 *Disclosure of currency risk, for all companies*
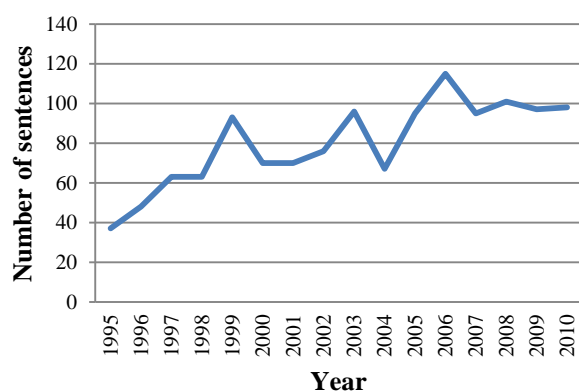
The liberalisation of financial markets in many countries has given more latitude for banks in those countries to obtain funds and extend credit. Consequently, these banks now find difficulty in avoiding the volatility of the financial market. It is noticeable that this study has found that disclosures in cross-border risk, interest rate risk, currency risk, risk related to derivatives, leasing risk, and safety and security risk all experienced volume fluctuation. In addition, the fluctuation pattern in cross-border risk, interest rate risk, and currency risk is related to the derivatives that banks employ to reduce their risk exposures. This volatility depends on the effects of a volatile environment in the

financial markets and on the features of international banking; it also depends on the bank's policies of managing assets and funding.

6.2 Analysing Longitudinal Data by Information Richness

Driven by increased complexities in business, and an objective to promote transparency and enhance quality of disclosure by reducing information asymmetries, risk disclosures have many potential benefits for shareholders, analysts, investors, and other stakeholders (Lajili and Zéghal, 2005). However, Linsley and Shrives (2005b) warned that disclosure by itself will not create transparency when it appears to lack useful information. Consequently, this study has investigated how companies disclosed risk issues with regard to information richness. The key aspects of risk disclosures were classified by risk categories by companies and by year into four interrogations, which were:

1) Time orientation of disclosure (i.e. future, present, past information);
2) The disclosure of factuality and perception;
3) Disclosure news direction (i.e. neutral news, bad news); and,
4) Quality of disclosure.

Each of these four aspects will be explored in more depth in the subsections which follow.

6.2.1 Time orientation of disclosure

In this present study there are three characteristics of time orientation in the information disclosed in annual reports, which are: past, present and forward-looking. In particular, various stakeholders are broadly interested in forward-looking statements based on plans and objectives for future operations, financial matters, future economic performance, as well as the assumptions underlying or relating to those statements because these statements involve stakeholders in the decision-making processes. However, a major point for using forward-looking information is that it creates accountability because the users should be given the relevant factors causing actual results to differ, in some instances materially, from those anticipated or implied in any forward-looking statement. Based on an investigation of annual reports of sample

companies, most companies provided meaningful cautionary forward-looking statements explaining the scope of meaning and the important factors that could cause differences from actual results.

The adoption of effective content analysis tools for examining forward-looking information has many perspectives; therefore, this study has defined forward-looking characteristics by using a set of words to capture forward-looking sentences in risk disclosures. Table 6.3, containing forward-looking characteristics was used as a framework to guide the volumetric count (which was described in Chapter 5).

Table 6.3 *Forward-looking characteristics and the indicative words*

Characteristic	Guidance	Sample Words
Future Statement	Words related to future tense or similar inflection	may, anticipate, will, potential, should, soon, shall, next, possible, continue, and variations of these words and similar expressions
Predictive Statement	Information referred to projection, plan, appraisal, and management	plan, target, goal, objective, hope, schedule, aim, believe, expect, estimate, intend, project, and variations of these words and similar expressions
Conditional Statement	Change in condition	change in, depend on, if, based on assumption , condition, uncertain, fluctuation in, and variations of these words and similar expressions

When companies disclosed risk information according to forward-looking characteristics and the indicative words mentioned above, each sentence containing forward-looking information was then counted. The number of sentences for all companies was calculated for the proportion of disclosure by dividing the number of forward-looking sentences by the total sentences. Meanwhile, past information and present information were performed for the volumetric counts using the same process as forward-looking information; however, past disclosure was based on the past tense for coding, while present disclosure was counted when it was not either forward-looking or a past disclosure.

Figure 6.8 *The percentage of time orientation of disclosures as a proportion of total sentences (in all companies) between 1995 and 2010*
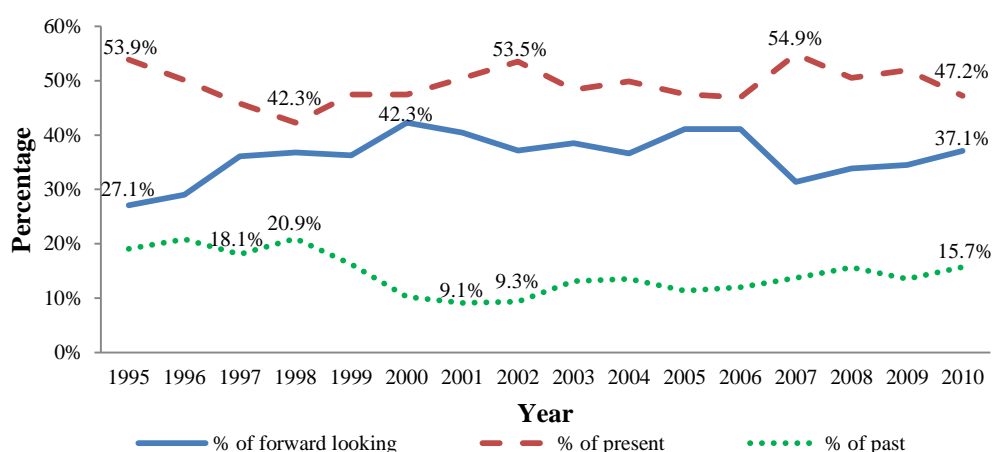
It can be seen from figure 6.8 that there was no meaningful longitudinal change in the time orientation of disclosures as a proportion of all disclosures. However, present information was the largest quantity of time oriented of disclosures throughout the period between 1995 and 2010. The proportion of present disclosures slightly declined from 53.9% in 1995 to 42.3% in 1998. It then gradually increased at approximately the same rate as total sentences (in all companies) over time; it varied between 42.3% of total and 54.9%. Meanwhile, forward-looking disclosures increased at approximately the same rate as total sentences (in all companies); it varied between 27.1% of total and 42.3%. Past information was the lowest proportion of time orientation of disclosures throughout the period. Past information had a small change from 1995 to 1998; it varied between 18.1% of total and 20.9% before gradually declined to 9.1% in 2001. Subsequently, the trend of past information grew slightly from 9.3% in 2002 to 15.7% in 2010.

6.2.2   Factual disclosures and perception disclosures

Fact and perception are a natural pair of statements for communication. Therefore, not surprisingly, both are used in all of the annual reports that were included in this study where they provide operational information and present managerial perception. It is a modest step to consider fact and perception disclosure because some sentences are broadly associated with thinking without verifying the accuracy of the information. This happens because the directors have an incentive to disclose in their rhetorical statements

to support confidence in the factual information that they claim (Hooper and Pratt, 1995). Although perception information is a managerial expectation (or something that is expressed in a forward-looking manner), it is useful for investors who use it to support their decision-making. Non-factual information should be carefully used because it can mislead investors. However, factual information or hard fact presented as a proven or verifiable content may delay reporting because of the verifiable process.

The use of sentences as a unit of analysis was employed in this study to capture the trend of disclosures between fact and perception. Each sentence was determined to find whether the information was fact or perception. Consequently, the definition of fact or perception plays an important role in information capture. This study defines fact as information reported as fact, which is immediately verifiable or objective in nature. On the other hand, non-factual information or perception (including the forward-looking content that was mentioned in table 6.3) was defined as subjective information, which is not immediately verifiable or which is opinion. The proportion of factual disclosure was employed to reflect the longitudinal patterns and trends between 1995 and 2010, as in figure 6.9.

Figure 6.9 *The percentage of factual disclosures as a proportion of total sentences (in all companies) between 1995 and 2010*
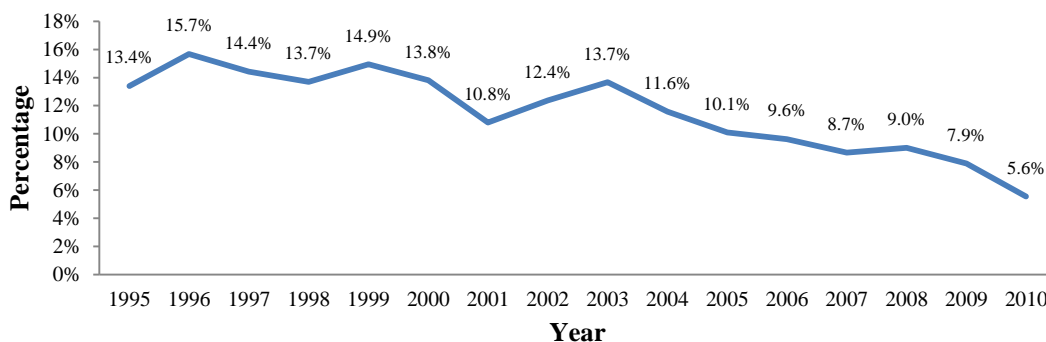
As can be seen from figure 6.9, the factual disclosures as a proportion of total sentences (in all companies) slightly decreased over the period of 1995 to 2010. This means that as volume increased over time, perception-based sentences were slightly favoured over (higher volumes by sentences) those containing 'hard facts'. Over time, risk reporting has become proportionately more concerned with opinion and perception than facts. The possible reason for this is that the director's rhetorical statements have an incentive to disclose because they can support confidence in the factual information that they claim

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(Hooper and Pratt, 1995). Since they are explanatory, rhetorical disclosures tend to be made in large volumes and they have less credibility than factual disclosures in content analysis (Toms, 2002). However, it is inevitable that annual reports contain both factual information and rhetorical information, with rhetorical statements becoming a prominent feature of risk disclosure.

6.2.3   Disclosure news direction

The aim of this section is to identify the attitudes of UK banks towards risk disclosure, using the empirical evidence of the content analysis approach and using sentences as recording units to examine the interrogation of disclosure news direction. Generally, there are three characteristics disclosed in annual reports: good news, neutral news, and bad news. One of the difficulties in evaluating the attitudes of UK banks towards risk disclosure is that it is often difficult to identify the disclosure direction of good and neutral news because the good news tone is used very broadly.

As described in Chapter 5, Section 5.4, the difficulty with coding ambiguous narrative of good news was exemplified in the three examples. Firstly, good news may be bad news when the rhetorical disclosure is considered in the long term. Secondly, the use of optimistic language in good news may mislead shareholders into ignoring the financial jeopardy that companies are experiencing. Thirdly, some good news has no clear sign of good news, which is likely to be either good news or neutral news. In addition, it is difficult to judge whether such ambiguous disclosure is really good news, which may lead the management's rhetorical statements to become incredible (Kothari et al., 2009). However, it has been argued that the bias against positive information may hinder the directors from revealing understandable warning signs (Deumes, 2008). Good news is essential for risk disclosures, even if it seems to distract attention from more serious issues and its credibility is difficult to verify. Consequently, in this study the coding of good news was not skipped but was instead merged with neutral news to increase the reliability of the measures of disclosure.

Table 6.4 was prepared by adapting the procedure used by Gray et al. (1995), merging good news with neutral news, as described in Chapter 5.

Table 6.4 *Disclosure direction definitions*

Direction	Definition
Neutral	From a statement of policy or intent within statutory minimum, with no detail of what or how. A statement of fact whose credit/discredit to the company is not obvious, which is unaccompanied by editorialising to statements beyond the minimum; including (for example) specific details where these detail have a creditable or neutral reflection on the company, upbeat analysis/ discussion/ statement.
Bad	Any statement which reflects, or which might reflect, discredit on the company. For example, numbers made redundant (if redundancy is spoken of as a human rather than an economic act) and any increase in accidents or reports on adverse performance against targets and/or tolerance.

To analyse and classify risk disclosures within the annual report, the definition of direction mentioned above was coded and all risk statements were counted for the amount of sentences over the period of 1995 to 2010. It should be noted that measuring the volume of risk disclosures by this method is more reliable than a word count because this method is deemed to be more suitable as a coding method whereas the use of a word count does not convey any meaning. The results of this study indicate that the majority of the reports were neutral news. Consequently, the proportion of bad news disclosed that was an inverse relationship of this method had a minority of risk reporting. The following figure provides the findings of trend for proportion of bad news disclosed.

Figure 6.10 *The percentage of bad news sentences as a proportion of total number of sentences disclosed, in all risk categories, in all companies, by year*
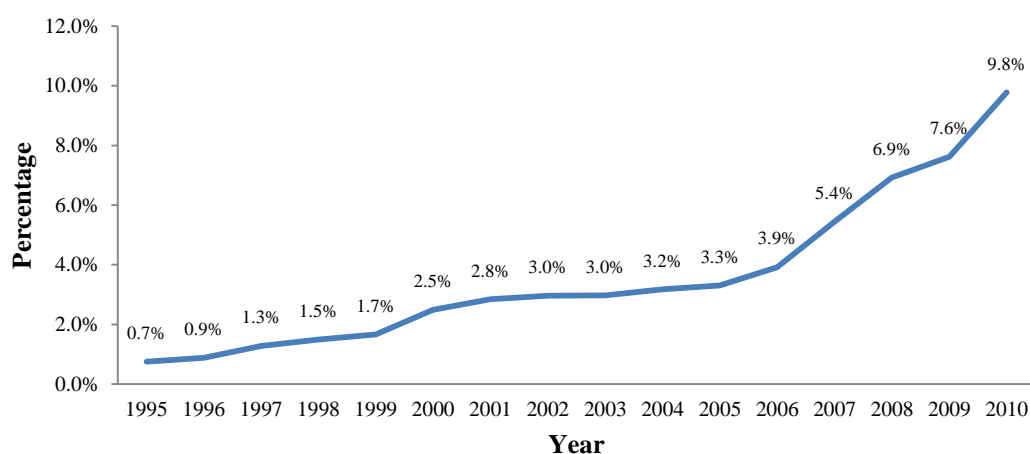
It was found that the proportion of sentences containing bad news (divided by all sentences) increased smoothly over time, although bad news was a lower proportion

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(i.e. from 0.7% in 1995 to a high of 9.8% in 2010) when compared to the proportion of neutral news.

6.2.4 The quality of risk disclosures

While a variety of approaches for analysing risk disclosures have been suggested, this study classified risk disclosures in annual reports using two different approaches. The first approach used qualitative disclosures containing purely narrative statements while the second approach used quantitative disclosures containing both narrative and numerical information. Consequently, two benchmark tools were used in this study to evaluate the quality of risk disclosure with two indices. The first index was used for evaluating the quality of qualitative disclosures against three levels. The second index was generated to evaluate the quality of quantitative disclosure against two levels. As both indices were developed, each risk category (by year) of the annual report of each individual company was analysed as a theme for two rounds. Firstly, the narrative was evaluated on the basis of the defined qualitative level that is given in table 6.5. Three different levels of qualitative disclosure were used as coding categories (i.e. QL1, QL2, and QL 3), although a fourth field (i.e. zero, for non-disclosure of that category) was also present. Secondly, the numerical disclosure of each risk category was evaluated on the basis of the defined quantitative level that is given in table 6.6. Two different levels of quantitative disclosure were used as coding categories (i.e. QN1 and QN2), although a third field (i.e. zero, for non-disclosure of that category or no numerical disclosure) was also present. The following findings will explain the companies' disclosures in their annual reports, distinguished by the quality levels against content analysis benchmark studies.

a) The quality of qualitative disclosure

There are several different factors that influence the reliability of risk disclosure measurements. The quality of disclosure is one of the indicators that are used to measure how well companies disclose in their annual reports. In particular, qualitative characteristics of information (i.e. understandability and relevance) are factors in the IASB framework that can provide sufficient information about risk. Consequently, the

importance of sufficient information and offering management, or mitigation, of risk were considered in order to classify the distinct level of quality in this study.

Based on the categories of risks that were identified in Chapter 5, the content analysis was used to identify the level of information that the companies intended to provide to the investors and other stakeholders through the annual report. This was done by translating the issues disclosed into code.

Table 6.5 summarises the definitions of the different quality levels of qualitative disclosures which were presented in Chapter 5.

Table 6.5 *The definitions of quality levels of qualitative disclosure (based on the study of Beck et al., 2010)*

Qualitative Disclosure Level	Definition
QL 1	Disclosing with mention only, or mention with minimal discussion.
QL 2	Disclosing with contextualised explanations of risk and exposure.
QL 3	Disclosing with contextualised explanations of risk and exposure, including description of management or mitigation of that risk.

The frequency of qualitative disclosure level was counted for all risk categories and all companies to identify the quality level in all risk categories and in all companies. The analysis of the improvement over a period of 16 years (i.e. 1995 to 2010) was investigated and the results are given in figure 6.11.

Figure 6.11 *Frequency counts of qualitative disclosure level, in all risk categories, in all companies, by year*
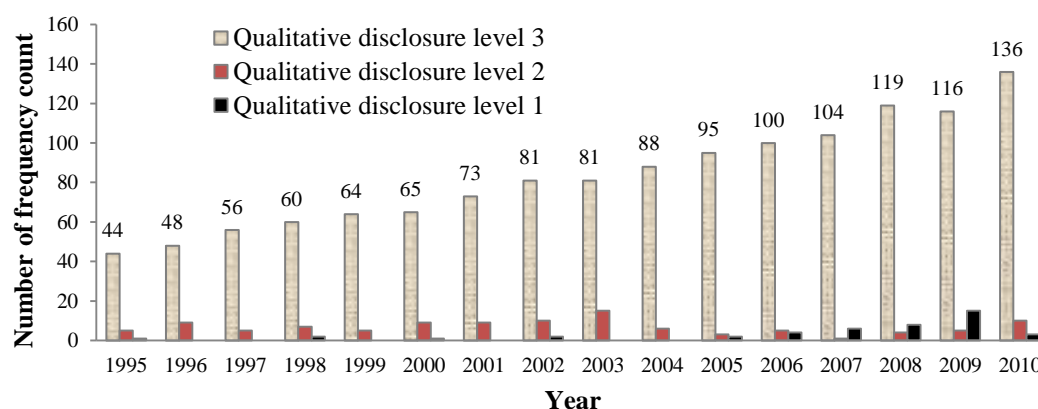
It is apparent from figure 6.11 that the total frequencies of risk disclosures of all companies were mainly disclosed on level 3, which is described in table 6.5 as disclosure including a description of the management or mitigation of that risk. In addition, the total frequencies of risk categories with high information in all companies (at level 3) continued an upward trend over time, from 44 times in 1995 to 136 times in 2010. However, this upward trend in the number of increased risk categories (as shown in figure 6.1, Section 6.1) shows that when a risk category increased it also had a chance to count more frequency of qualitative disclosure level. To examine the upward trend of qualitative disclosure at level 3, the number of risk categories disclosed at level 3 was divided by the total number of risk disclosures as a proportion of qualitative disclosure level 3. The following figure shows the results when controlled for the factor of increased risk category by expressing data as proportions.

Figure 6.12 *The frequency of qualitative disclosure level 3 (in all categories and in all companies) as a proportion of total risk categories*
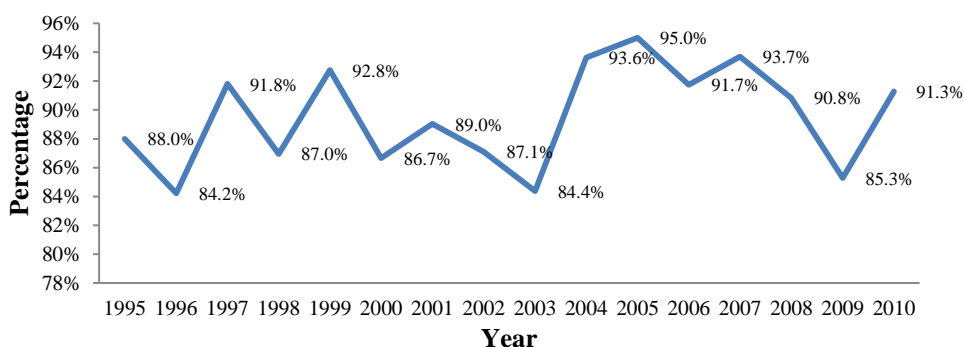
Figure 6.12 shows that most risk categories were disclosed with high information content at level 3, varying between 84.2% of total categories and 95%. This suggests that the quality of qualitative disclosures at level 3 did not increase, as can be seen in the upward trend in figure 6.11, because the frequencies of risk categories with high information did not show an upward trend when the frequencies of qualitative disclosure level 3 (in all risk categories and in all companies) were made as a proportion of total risk categories. However, the quality of the qualitative disclosures contained the contextualised explanations of risk and exposure, including a description of management or mitigation of that risk.

b) *The quality of quantitative disclosure*

The contents of risk disclosures in an annual report are mainly to be found in the narrative statements at the 'front end' of the document. However, the numerical statement influences the quality of disclosures because numerical information can convey a specific meaning to readers and it is also likely to be evidence of a responsive management who wish to communicate with investors.

To distinguish clearly between qualitative and quantitative disclosures, the annual reports were analysed separately between narrative and numeric disclosures because this study found that the quality of qualitative disclosures were independent from quantitative disclosures. This means that some risk categories may disclose high levels of narrative statement with low levels of quantitative disclosure.

Table 6.6 summarises the definitions of quality levels of quantitative disclosures which were presented in Chapter 5:

Table 6.6 *The definitions of quality levels of quantitative disclosure (based on the study of Beck et al., 2010)*

Quantitative Disclosure Level	Definition
QN 1	Disclosure of issues related to the category in a numerical way.
QN 2	Numerical disclosure to the category against comparison.

Based on frequency analysis, the risk categories of all companies were counted as part of the quantitative disclosure, as shown in the above table. The quantitative disclosure level was coded as level 1 or level 2, and it was accumulated to the total number of quantitative disclosures.

Evaluation of the content of quantitative disclosures for all companies in these findings employed 2 levels of quality (as shown in table 6.6). The frequencies of levels were then counted to identify the pattern disclosed. The analysis of numerical data, coded as level 1 and level 2, showed significant different frequencies in both levels, as can be seen in figure 6.13.

Figure 6.13 The frequencies of quantitative disclosure levels in all risk categories, in all companies, by year
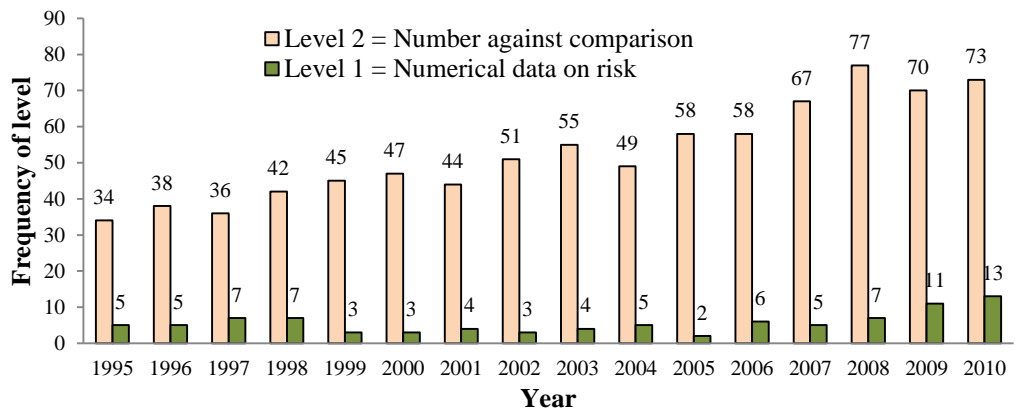
The above figure indicates the significant difference between level 1 and 2 between 1995 and 2010. Where risk categories were made quantitatively, a large majority (five times to twenty-nine times more than level 1) were at level 2, meaning that most disclosures contained comparison data providing higher and more meaningful information content than just a single number. Moreover, it seems that quantitative disclosures of level 2 showed a slight increase over time. This increase was related to the increasing number of risk categories disclosed.

To examine the upward trend of quantitative disclosure as shown in figure 6.13, the proportion of quantitative disclosures was calculated by using total number of quantitative disclosures level 1 and 2 divided by total number of risk categories. Figure 6.14 provides the proportion of frequencies containing both levels of quantitative disclosure (divided by total number of risk categories) between 1995 and 2010 by all companies.

Figure 6.14 The frequency of quantitative disclosure as a proportion of total risk categories by year (in all categories and in all companies)

168
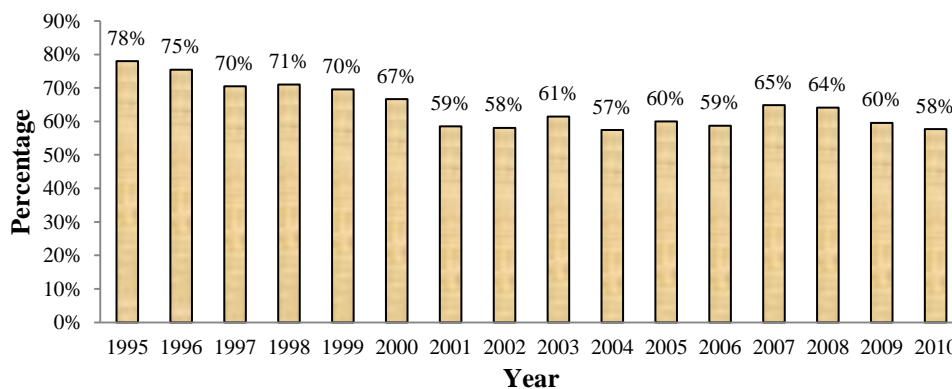
While the number of risk categories increased over time (see figure 6.1), figure 6.14 shows that the proportions that were disclosed quantitatively fell against the total number of categories disclosed, particularly between 1995 and 2002, after which they slightly fluctuated between 57% and 65%.

It was also notable that this downward longitudinal trend of quantitative disclosures was the same shape as the percentage of factual disclosures as a proportion of total sentences (in all companies) as shown in figure 6.9. Figure 6.15 below illustrates the correlation between factual disclosures and quantitative disclosures:

Figure 6.15 *The correlation between factual disclosures and quantitative disclosures (in all categories, in all companies, by year) (r = 0.632, n = 16, p = 0.009)*
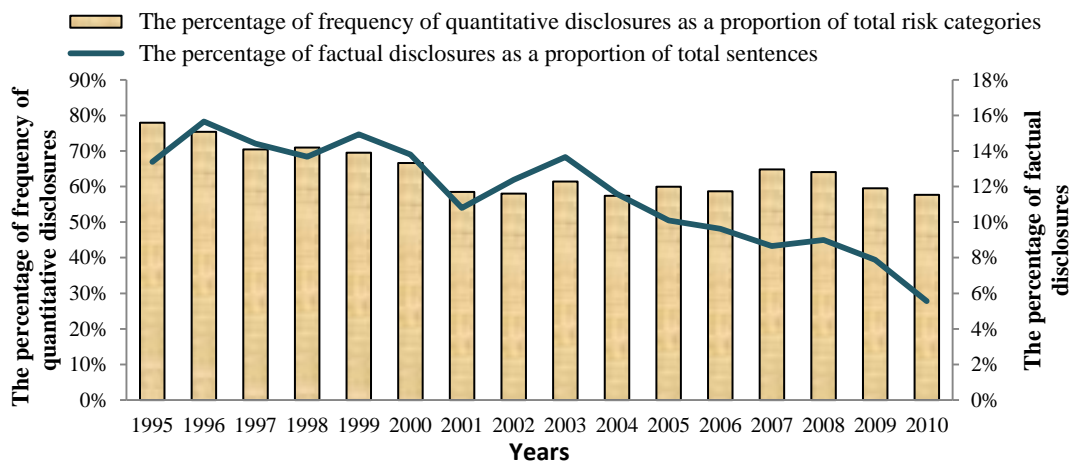
It was evident that the factual disclosures are positively correlated with quantitative disclosures, Spearman's rho (r) was 0.632, and the value of significance (Sig. 2-tailed or p) was less than 0.01. Between 1995 and 2004 the rates of decrease in the proportion of both disclosures were comparable, although in the subsequent years a rate of decrease in the percentage of factual disclosures gradually grew more than the decreased rate of the percentage of frequency of quantitative disclosures.

The rationality for this finding was to be able to explain that almost all of the numerical information was proven or verifiable information, which can be explained by the sentences mainly containing statements of fact. In addition, Beattie and Thomson (2007) also found that quantified disclosures tended to be factual information in their study of the intellectual capital disclosures of Next plc in its annual report for the year 2004.

6.3 The Intensity of Societal Discussion

Despite steadily declining sales, the newspaper still plays a vital role in many public discussions. The newspaper has become one of the main sources of information to report news, containing current events, informative articles, diverse features and advertising. In the business world, newspapers as well as annual reports are used by many firms to convey their economic and commercial information to investors and other stakeholders, both domestically and internationally. Accordingly, this study investigated the correlation between volumes of longitudinal banking sector risk disclosures against the intensity of societal discussion as proxied by the frequency and risk category of specific mentions in a range of British newspapers by year.

This study used the online search tool that is provided by Newcastle University database archives to search and to count news mentions related to thirty-five risk categories using specific words. However, by using a keyword search of thirty-five risk categories it is probably difficult to capture all of the newspaper hits in the database archive because one keyword may have more than one meaning. Moreover, some of the words that are used to refer to risk categories in annual reports may differ from those used in newspapers. Consequently, some risk categories that have near meanings were expanded in order to retrieve all of the related newspaper hits, as shown in Table 6.7.

Table 6.7 *The group of keywords that were used in LexisNexis*

Risk Categories	Group of Keywords
Liquidity and funding risk	Liquidity risk, funding risk
Cross-border risk	Country risk, cross-border risk
Currency risk	Currency risk, foreign exchange rate risk
Risk related to derivatives	Risk related to derivatives, risk of derivatives, derivative risk
Hedged risk	Hedging risk, hedged risk
Operational risk	Operation risk, operational risk
Legal and Regulation risk	Legal risk, regulation risk, regulatory risk, compliance risk
Capital management risk	Capital management risk, capital risk
Insurance and Investment risk	Insurance and investment risk, insurance risk, investment risk
Strategic and Business risk	Strategic and business risk, strategic risk, strategy risk, business risk
Reputation risk	Reputation risk, reputational risk
Risk related to fair value	Risk related to fair value, fair value risk, risk of fair value

Risk Categories	Group of Keywords
Financial crime risk	Fraud risk, financial crime risk
Safety and security risk	Safety and security risk, safety risk, security risk
Leasing risk	Leasing risk, residual value risk, risk of lease
Sustainability risk	Sustainability risk, environment risk, environmental risk
Customer treatment	Customer risk
People risk	People risk, staff risk
Risk related to impairment	Risk related to impairment, impairment risk

LexisNexis (the online searchable tool), was employed via Newcastle University database archives to search and to count news hits in fourteen newspapers:

1) Daily Mail and Mail on Sunday;

2) Daily Record and Sunday Mail;

3) The Evening Standard (London);

4) The Guardian (London);

5) The Herald (Glasgow);

6) The Independent (London);

7) The Mirror and The Sunday Mirror;

8) The Northern Echo;

9) The Observer;

10) The People;

11) The Scotsman and Scotland on Sunday;

12) The Sunday Times (London);

13) The Times (London); and,

14) Times Higher Education Supplement.

Three main results were retrieved from a LexisNexis search of news stories about risks in these fourteen newspapers, which are:

1) Newspaper citations of all sectors and all countries;

2) Newspaper citations of the banking and finance sector in all countries; and,

3) Newspaper citations of the banking and finance sector in the UK.

Table 6.8 and figure 6.16 show the details of these three sets of results that were retrieved from LexisNexis, arranged by year.

Table 6.8 *The number of newspaper hits accumulated from searching 35 risk categories as given keywords in LexisNexis, by year*

Year	Number of Newspaper Hits Retrieved from Three Sources		
	All Sectors and All Countries	Banking and Finance Sector of all Countries	Banking and Finance Sector in the UK
1995	1,635	864	500
1996	1,447	502	341
1997	1,587	559	394
1998	2,230	1,123	746
1999	1,886	966	662
2000	1,922	942	673
2001	2,284	1,038	694
2002	2,381	1,136	713
2003	2,388	981	661
2004	2,261	986	638
2005	2,122	966	651
2006	2,269	998	667
2007	2,678	1,379	899
2008	2,878	1,615	1,027
2009	2,879	1,758	1,293
2010	2,604	1,310	966

Figure 6.16 *The number of newspaper hits accumulated from searching thirty-five risk categories for given keywords in LexisNexis, by different sources and by year*
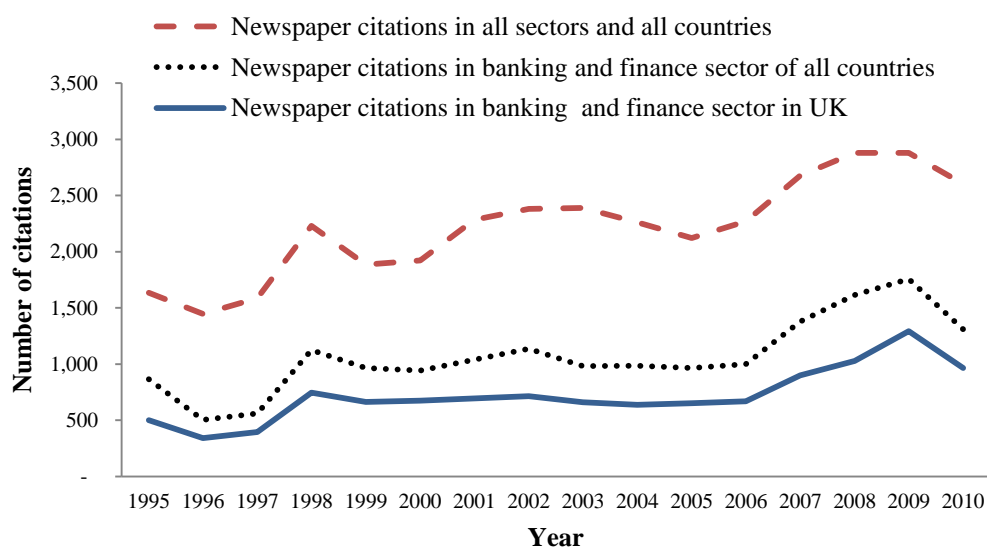
Figure 6.16 shows that, although the patterns of newspaper citations from all three sources of retrieving risk news were comparable, the pattern of risk news in all sectors

and countries (as shown in the top line of figure 6.16) is the most frequently cited in these fourteen newspapers. This happened because the search involved a wide variety of sectors and countries and, therefore, it had more chance to report risk news. In the period of financial crisis between 2007 and 2009 there was a significant increase in the number of newspaper citations in all three sources, and this then declined in 2010.

The correlation between the total number of newspaper citations from three sources of retrieving risk news and numbers of sentences disclosed (by all risk categories) was investigated to examine which sources of retrieving risk news are the most obvious area of concern or the best correlation. Table 6.9 shows the findings of this relationship:

Table 6.9 *The outcome of correlation between three different sources of newspaper citations and number of sentences disclosed, by all risk categories*

Sources of Newspaper Hits	Pearson Correlation Coefficients	Sig. (p)
All sectors and all countries	0.841	0.000
Banking and finance sector of all countries	0.821	0.000
Banking and finance sector in UK	0.850	0.000

Table 6.9 shows that the correlation was significant when the value of significance (p hereafter) was less than 0.01; therefore, the volume of risk news citations from all three sources was positively associated with the quantity of risk disclosures. Moreover, the volume of newspaper citations from the banking and finance sector in UK is found to be the best correlation (i.e. 85%). This may reflect that risk reporting in the UK banking sector is a more concerning issue than reporting in the other sectors and other countries. Consequently, this study employs the risk news cited in UK banking and finance sector to examine the other correlations.

Focusing on risk reporting in UK banking sector, correlation between the volume of newspaper citations and risk disclosures of all sampling companies was examined. To explore these relationships, a Pearson correlation was employed for this calculation. However, when the parametric assumptions were tested to find the normality of distribution, it appeared that many of the data sets were non-parametric data. Consequently, a Spearman option for non-parametric correlation was selected to test in this study. Table 6.10 shows the outcomes of various findings of correlation.

Table 6.10 *Correlations between the number of risk issues cited in newspapers and various variables of disclosures (in all companies)*

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Significance
Information richness (by proportion)			
Bad news disclosed	0.700	0.003	0.01
Neutral news disclosed	-0.700	0.003	0.01
Forward looking disclosure	0.068	0.803	No association
Present disclosure	0.179	0.506	No association
Past disclosure	-0.191	0.478	No association
Fact	-0.688	0.003	0.01
Perception	0.688	0.003	0.01
Quantitative disclosure (all levels)	-0.374	0.154	No association
Qualitative disclosure at level 3	-0.068	0.803	No association
Risk categories (by number of sentences)			
Total risk categories	0.706	0.002	0.01
Risk management	0.717	0.002	0.01
Liquidity and funding risk	0.671	0.004	0.01
Credit risk	0.700	0.003	0.01
Market risk	0.697	0.003	0.01
Economic risk	0.697	0.003	0.01
Operational risk	0.728	0.001	0.01
Legal and regulation risk	0.776	0.000	0.01
Insurance and investment risk	0.638	0.008	0.01
Tax risk	0.674	0.004	0.01
Sustainability risk	0.745	0.001	0.01
Equity risk	0.705	0.002	0.01
Cross-border risk	0.606	0.013	0.05
Currency risk	0.620	0.010	0.05
Strategic and business risk	0.557	0.025	0.05
Reputation risk	0.510	0.043	0.05
Pension risk	0.575	0.020	0.05
Risk related to fair value	0.597	0.015	0.05
Financial crime risk	0.611	0.012	0.05
Competition risk	0.517	0.040	0.05
Financial report risk	0.527	0.036	0.05
Safety and security risk	0.516	0.041	0.05
People risk	0.603	0.013	0.05
Political risk	0.611	0.012	0.05
Risk related to impairment	0.569	0.021	0.05
Special purpose entities	0.581	0.018	0.05
Technology risk	0.527	0.036	0.05
Interest rest risk	0.465	0.069	No association
Risk related to derivatives	-0.300	0.259	No association

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Significance
Hedged risk	0.483	0.058	No association
Capital management risk	0.459	0.074	No association
Leasing risk	0.411	0.114	No association
Customer treatment	0.383	0.143	No association
Industries risk	-0.106	0.695	No association
Change risk	0.065	0.810	No association
Governance risk	-0.018	0.947	No association

As shown in table 6.10, correlation between the number of risk issues cited in newspapers concerning the UK banking and finance sector can be reported in two sections, which are information richness and risk categories.

6.3.1 Correlation between intensity of societal discussion and information richness disclosed (in all companies)

For many people news reports are important sources of information about society and politics (Ohkura, 2003; Boykoff, 2008) and many researchers accept that news media have an influence on public perception when events and concepts are reported (Barkemeyer et al., 2010; Zyglidopoulos et al., 2012; Pasquaré and Oppizzi, 2012; An et al., 2011; Joshi et al., 2011). Furthermore, there are a number of different views of the role of the media. For example, while Norris (2001) proposed that the media serves three key functions (i.e. a civic forum, a mobilising agent for change or action, and as a watchdog overseeing behaviour), Yoo (2011) identified four factors influencing behaviour and attitude towards online newspapers (i.e. information-seeking, pastime, entertainment, and socialisation).

It is commonly believed that an analysis of media coverage of a particular issue can influence not only the level of awareness of particular issues but also the prominence of their coverage (Barkemeyer et al., 2010; Zyglidopoulos et al., 2012). For this study, the correlations between the intensity of societal discussion and information richness disclosed (in all companies) were examined to analyse the public concern for information richness of risk reporting in the banking sector.

Table 6.10 illustrates the information richness. It was found that there was a high association between disclosure direction and newspaper citations. In particular, the disclosures of bad news were found to be positively associated with newspaper citations, with a Spearman correlation (r hereafter) of 0.700. Meanwhile, the disclosures of neutral news were negatively associated with newspaper citations. The following figure shows the correlation between proportion of bad news disclosed and the number of risk citations.

Figure 6.17 *The correlation between the disclosure of bad news as proportion of all sentences and the number of newspaper citations (in all companies) (r = 0.70, n = 16, p <0.01)*
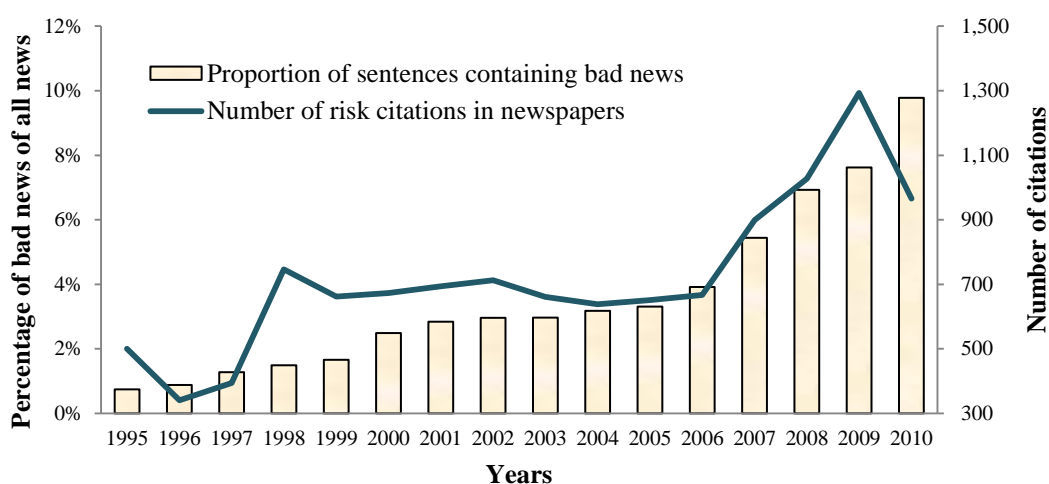
It can be seen from figure 6.17 that this correlation has been very close since 2003. This may be due to the outbreak of the Enron scandal, which began in late 2001 and continued until 2002. This may have led to an increased public awareness of banking risks. Moreover, the financial crisis that emerged following the negative signal of an economic slowdown in 2006 (which became a crisis between 2007 and 2009) was an influential factor. In this figure, this crisis shows as a strong association during this period of time. Therefore, it can be said that a bank's disclosure tended to respond to an intensification of societal concern about bad news, particularly during stressful events.

Moreover, when considering the disclosures of fact and perception; there was also a significant association between the proportion of perceptions disclosed and the number of newspaper citations (i.e. 68.8%) (see table 6.10). Figure 6.18 demonstrates this relationship.

Figure 6.18 *The correlation between the disclosure of perception as a proportion of all sentences and the number of newspaper citations (in all companies) (r = 0.688, n = 16, p < 0.01)*
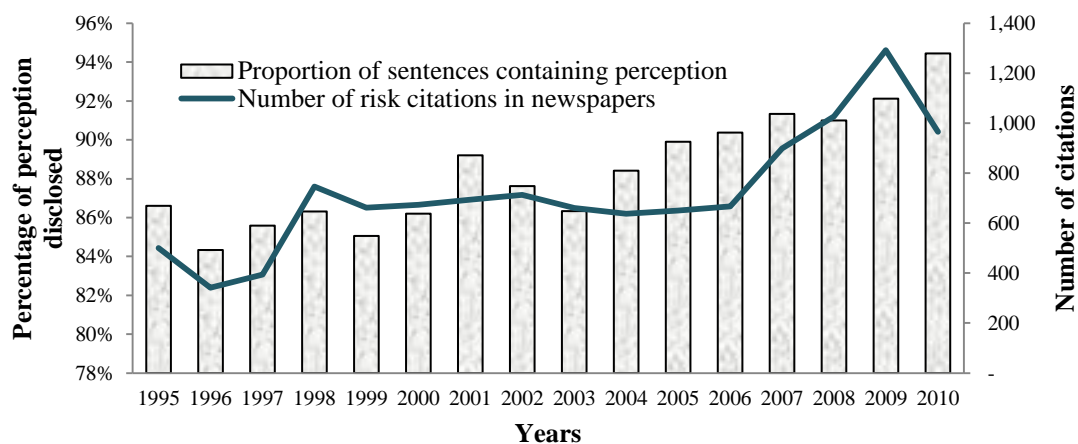
Figure 6.18 provides evidence of a positive correlation between the proportion of perceptions disclosed and the number of newspaper citations (r = 0.688, p = 0.003). In contrast to this relationship, the proportion of fact disclosures was found to be negatively associated with the number of newspaper citations (r = - 0.688, p = 0.003). These results suggest that the sample banks' disclosure responded to societal discussion with information containing opinion and perception rather than fact or verified information.

For the other interrogations of risk disclosures, it is apparent from table 6.10 that there was no apparent association between the time orientation of disclosures (i.e. future, present, and past) and the number of newspaper citations. Further findings also showed that the quality of disclosure (either quantitative or qualitative disclosures) was not associated with the number of newspaper citations.

6.3.2 The correlation between intensity of societal discussion and individual risk categories (in all companies)

The notion that press media reporting has an influence on attitudes and risk perception is contested (Vilella-Vila and Costa-Font, 2008). These relationships also articulate public opinion and become more intense as concerns about risk rises in society, this includes the relevance of risk disclosure by companies. Some researchers have found that media attention influences a firm's behaviour (Koning et al., 2010; Zyglidopoulos

et al., 2012). In addition, Carvalho and Burgess (2005) found that media coverage has a significant impact on risk reporting. This section aims to examine the correlations between the intensity of societal discussion and individual risk categories (in all companies).

Table 6.10 shows the results obtained from an analysis of the variables of risk categories. A total of twenty-seven risk categories out of a total of thirty-five were found to have variables of total risk categories that have a positive correlation with the number of newspaper citations. It was also apparent that the intensity of societal discussion about banking risks may have had an influence on the patterns of bank risk disclosures. The results were categorised into three main groups of correlation, which are: high correlation (r is between ± 0.63 and ±1.00, $p < 0.01$), moderate correlation (r is between ± 0.50 and ± 0.62, $p < 0.05$), and no correlation (r is less than ± 0.50).

a) *High correlation*

Table 6.11 below shows the twelve high correlations between intensity of risk issues cited in newspapers and individual risk categories disclosed (in all companies). The detailed figures of twelve high correlations can be seen in Appendix C.

Table 6.11 *High correlations between the number of risk issues cited in newspapers and individual risk categories disclosed (in all companies)*

Variable	Spearman Correlation (r)	Significance 2-tailed (p)	Level of Significance
Risk categories (by number of sentences)			
1. Total risk categories	0.706	0.002	0.01
2. Risk management	0.717	0.002	0.01
3. Liquidity and funding risk	0.671	0.004	0.01
4. Credit risk	0.700	0.003	0.01
5. Market risk	0.697	0.003	0.01
6. Insurance and investment risk	0.638	0.008	0.01
7. Operational risk	0.728	0.001	0.01
8. Legal and regulation risk	0.776	0.000	0.01
9. Equity risk	0.705	0.002	0.01
10. Tax risk	0.674	0.004	0.01
11. Economic risk	0.697	0.003	0.01
12. Sustainability risk	0.745	0.001	0.01

As shown table 6.11, the findings can be divided into three main groups of risk categories, which are:

1) Key strategic banking risks;

2) Operational banking risks; and,

3) High correlation in some periods of time.

Firstly, there were significant positive correlations between the number of newspaper citations of risk categories and the number of sentences of seven variables:

1) Total risk categories;

2) Risk management;

3) Liquidity and funding risk;

4) Credit risk;

5) Market risk;

6) Insurance and investment risk; and,

7) Equity risk.

It should be noted that these risk categories were the key strategic risks of banks, which can offer two perspectives of the findings in this study, that is: either a British citizen or a banking supervisor. Firstly, in terms of the British citizen's perspective, disclosures of the key strategic risks of banks are central issues of societal discussion when considering the finding that the disclosures of these seven risk categories had a significant positive correlation with the number of newspaper citations. Secondly, in terms of the banking supervisor's perspective, banking supervisors responded increasingly to the key strategic banking risks when considering the findings that these seven risk categories were disclosed with longitudinal volumetric increases (see Section 6.1.1 and Section 6.1.2). Consequently, it should be considered from these findings of this present study that these risk categories were the key strategic risks of banks that both banking supervisors and British citizens responded to strongly.

Secondly, risk disclosures in the group of operational banking risks were found to have a significant correlation with the number of newspaper citations, particularly in operational risk, legal and regulation risk as well as tax risk. Interestingly, given the findings that the disclosures of the key strategic risk of banks in financial risk were central issues of societal discussion, in terms of operational risk it was legal and regulation risk and tax risk that were the main issues that the British public were concerned about.

Thirdly, there were two risk categories (i.e. economic risk and sustainability risk) which were found during the longitudinal analysis to have a clear correlation in some periods of time while the other periods had vague figures of correlation (see figure 6.19 and figure 6.20). Figure 6.19 shows the high correlation between the intensity of risk issues cited in newspapers and economic risk in some periods of time.

Figure 6.19 *The correlation between the number of sentences of economic risk and the number of newspaper citations (in all companies) (r = 0.697, p < 0.01)*
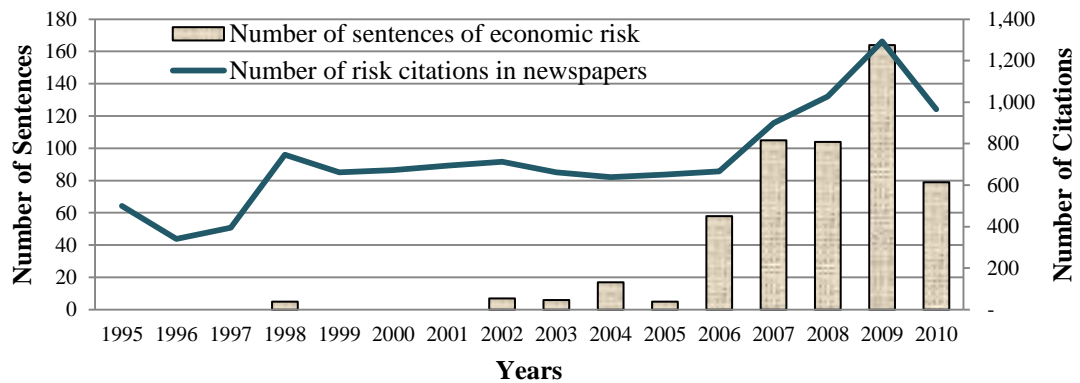
As can be seen from figure 6.19, the results obtained from the preliminary analysis of correlation showed that the disclosure of economic risk is positively associated with the number of newspaper citations. There was an even more remarkable correlation between 2006 and 2010, which may be explained because the banks' disclosures of economic risk involving societal concerns have risen since the start of the current financial crisis in 2006. Another risk category that also has a clear correlation in the same period of time is shown in figure 6.20.

Figure 6.20 *The correlation between the number of sentences of sustainability risk, and the number of newspaper citations (in all companies) (r = 0.745, p < 0.01)*
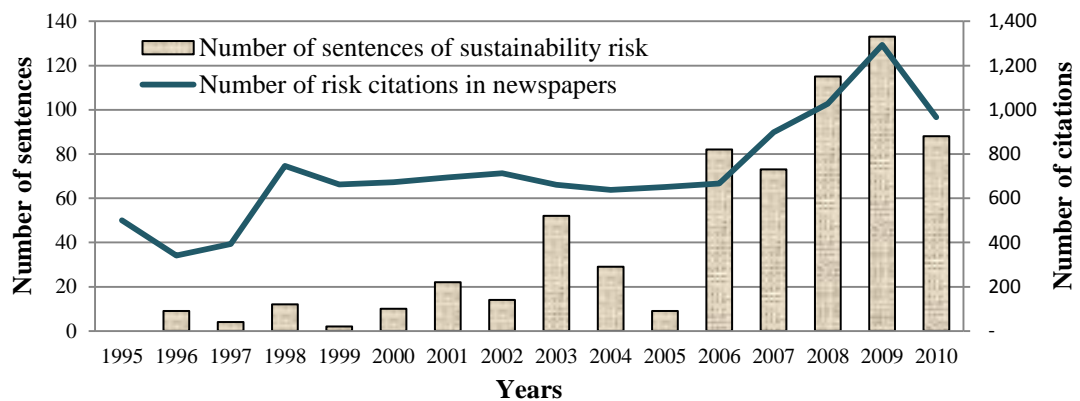
Figure 6.20 shows the clear correlation between the disclosures of sustainability risk and newspaper citations since 2006. As described in Section 6.1.2, there was a switch point in 2006. Following which the remarkable increase in disclosure of sustainability risk has reflected the policy and actions of companies to respond the needs of sustainable development. Most companies over this period have organised their response to environmental concern, including risk disclosures of environmental awareness. Sustainability risk involves social and community issues, the environment, and responsible global citizenship, which are all likely to affect the corporate image. Therefore, this finding suggested that companies have responded to societal concerns as they became critical issues.

b) Moderate correlation

As shown in table 6.10, there are fifteen variables that have a moderately positive association with the number of risk citations in newspapers (i.e. Spearman correlation during 0.510 – 0.620, Sig. 2 tailed less than 0.05), which are:

1) Cross-border risk;
2) Currency risk;
3) Risk related to fair value;
4) Risk related to impairment;
5) Strategic and business risk;
6) Reputation risk;
7) Pension risk;
8) Financial crime risk;
9) Competition risk;
10) Financial report risk;
11) Safety and security risk;
12) People risk;
13) Political risk;
14) Special purpose entities; and,
15) Technology risk.

Four out of these fifteen risk categories can be grouped as key strategic banking risks (e.g. market risk, credit risk), which are: cross-border risk; currency risk; risk related to fair value; and, risk related to impairment. This finding is likely to explain how societal

debates have focused on the disclosure of key strategic banking risks that have affected the public dramatically when banks are faced with the adverse effects of crises (see also the description of key strategic banking risks in high correlations). The other ten risk categories show moderate correlations. These risk categories are related to the operational banking risks group, which is also a public concern; even if their concerns were less than those for operational risk, legal and regulation, and tax risk (as found in the high correlations).

c) *No association*

As shown in table 6.10, there are nine variables that have no association with the number of risk citations in newspapers, which are:

1) Interest rate risk;
2) Risk related to derivatives;
3) Hedged risk;
4) Capital management risk;
5) Leasing risk;
6) Customer treatment;
7) Industries risk;
8) Change risk; and,
9) Governance risk.

A further review of these variables shows that interest rate risk, risk related to derivatives, hedged risk; and leasing risk are related to financial products which are of public concern; especially when the details of these products, rather than the risk related these products, reflects the complexity and difficulty of predicting the profitability of an investment. When considering the aspect of banking disclosure, however, in this period disclosures of financial instruments were required by IFRS 7, which means that the banks were required to disclose information with rich content that enables users to evaluate the significance of financial instruments, the nature and extent of risks arising from them, and how entities manage those risks. Therefore, when a search for these variables (i.e. derivative risk, leasing risk, hedged risk) was conducted in database the results showed a low quantity of newspaper citations, while a search by product name (i.e. derivatives, leasing, and hedged) showed a high volume of newspaper citations.

In the cases of capital management risk and governance risk, although both variables were key categories in the banking sector, retrieving an outcome from database showed that there was only a low volume of newspaper citations. This happened because these risk categories were perceived as aspects of risk management, capital management and corporate governance rather than the extent of risk. Similarly, industry risk, customer treatment, and the change of risk in the banking sector were not frequently reported in newspapers. Consequently, there was no association found between disclosures of these risk categories and the number of newspaper citations.

6.4 Summary

This chapter has presented a number of findings in three major areas. Firstly, analysis of the longitudinal risk category of membership (in all years and in all companies) was presented to reflect the longitudinal patterns and trends. Secondly, the findings were analysed to show how companies disclosed risk issues that were information rich. This was done by classifying them into four interrogations, which are: the time orientation of disclosure (i.e. future, present, past information); the disclosure of factuality and perception; the disclosure news direction (i.e. neutral news or bad news); and, the quality of disclosure. Thirdly, the last section has described the results of an investigation of the correlation between volumes of longitudinal banking sector risk disclosures and the intensity of societal discussion (as proxied by frequency and by year) of relevant newspaper citations (by risk category). The next chapter will present the findings and analysis by focusing on the intrasectoral longitudinal findings by comparing the six companies (i.e. RBS, NatWest, Lloyds TSB, HBOS, Barclays, and HSBC).

Chapter 7. Findings and Intrasectoral Analysis

Chapter 6 has described the findings for all six companies (i.e. RBS, NatWest, Lloyds TSB, HBOS, Barclays, and HSBC). Meanwhile, the details of the findings and analysis of individual companies are provided in Appendix D[1]. This chapter aims to analyse the intrasectoral longitudinal findings by comparing the six companies for three aspects, which are: volumetric analysis of risk categories, information richness, and the association between risk disclosures and the intensity of societal discussion. This chapter will also compare the findings of this research and those of prior research.

7.1 A Comparison of Volumetric Analysis and Risk Categories

The rankings of the risk categories that were disclosed risk showed that credit risk was the most disclosed risk in all of the companies (see Appendix D). This indicates that credit risk was the most concerned risk in all companies.

Analysing the longitudinal data by the number of risk categories disclosed shows that the number of risk categories disclosed by all companies increased gradually over the period between 1995 and 2010. To investigate risk categories in terms of quantity of disclosure, a volumetric analysis was developed on the basis of counting the number of sentences disclosed over time. The findings showed that there was an upward trend in the quantity of risk disclosures from total risk categories in all companies. However, although the number of risk disclosures showed an upward trend, this was likely to conceal some risk categories disclosed with switching increase in volume, as well as some risk categories disclosed with fluctuations in volume. Therefore, the following comparison of findings and analysis has been divided into three main patterns of disclosure, which are:

    1) A smooth increase in volume;

    2) Change in volume with switch point; and,

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[1] Appendix D gives the findings of the longitudinal data of each of the individual companies (i.e. RBS, NatWest, Lloyds TSB, HBOS, Barclays, and HSBC), which were analysed to examine trends and patterns of risk disclosures (by volume, by risk categories, and by information richness). Additionally, statistical tests were used to analyse the correlation between volumes of longitudinal risk disclosures against the intensity of societal discussion (as proxied by the frequency and by the year) of relevant newspaper citations (by risk category).

3) Volume fluctuation.

These three main patterns will be described in detail in the subsections which follow.

7.1.1 A smooth increase in volume, comparing six companies

Table 7.1 presents the risk categories that the companies disclosed with a smooth increase in volume over the sixteen year period between 1995 and 2010.

Table 7.1 *Risk categories with smooth increase in volume of disclosure by company*

Company	Risk category with a smooth increase in volume
RBS	Liquidity and funding risk
NatWest	None
Lloyds TSB	Market risk
	Insurance and investment risk
HBOS	Market risk
Barclays	Risk management
	Liquidity and funding risk
	Market risk
HSBC	Credit risk
	Market risk
	Capital management

It can be seen from table 7.1 that all of the risk categories with a smooth increase in volume were the same key strategic banking risks that the companies gave increasing attention to over time. In particular, market risk was the most frequently disclosed risk with this pattern; four out of six companies revealed this risk (i.e. Lloyds TSB, HBOS, Barclays, and HSBC) while liquidity and funding risk was disclosed with this pattern by two companies (i.e. RBS and Barclays). In the other risk categories, different companies disclosed this pattern with different risk categories. However, only NatWest had no pattern of smooth increase in the volume of disclosure.

7.1.2 Change in volume with switch point, comparing six companies

There were many risk categories that had a volumetric increase with clear switch points in different years. The switching point tends to be a signal to reflect the likely impact on companies that are faced with unprecedented problems. Table 7.2 shows the risk

categories that contain a significant increase in volume of disclosure, as categorised by switching year and by company.

Table 7.2 *Risk categories containing significant increase in volume of disclosure, as categorised by switching year and by company*

RBS	NatWest	Lloyds TSB	HBOS	Barclays	HSBC
					2001 • operational risk
		2003 • liquidity and funding risk			
			2004 • insurance and investment risk	**2004** • operational risk	
2005 • risk related to impairment • insurance and investment risk	**2005** • hedged risk			**2005** • tax risk • risk related to impairment	**2005** • hedged risk • risk related to impairment • insurance and investment risk
2006 • market risk					**2006** • pension risk • sustainability risk
	2007 • risk related to impairment	**2007** • risk management	**2007** • liquidity and funding risk • credit risk • capital management • risk related to fair value	**2007** • credit risk • capital management	**2007** • liquidity and funding risk
2008 • credit risk • cross-border risk • operational risk • capital management • reputation risk • pension risk • special purpose entities • strategic and business risk • equity risk	**2008** • risk management • liquidity and funding risk • credit risk • market risk • operational risk • strategic and business risk • pension risk • tax risk			**2008** • legal and regulation risk	**2008** • economic risk
2009 • risk management • financial crime risk • competition risk	**2009** • legal and regulation risk • capital management • safety and security risk • customer treatment risk	**2009** • credit risk			
					2010 • risk management • cross-border risk

Table 7.2 shows that the year 2008 contained nineteen risk categories, which was the most frequently occurring risk category with clear switch points that were disclosed by four of six companies (i.e. RBS, NatWest, Barclays, and HSBC). Meanwhile, the year 2007 contained nine risk categories, which was the second most occurring risk category of this pattern as disclosed by five of six companies (i.e. NatWest, Lloyds TSB, HBOS, Barclays, and HSBC). The striking results from this investigation are caused by the financial crisis of 2007 to 2008, which began in the second half of 2007 and lasted until 2009. Consequently, a number of risk categories were disclosed with switching increase in this period; including in 2009, which contained six risk categories that were disclosed by three companies (i.e. RBS, NatWest and Lloyds TSB). Hence, this finding indicates that the financial crisis has had a significant effect on the risk categories that were disclosed with switching increase pattern. The 2007 financial crisis has revealed that massive financial fraud and misconduct has long been a part of the enormous risks taken by many banks and financial institutions (Tomasic, 2011).

The year 2005 was one of the switching years when four companies (i.e. RBS, NatWest, Barclays, and HSBC) disclosed risks with switching pattern for many risk categories, including: the risks related to impairment, hedged risk, insurance and investment risk, and tax risk. One of the most striking observations to emerge from this result was that most risk categories were related to the first-time adoption of International Accounting Standard 32 'Financial Instruments: Presentation' ('IAS 32'), IAS 39 'Financial Instruments: Recognition and Measurement' ('IAS 39'), and IFRS 4 'Insurance Contracts' ('IFRS 4').

The other switching years of 2001, 2003, 2004, 2006, and 2010 contained only a few risk categories of switching pattern that were disclosed by only one or two companies. For example, in 2001 the disclosure of operational risk was disclosed with this pattern by HSBC while in 2003 disclosure of liquidity and funding risk was disclosed with this pattern by Lloyds TSB. This happens because some companies took the effect of a specific risk, or unsystematic risk; therefore, determination of the extent of exposure to individual risks was made by a single company.

7.1.3 Volume fluctuation, comparing six companies

There were many risk categories that had a disclosure with volumetric fluctuation. This reflects how these companies faced uncertainty in many areas related to their operations. The following table presents the number of risk categories that the companies disclosed with volume fluctuation over a sixteen year period between 1995 and 2010.

Table 7.3 *The number of risk category containing volume fluctuation of disclosure, by company*

Company	The number of risk categories	Percentage
RBS	15 of 31 categories	48.39%
NatWest	16 of 30 categories	53.33%
Lloyds TSB	26 of 31 categories	83.87%
HBOS	20 of 26 categories	76.92%
Barclays	23 of 32 categories	71.87%
HSBC	16 of 29 categories	55.17%

As shown in table 7.3, the risk category disclosed with the pattern of volume fluctuation was most frequently disclosed by Lloyds TSB. Meanwhile, this pattern was the second most frequently disclosed by HBOS, as a subsidiary company of Lloyds TSB. The number of risk categories disclosed with volume fluctuation showed that both Lloyds TSB and HBOS have tended to face more uncertainty in their operation than the other companies.

7.2 Analysing Longitudinal Data by Information Richness

The key aspect of information richness (by company and by year) was classified into four interrogations, which are:

1) Time orientation of disclosure (i.e. future, present, past information);
2) The disclosure of factuality and perception;
3) Disclosure direction (i.e. neutral news, bad news); and,
4) Quality of disclosure.

The following sections present the findings of intrasectoral longitudinal analysis.

7.2.1 The time orientation of disclosure

The following figure shows the percentage of time orientation of disclosure (i.e. forward-looking, present, and past) as a proportion of total disclosure over a sixteen year period between 1995 and 2010, by company.

Table 7.4 *The percentage of three characteristics, forward-looking, present, and past disclosures as a proportion of total disclosure over sixteen years, by company*

Company	Proportion of forward-looking disclosures	Proportion of present disclosures	Proportion of past disclosures
RBS	39.6%	48.6%	11.8%
NatWest	44.4%	45.8%	9.7%
Lloyds TSB	36.8%	53.2%	10.0%
HBOS	37.5%	54.4%	8.2%
Barclays	34.2%	51.5%	14.3%
HSBC	32.3%	46.5%	21.3%

As shown in table 7.4, the proportion of present disclosure was the largest proportion of time orientation of disclosure for all companies while the proportion of forward-looking disclosure was the second largest proportion. Furthermore, the proportion of past disclosure was the smallest proportion for all companies.

7.2.2 Factual disclosures and perception disclosures

A volumetric measure was employed to reflect the longitudinal trends of factual and perception disclosures. Table 7.5 shows the proportion of disclosure of fact and perception measured as a proportion of total disclosure over a sixteen year period between 1995 and 2010, by company.

Table 7.5 *The percentage of disclosure of fact and perception as a proportion of total disclosure over sixteen years, by company*

Company	Proportion of factual disclosures	Proportion of perception disclosures
RBS	8.9%	91.1%
NatWest	9.1%	90.9%
Lloyds TSB	7.2%	92.8%
HBOS	10.5%	89.5%
Barclays	10.8%	89.2%
HSBC	10.6%	89.4%

Table 7.5 shows that the factual disclosures, as an inverse proportion of disclosure of perception, were a small proportion of all companies (it varied between 7.2% and 10.8% of total disclosures in each company). Therefore, all companies mainly disclosed risk information on perception in their annual reports between 1995 and 2010.

7.2.3   Disclosure direction

With the exception of Lloyds TSB, the proportion of bad news as an inverse proportion of neutral news showed an upward trend over the period between 1995 and 2010 for all companies (see details in Appendix D). In this section, all companies were compared by the percentage of disclosure of bad news and neutral news as a proportion of total disclosure over a sixteen year period between 1995 and 2010.

Table 7.6 *The percentage of disclosure of bad news and neutral news as a proportion of total disclosure over sixteen years, by company*

Company	Proportion of bad news	Proportion of neutral news
RBS	8.5%	91.5%
NatWest	9.7%	90.3%
Lloyds TSB	4.5%	95.5%
HBOS	3.6%	96.4%
Barclays	3.9%	96.1%
HSBC	4.1%	95.9%

Table 7.6 shows the proportion of bad news disclosure as a proportion of total disclosures were a small proportion of all companies (i.e. it varied between 3.6% and

9.7% of total disclosures). Therefore, all of the companies mainly disclosed risk information on neutral news in their annual reports between 1995 and 2010, although bad news disclosures were increasingly disclosed by most companies over time.

7.2.4   *The quality of risk disclosures*

The quality of risk disclosure in this study was divided into two groups, qualitative disclosure and quantitative disclosure.

a)   *The quality of qualitative disclosure*

It was found that the frequency counts of qualitative disclosure[2] at Level 3 under all risk categories in each company (see Appendix D) were the main proportion of disclosures, which showed an upward trend for all companies. However, this upward trend in the frequency counts of qualitative disclosure at Level 3 showed that when a risk category increased it also had a chance to count more frequency of qualitative disclosure level. To examine the upward trend of qualitative disclosure at Level 3, the number of risk categories disclosed at Level 3 was divided by the total number of risk disclosures as a proportion of qualitative disclosure Level 3. The results showed that qualitative disclosure of high information content (i.e. Level 3) did not show an upward trend. In this section, all of the companies were compared with the frequency counts of qualitative levels and the percentage of disclosure of qualitative levels as a proportion of total number of risk categories over a sixteen year period between 1995 and 2010.

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[2] See table 6.5 of Chapter 6. There are three quality levels of qualitative disclosure: Level 1 (QL 1) is defined as disclosing with mention only or mention with minimal discussion; Level 2 (QL 2) is defined as disclosing with contextualize explanations of risk and exposure; Level 3 (QL 3) is defined as Disclosing with contextualised explanations of risk and exposure, including a description of management or mitigation of that risk.

Table 7.7 *The quality of qualitative disclosure over sixteen years measured by frequency counts, by percentage as a proportion of total number of risk categories, and by company*

Company	Qualitative Level 1		Qualitative Level 2		Qualitative Level 3	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
RBS	6	2.3%	21	8.0%	236	89.7%
NatWest	10	4.6%	25	11.6%	181	83.8%
Lloyds TSB	16	6.2%	16	6.2%	225	87.5%
HBOS	2	1.0%	17	8.5%	182	90.5%
Barclays	10	3.5%	17	6.0%	258	90.5%
HSBC	0	0.0%	12	4.6%	248	95.4%

It is apparent from table 7.7 that the total frequencies of qualitative disclosure were mainly disclosed on Level 3, defined as the disclosure including a description of the management or mitigation of that risk, by all companies. It was noticeable that Barclays's risk disclosure was the most frequently disclosed on qualitative disclosure Level 3, at 258 times over a sixteen year period. However, when considering the percentage of high information content (Level 3) as a proportion of total risk categories disclosed, HSBC provided the largest proportion of qualitative disclosure Level 3 among sampling companies, with 95.4% of total number of risk categories over a sixteen year period.

b) The quality of quantitative disclosure

By evaluating the quality of quantitative disclosures in all risk categories, it was found that annual reports contained both purely narrative disclosure and quantitative disclosure. Quantitative disclosure was measured by using two levels. Level 1 was defined as numerical data on risk and while Level 2 was defined as numerical data against comparison (see table 6.6 of Chapter 6). The frequency counts of both levels were then performed to identify the pattern of risk disclosure. The analysis of numerical data classified as Level 1 and Level 2 showed significantly different frequencies. The proportions both levels are shown in the following table:

Table 7.8 The quality of quantitative disclosure over sixteen years measured by frequency counts, by percentage as a proportion of total risk categories, and by company

Company	Quantitative Disclosure Level 1		Quantitative Disclosure Level 2	
	Frequency	Percentage	Frequency	Percentage
RBS	14	5.3%	157	59.7%
NatWest	17	7.9%	132	61.1%
Lloyds TSB	17	6.6%	121	47.1%
HBOS	12	6.0%	103	51.2%
Barclays	12	4.2%	164	57.5%
HSBC	18	6.9%	167	64.2%

Table 7.8 shows that total frequencies of quantitative disclosure were mainly disclosed on Level 2 by all companies. However, it was noticeable that HSBC's risk disclosure was the most frequently disclosed on quantitative disclosure Level 2, with 167 frequencies of risk categories over a sixteen year period. Moreover, when considering the percentage of high quantitative content (Level 2) as a proportion of total risk categories disclosed, it can be seen that HSBC also provided the largest proportion of quantitative disclosure Level 2 among sampling companies (with 64.2% of total number of risk categories over a sixteen year period).

7.3 The Association between Risk Disclosures and the Intensity of Societal Discussion

It is commonly believed that an analysis of media coverage of a particular issue can influence not only the level of awareness of particular issues but also the prominence of their coverage (Barkemeyer et al., 2010; Zyglidopoulos et al., 2012). For this study, the correlations between the intensity of newspaper citations in the UK banking sector and the risk disclosures of sampling companies were examined to analyse the public concern for information richness of risk reporting in the banking sector. These correlations were categorised into two groups, which are: information richness and risk categories.

7.3.1 Associations for information richness

There are four interrogations of information richness. Firstly, the bad news disclosure of RBS, NatWest, HBOS, and HSBC was positively associated with the number of newspaper citations with a high level, while the bad news disclosure of Barclays had an association with a moderate level and the bad news disclosure of Lloyds TSB had no association.

Secondly, the time orientation of disclosure showed that most variables in this interrogation of all companies had no association with the number of newspaper citations, except for the forward-looking disclosure of NatWest which had a positive correlation with high level and the past disclosure of HBOS had a negative correlation with a moderate level.

Thirdly, the interrogation of fact and perception disclosures showed that the factual disclosure of HSBC had a negative association at a high level with the number of newspaper citations. In addition, the factual disclosures of RBS and Barclays had a negative association at a moderate level with the number of newspaper citations. The disclosures of other companies had no association with the number of newspaper citations in this interrogation.

Finally, the fourth interrogation is disclosure quality, which is focused on qualitative disclosure Level 3 and two levels of quantitative disclosure. The disclosure quality of most companies had no association with the number of newspaper citations, except for quantitative disclosure of NatWest which had a negative association at a moderate level with the number of newspaper citations and the qualitative disclosure Level 3 of Lloyds TSB which had a negative association at a moderate level with the number of newspaper citations.

7.3.2 Associations for risk categories

This section focuses on the high correlations between the number of newspaper citations and the various risk categories. Although the disclosure of risk which related to the derivatives of NatWest had a negative correlation with the number of newspaper

citations, the other risk categories disclosed were found to have had positive correlations. The following table compares the outcomes of a number of variables that had a high positive correlation with the number of newspaper citations, by company.

Table 7.9 *List of variables having high positive correlations between the number of risk issues cited in newspapers and various variables of six companies*

RBS	NatWest	Lloyds TSB	HBOS	Barclays	HSBC
1) Risk management 2) Credit risk 3) Market risk 4) Operational risk 5) Economic risk 6) Reputation risk 7) Pension risk 8) Equity risk	1) Liquidity risk 2) Market risk 3) Operational risk 4) Reputation risk 5) Pension risk 6) Tax risk 7) impairment	1) Risk management 2) Credit risk 3) Operational risk 4) Insurance risk 5) Safety and security 6) Impairment	1) Market risk 2) Liquidity risk 3) Fair value 4) Legal and regulation risk	1) Credit risk 2) Risk management 3) Liquidity risk 4) Currency risk 5) Sustainability risk 6) Financial crime risk	1) Market risk 2) Liquidity risk 3) Sustainability risk 4) Legal and regulation 5) Strategic and business risk 6) Tax risk 7) Special purpose entities 8) Economic risk

Table 7.9 shows that there were disclosures of two risk categories from four of six companies that had a significant positive correlation with the number of newspaper citations. The first was the market risk disclosure made by RBS, NatWest, HBOS, and HSBC. The second was the liquidity and funding risk disclosure made by NatWest, HBOS, Barclays, and HSBC.

There were disclosures of three risk categories from three of six companies that had a significant positive correlation with the number of newspaper citations. The first was the risk management disclosure that was made by RBS, Lloyds TSB, and Barclays. The second was the credit risk disclosure that was made by RBS, Lloyds TSB, and Barclays. The third was the operational risk disclosure that was made by RBS, NatWest, and HBOS.

The most striking result to emerge from the data was that the risk categories disclosed by three or four companies (i.e. market risk, liquidity and funding risk, risk management, credit risk, and operational risk) all had a significant association with the intensity of societal discussion and they were all disclosed as key strategic risks of the banks. This indicates that the disclosures of the key strategic risks of banks all involved societal discussions on risk issues.

There were a number of risk categories disclosed by one or two companies that had an association with the number of newspaper citations, which are:

1) Economic risk disclosure of RBS and HSBC;

2) Reputation risk disclosure of RBS and NatWest;

3) Pension risk disclosure of RBS and NatWest;

4) Legal risk disclosure of HBOS and Barclays;

5) Sustainability risk disclosure of Barclays and HSBC;

6) Tax risk disclosure of NatWest and HSBC;

7) Disclosure of risk related to impairment of NatWest and Lloyds TSB;

8) Equity risk disclosure of RBS;

9) Insurance risk disclosure of Lloyds TSB;

10) Safety and security risk disclosure of Lloyds TSB;

11) Disclosure of risk related to fair value of HBOS;

12) Currency risk disclosure of Barclays;

13) Financial crime risk disclosure of Barclays;

14) Strategic and business risk disclosure of HSBC; and,

15) Special purpose entities disclosure of HSBC.

It should be noted that these risk categories, which were disclosed by one or two companies as having an association with the number of newspaper citations, were not among the key strategic banking risks. This relationship reflects how societal discussion is involved in certain risks that a particular company faces. On the other hand, those companies who were faced with risk categories that were issues of public concern tended to provide more information on those areas.

7.4 A Comparison of the Findings between this Research and Prior Research

The findings in this research were based on the examination of risk disclosures over a sixteen year period between 1995 and 2010. Additionally, the findings also offered the opportunity for longitudinal study. They also presented the opportunity for an intrasectoral study about risk disclosure practices among different banks in the UK. However, there are some previous studies that have explored the extent of risk disclosures in various countries. Consequently, this section aims to compare the findings in this research with prior research related to risk disclosures. After reviewing

the previous literature on risk reporting as provided in Chapter 2, there were seven findings in this study that could compare to the prior research.

Firstly, this study found that the top ten most disclosed categories by volume, all companies, all years were:

1) Credit risk;
2) Risk management;
3) Market risk;
4) Insurance and investment risk;
5) Liquidity and funding risk;
6) Capital management risk;
7) Legal and regulation risk;
8) Risk related to derivatives;
9) Interest rate risk; and,
10) Operational risk.

This finding was different from those of the prior studies. Lajili and Zéghal (2005) found that the most frequently cited categories were financial risk, commodity and market risk. Helbok and Wagner (2006) found that disclosures mainly covered market and credit risk. Meanwhile, Bischof (2009) found that the major part of the risk report covered the three areas of risk exposure, which were: credit risk, liquidity risk and market risk.

Secondly, this analysis has shown that the volume of risk disclosures (in all risks and in all companies) increased over time. This present finding confirmed the findings of previous studies (e.g. Bischof, 2009; Hill and Short, 2009; Pérignon and Smith, 2010; Hughes et al., 2011).

Thirdly, the pattern of switching increase in disclosure in this study showed that the adoption of IAS 32 'Financial Instruments: Presentation', IAS 39 'Financial Instruments: Recognition and Measurement' and IFRS 4 'Insurance Contracts' caused a pattern of switching increase in disclosure in 2005. This finding confirmed the previous findings in the aspect of increasing overall risk disclosures when adopting IAS/IFRS standards (Iatridis, 2008; Bischof, 2009; Taylor et al., 2010). However, Oliveira et al. (2011b), who examined risk disclosure in the annual reports of Portuguese companies in

the non-finance sector for the year 2005, argued that the adoption of IFRSs in 2005 did not positively affect the quantity and quality of risk disclosure.

Fourthly, while Helbok and Wagner (2006) found that voluntary risk disclosure increased in both extent and content over the period between 1998 and 2001, the striking findings in this study showed that there were three risk categories of voluntary disclosures having a clear switching increase in disclosure in 2006 (i.e. sustainability risk, economic risk, and pension risk).

Fifthly, there was no meaningful longitudinal change in the time orientation of disclosures as a proportion of all disclosures. The largest quantity of time orientation of disclosures was present information and the second largest quantity was forward-looking disclosure. The lowest proportion of time orientation of disclosures was past information. This finding disagreed with the findings of Beretta and Bozzolan (2004), who studied risk reporting of non-financial listed companies in Italy and found that disclosed items were more focused on the present and the past than on the future. Additionally, this finding also disagreed with the findings of Linsley et al. (2006) and Oliveira et al. (2011b), who found that future information was disclosed less often than past information.

Sixthly, the largest proportion of risk disclosure were the general statements (neutral news direction) while there was a small proportion of bad news disclosure. This current finding is confirmed by the findings of several previous studies (i.e. Beretta and Bozzolan, 2004; Linsley and Shrives, 2005a; Linsley and Shrives, 2006; Linsley et al., 2006; Oliveira et al., 2011b).

Seventhly, focusing on the volume of quantitative disclosure, several studies have found that risk reporting appeared to lack the disclosure of quantified information (i.e. Lajili and Zéghal, 2005; Linsley and Shrives, 2005a; Yong et al., 2005; Linsley and Shrives, 2006; Linsley et al., 2006). Moreover, the further finding in the aspect of quality of quantified information in this study showed that the proportions that were disclosed quantitatively fell against the total number of categories disclosed over time. Meanwhile, Pérignon and Smith (2010), who attempted to measure quality of market risk by investigating VaR disclosure in the banking sector between 1996 and 2005, found that the quality of quantified risk disclosure did not improve over time.

7.5 Summary

This chapter has presented a number of findings under four main areas. Firstly, analysing longitudinal risk category membership was presented to reflect the longitudinal pattern and trend by comparing the findings of the six sample companies. Secondly, the findings compared how risk disclosures on an inter-company basis were disclosed in the aspect of information richness, which consists of time orientation of disclosure, disclosure of factuality and perception, disclosure news direction, and quality of disclosure. Thirdly, the correlations between the volumes of longitudinal banking sector risk disclosures against the intensity of societal discussion as proxied by the frequency, by year, of relevant newspaper citations, by risk category were analysed and compared among six companies. The final section has made a comparison of the findings between the findings in this research and prior research. The next chapter will provide the key findings and analysis in order to focus on the key contributions of this study.

Chapter 8. Key Findings

The results of the content analysis were presented in Chapter 6, and Chapter 7. In Chapter 6, the findings of longitudinal data were analysed in respect of the overall analysis of all companies. Meanwhile, in Chapter 7 the findings were analysed on an inter-company basis by comparing the findings of the six sample companies (i.e. RBS, NatWest, Lloyds TSB, HBOS, Barclays, and HSBC).

The primary aim of this chapter is to summarise the major findings and contributions of this research. The annual reports of six sample companies were selected to be examined over the period between 1995 and 2010. The contents of risk disclosures in the annual reports were investigated in all narrative sections, including the notes to the accounts that include details of the preparation of the financial statement, a summary of significant accounting policies, details of the assets and liabilities, and other additional information that relates to the company's periodic reports.

The key findings of this chapter are presented in four sections. The first section describes the volumetric analysis explaining the overall risk disclosures for all companies by year. The second section deals with risk disclosure for all companies with regard to information richness (i.e. time orientation of disclosure, fact and perception, disclosure direction, and quality of disclosure). The third section presents the key findings on the association between the volumes of longitudinal banking sector risk disclosures against the intensity of societal discussion. The fourth section (with respect to the comparison of all companies) provides the key findings of intrasectoral effects, focusing on the key themes that were identified in the analysis.

8.1 Volumetric Analysis

There has recently been an increasing level of interest in the quality of disclosure in annual reports (Bayou et al., 2011), which has intensified following the failures of several large companies (e.g. Enron, Global Crossing, WorldCom and Tyco Corporate). The quality of disclosure depends both on the quantity of the information disclosed and on the richness offered by additional information (Beretta and Bozzolan, 2004). In

terms of the quantity of disclosure, the narrative component with sufficient information is able to convey messages for clarification and validation; it is also able to offer useful insights into risk reporting. In addition, a sufficient volume of risk contents (as classified into categories) is important for investors because risk disclosure is related to the crucial points that assist investors and other stakeholders when they make decisions about their investments. Accordingly, a volumetric analysis of risk disclosure was performed in this study, based on the six sample companies. Sentences from all of the narratives of the annual reports were used to examine risk disclosures. The risk categories were classified. The numbers of sentences in each risk category were then counted to reflect the longitudinal pattern and trend. The following sections present the key findings related to this volumetric analysis.

8.1.1 Most disclosed categories by volume (in all companies and in all years)

To identify the risk categories that have influenced UK banks in terms of the volume of sentences, this finding shows the top ten risk categories, ranked by number of sentences disclosed over time, as shown in table 8.1.

Table 8.1 *The top ten most disclosed risk categories by volume (in all companies and in all years)*

Ranking Number	Risk Categories	Number of Sentences
1	Credit risk	14,958
2	Risk management	7,996
3	Market risk	5,530
4	Insurance and investment risk	4,393
5	Liquidity and funding risk	4,176
6	Capital management risk	3,887
7	Legal and regulation risk	3,443
8	Risk related to derivatives	3,441
9	Interest rate risk	2,510
10	Operational risk	2,243

A review of both aspects (for all of the companies and for each individual company) has shown that credit risk was the most disclosed risk by volume (for all companies and in all years). The other risk categories did not have sequential ranking when considered as

individual companies, as shown in table 8.1. For example, market risk disclosure was the third ranking disclosure of RBS, the second ranking disclosure of NatWest, the fourth ranking disclosure of Lloyds TSB, the fourth ranking disclosure of HBOS, the third ranking disclosure of Barclays, and the third ranking disclosure of HSBC. This happened because risk disclosures involved varying degrees of analysis, evaluation, acceptance and management of risks or combinations of risks.

8.1.2 The number of risk categories disclosed

The key finding in this section shows the development of risk disclosure of all companies by focusing on categories of risks. While most categories in the annual reports were classified by the companies themselves, where there was no classification the content was considered as the context and it was classified under the most relevant risk category. Figure 8.1 shows the average number of risk categories between 1995 and 2010, by all companies.

Figure 8.1 Average number of categories of risk disclosure, by all companies
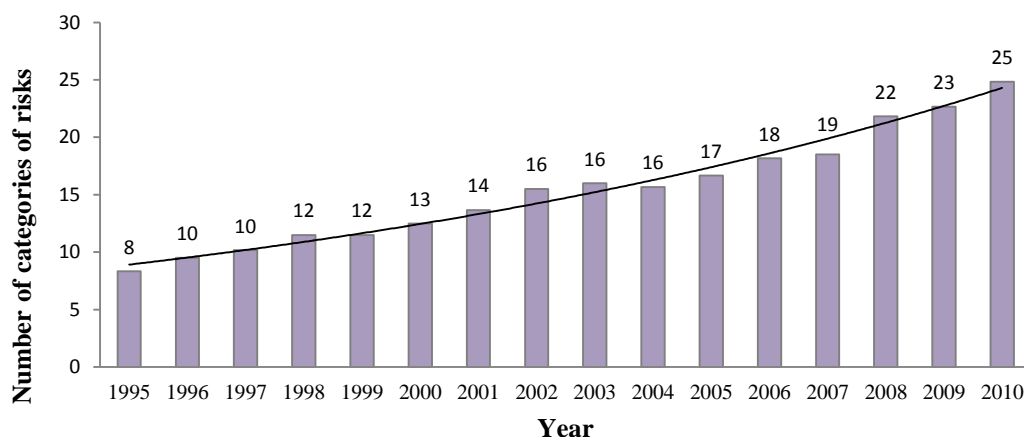
As can be seen in figure 8.1, the number of risk categories disclosed has risen over time, in all companies. There was no significant difference in shape between overall and individual companies. The average lowest categories disclosed were eight categories and the average highest were twenty-five categories.

8.1.3 The number of sentences disclosed

The quantity of disclosures can sometimes represent the importance of the issues that the companies intend to manage. Consequently, the volumetric count is reflected in the trends and patterns of the risk disclosures that are related to banking risks. It is also notable that the quantity of disclosures involved the awareness and sensitivity of the stakeholders. Therefore, this key finding (which arises from counting those sentences that are related risk categories in annual reports) shows how the companies have responded to risks.

Figure 8.2 *The number of sentences disclosed, in all risk categories, in all companies and by year*
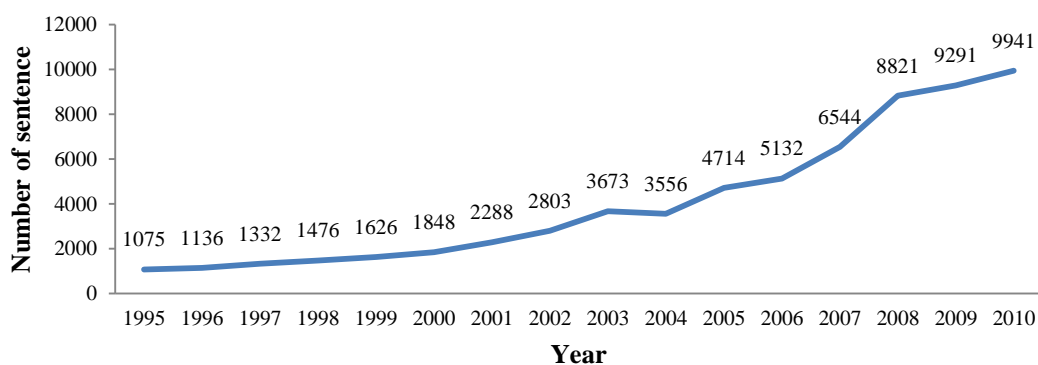
Figure 8.2 shows that the number of sentences (in all risks and in all companies) increased over time, from 1,075 sentences in 1995 to 9,941 sentences in 2010 (an increase of approximately nine times). When considering the results of increasing both the number of risk categories (see figure 8.1) and the volume of disclosures (see figure 8.2) it can be seen that there was a smooth upward trend in the quantity of risk disclosures from both findings during the period between 1995 and 2010.

Although both the number of risk categories and the number of sentences by all companies had a smooth increase over time, these increases in risk disclosures contain other patterns of disclosure. It has been found from the findings and analysis of this study that risk disclosure by all companies can be divided into three main patterns, which are: a smooth increase in volume, a change in volume with a switch point, and volume fluctuation. However, striking results were found in the patterns of smooth increase in volume and in the pattern of change in volume with switch point, which will be described in more detail in the subsections that follow.

a) Smooth increase in volume

An increase in volumetric disclosures depends on business activities (such as key assumptions underpinning risk appetite) and management decisions, which are anticipated to be necessary to mitigate risks. The findings and analysis in this study show that there were three risk categories that experienced a smooth increase in volume of disclosure, which are: risk management, market risk, and risk related to capital management.

It should be noted that the three risk categories that had a smooth increase in volume of disclosure were also the key strategic banking risks that all banks were called upon to provide both mandatory information and voluntary information to their stakeholders.

When investigating the risk disclosures of each of the sample companies that experienced a smooth increase in volume, it was found that all of the risk categories with this pattern of disclosure were also the key strategic risks of banks that have received increased attention over time. In particular, in four out of the six companies (i.e. Lloyds TSB, HBOS, Barclays, and HSBC) market risk was the most frequently disclosed risk that had this pattern, while liquidity and funding risk was disclosed with a smooth pattern by two companies (i.e. RBS and Barclays). Of the other risk categories, different companies disclosed this pattern with different risk categories, including: a disclosure of insurance and investment risk at Lloyds TSB; a risk management disclosure at Barclays; a credit risk disclosure at HSBC; and, a capital management disclosure at HSBC. However, NatWest was found to have had no pattern of smooth increase in its volume of disclosure.

b) Change in volume with switch points

It should be highlighted that the period between 2005 and 2009 experienced a number of volumetric increases with clear switch points. A switching increase in the volume of disclosure tends to be a signal to reflect the likely impact of disclosure on companies who are faced with unprecedented problems. The key findings in this study indicate that there are two factors related to the pattern of the switching increase in volume of

disclosure (in all companies), which are: the initial adoption of international accounting standards and a financial crisis.

Firstly, there were four risk categories that had a clear switching increase in disclosure in the year 2005, which are: risk related to fair value, risk related to impairment, hedging risk, and insurance and investment risk. The reason for this significant increase was that in 2005 the International Accounting Standard 32 'Financial Instruments: Presentation' ('IAS 32'), IAS 39 'Financial Instruments: Recognition and Measurement' ('IAS 39'), and IFRS 4 'Insurance Contracts' ('IFRS 4') were all adopted for the first time. This introduction led to an increased level of risk disclosures in all companies, which was related to financial instrument and insurance risk.

Secondly, the pattern of a clear switching increase in volume of risk disclosure during 2006 to 2009 reflects the effects of the financial crisis. In 2006, the disclosure of economic risk showed a clear pattern of switching increase in volume of disclosure that was caused by the beginning of a period of a severe economic slowdown. The Consumer Price Index ('CPI') inflation rate increased from 1.9 per cent in January 2006 to 3.0 per cent in December 2006. Consequently, a large number of UK households found themselves struggling with a heavy debt burden while personal insolvencies and repossessions increased as a result of an unemployment rate increase. The economic slowdown in the UK in 2006 was partly caused by the deterioration in the US housing market that began in 2006, accelerated during 2007, and has since continued to spread beyond the sub-prime mortgage market into the wider economy.

It is evident that in the year 2007 the disclosures of liquidity and funding risk, credit risk, and operational risk all increased significantly. The main reason behind the increase of risk disclosure was the severity of the financial crisis that affected the credit markets, which constrained the ability to lend because of the deterioration in credit quality. When coupled with the lack of a liquidity market, this led to problems with liquidity resources and capital to run the on-going banking systems.

In 2008, the strategic and business risk had a clear switching increase in disclosure. This may be an effect of the financial crisis, which entered a critical stage in September 2008 when the Lehman Brothers collapse induced significant losses to many counterparties. This severe downturn led the financial services industry into extraordinary turbulence.

It is apparent that the disclosures of legal and regulation risk increased significantly in 2009. Following the financial crisis of 2007 to 2009, many regulations were proposed to improve the banking sector's ability to absorb shocks and to manage risk as well as to strengthen bank transparency and disclosure. The European Commission, the UK Tripartite Authorities (i.e. HM Treasury, the Bank of England and the Financial Services Authority 'FSA'), the US Government and others made a number of proposals for adjustment of their regulatory regimes, which has been found to have affected all of the companies in this study.

8.2 Information Richness

Driven by increased complexities in business, and an objective to promote transparency and enhance quality of disclosure by reducing information asymmetries, risk disclosures have the potential to benefit shareholders, analysts, investors, and other stakeholders (Lajili and Zéghal, 2005). However, Linsley and Shrives (2005b) warned that disclosure by itself will not create transparency, particularly when it appears to lack useful information. Consequently, this study has investigated how companies have disclosed risk issues in the aspect of information richness. The striking results of examining information richness were found in four main aspects (as presented in the following subsections), which are:

1) The disclosure of factuality and perception;
2) Disclosure news direction;
3) The quality of disclosures (i.e. qualitative disclosure and quantitative disclosure); and,
4) The association between quantitative disclosure and factual disclosure.

8.2.1 *The disclosure of factuality and perception*

Fact and perception are a natural pair of statements for communication; therefore, and perhaps not surprisingly, both appear in all of the annual reports where they are used to provide operational information and present managerial perception. Fact and perception disclosure is a modest step to take because some sentences are broadly associated with thinking without verifying the accuracy of the information. This happens because the

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directors have an incentive to disclose in their rhetorical statements in order to support confidence in the factual information that they claim (Hooper and Pratt, 1995). Although perception information is managerial expectation, or something that is expressed in a forward-looking manner, it is useful for investors to support their decision-making. However, non-factual information should be carefully used because it can easily mislead investors. Meanwhile, factual information or hard facts presented as a proven or verifiable content may delay reporting because of the verification process.

In this study, the proportion of factual disclosures was employed to reflect the longitudinal patterns and trends between 1995 and 2010, as shown in figure 8.3.

Figure 8.3 *The percentage of factual disclosures as a proportion of total sentences (in all companies) between 1995 and 2010*
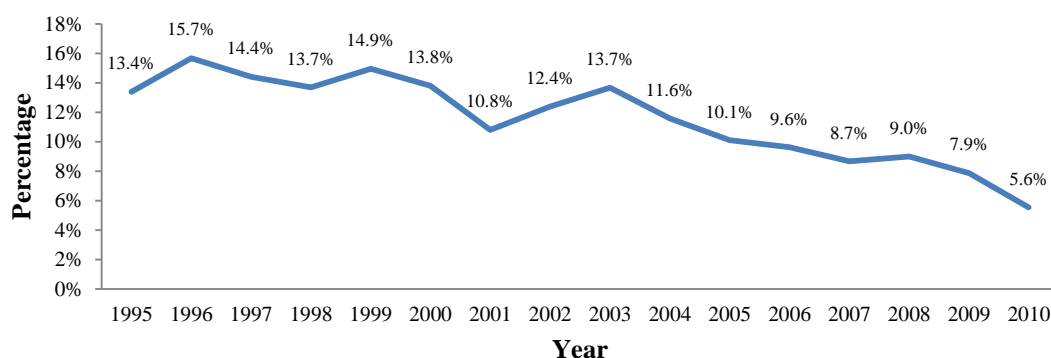
As can be seen from figure 8.3, the factual disclosures as a proportion of total sentences (in all companies) slightly decreased over the period between 1995 and 2010. This means that as volume increased over time, perception-based sentences were slightly favoured over (higher volumes by sentences) those containing 'hard facts'. Over time, risk reporting has become proportionately more concerned with opinion and perception than facts because managerial perception tends to be made in large volume for explanatory disclosure, which has less credibility than factual disclosures (Toms, 2002). In addition, non-factual content (or managerial perception) can be used to support confidence in the directors' claim of factual information (Hooper and Pratt, 1995).

The comparative findings of the results of the individual companies showed that there was no significant cross-sectional difference of proportion of time orientation disclosure, which was found by comparing the total disclosures among all of the companies.

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8.2.2 Disclosure news direction

Generally, there are three characteristics of disclosure direction in annual reports, which are: good news, neutral news and bad news. However, because of the difficulty in evaluating the attitudes of UK banks towards risk disclosure of good news, this study classified the sentence of good news as neutral news because the tone of good news[1] is too ambiguous to be classified appropriately. Consequently, there were two characteristics of disclosure direction used in this study: neutral news and bad news.

The results of this study indicate that most news was classed as neutral news; therefore, the proportion of bad news disclosed as an inverse relationship of neutral news had a small proportion of disclosures. Figure 8.4 provides the findings of the trend for the proportion of bad news disclosed.

Figure 8.4 *The percentage of bad news sentences as a proportion of total number of sentences, as disclosed between1995 and 2010 by all companies*
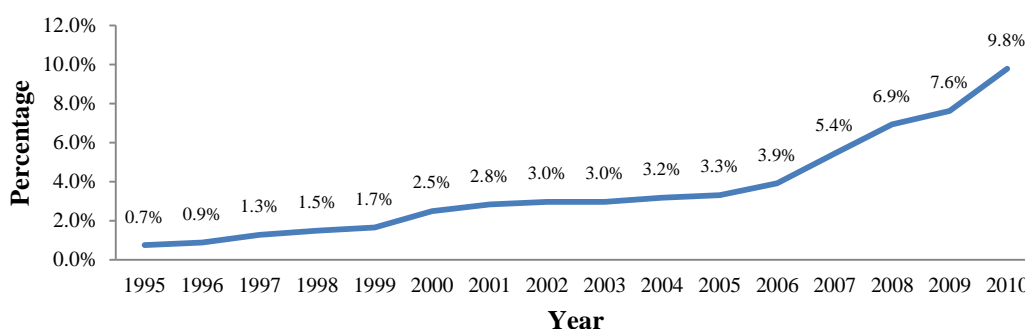
It was found in this study that the proportion of sentences containing bad news (when divided by all sentences) increased smoothly over time, although bad news was a low proportion (i.e. from 0.7% in 1995 to a high of 9.8% in 2010) when compared to the proportion of neutral news. However, it is difficult to indicate that companies faced more risks over time because there are a number of possible reasons behind the disclosure of bad news. For example, Kothari et al. (2009) found that disclosure of good and bad news means that the market participants are more aware of the risks, which is reflected in the firm's cost of capital, stock return volatility, and dispersion in the

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[1] As described in Section 5.4 of Chapter 5, this study has exemplified three ambiguous classifications of good news. Firstly, good news may be bad news when the rhetorical disclosure is considered in the long period. Secondly, the use of optimistic language in good news may mislead shareholders into ignoring the financial jeopardy that companies are experiencing. Thirdly, some good news has no clear sign of good news, which is likely to be either good news or neutral news.

analysts' earnings forecasts. Linsley and Shrives (2005a) found that companies sometimes discuss bad news by referring to uncontrollable external factors in order to describe the good news that they have mitigated the risk effectively. Additionally, Linsley et al. (2006) advised that companies need to be prepared to reveal bad news to avoid the suspicion that they are concealing problems.

The comparative findings of the results of the individual companies showed that there was no significant cross-sectional difference of proportion of disclosure direction, which was done by comparing the total disclosure among all of the companies.

8.2.3   The quality of disclosures

The quality of disclosure is one of the indicators that are used to measure how well companies disclose in their annual reports. In particular, the qualitative characteristics of information (i.e. understandability and relevance) are factors in the IASB framework that can provide sufficient information about risk. Consequently, the importance of providing sufficient information and offering management (or mitigation) of risk were considered in order to classify the distinct level of quality. To measure the quality of risk disclosure, this present study has classified quality of risk disclosures in annual reports into two types: the qualitative disclosure and the quantitative disclosure. The key findings of both types are shown in the following subsections.

a)   The quality of qualitative disclosure

The interrogation of disclosure quality in the aspect of qualitative disclosure in this study had three levels: Level 1 included disclosures with mention only or mention with minimal discussion; Level 2 included disclosures with contextualised explanations of risk and exposure; and, Level 3 included disclosures with contextualised explanations of risk and exposure, including a description of the management or mitigation of that risk (see also table 6.5, Chapter 6). Frequencies of qualitative disclosure levels were counted for all risk categories and in all companies in order to identify the quality level in all risk categories and in all companies. The analysis of this improvement over a period of

sixteen years (i.e. 1995 to 2010) was investigated and the results are shown in figure 8.5.

Figure 8.5 *Frequency counts of qualitative disclosure level, in all companies and under all risk categories*
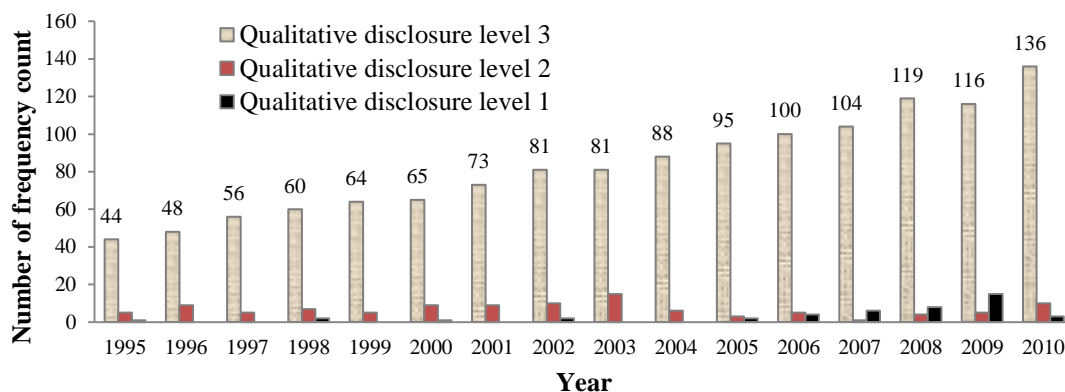
It is apparent from figure 8.5 that the total frequencies of risk categories of all companies were mainly disclosed on level 3, which is defined as disclosures that include a description of the management or mitigation of that risk. In addition, the total frequencies of risk categories with high information in all companies (at level 3) continued an upward trend over time, from 44 times in 1995 to 136 times in 2010. However, this upward trend involved the number of increased risk categories (as shown in figure 8.1 of Section 8.1.2), which means that when a risk category increased it also had a chance to count a higher frequency of qualitative disclosure level 3. Consequently, to examine the upward trend of qualitative disclosure at level 3 it is necessary that the number of risk categories disclosed at level 3 is divided by the total number of risk categories as a proportion of qualitative disclosure level 3. The results show that the quality of qualitative disclosures at level 3 did not have an upward trend when the frequencies of qualitative disclosure level 3 (in all risk categories and in all companies) were made as a proportion of total risk categories. However, the quality of the qualitative disclosures of all companies mainly contained the contextualised explanations of risk and exposure, including a description of the management or mitigation of that risk.

The comparative findings of the results of the individual companies showed that there was no significant cross-sectional difference of proportion of disclosure direction, which was done by comparing the total disclosure among all of the companies.

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b) *The quality of quantitative disclosure*

The contents of the risk disclosures in an annual report are mainly to be found in the narrative statements at the 'front end' of the document. However, the numerical statement influences the quality of disclosures because numerical information can convey a specific meaning to readers and it is also likely to be evidence of a responsive management who wish to communicate with investors. Therefore, this study has clearly distinguished between qualitative and quantitative disclosures. In terms of quantitative disclosure, there were 2 levels: level 1 was defined as disclosure of issues related to the numerical category while level 2 was defined as numerical disclosure to the category against comparison.

The analysis of numerical data classified as level 1 and level 2 has shown a significantly different frequency count in both levels, as illustrated in figure 8.6.

Figure 8.6 *The frequencies of quantitative disclosure levels (in all companies)*
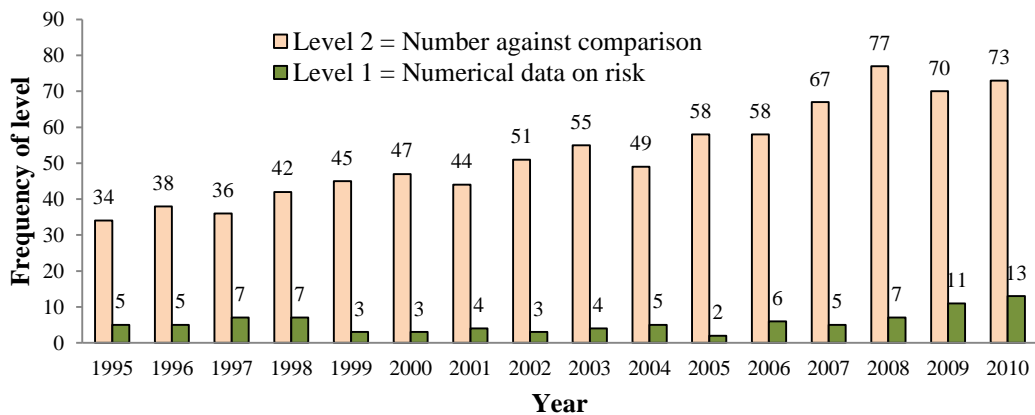
Figure 8.6 indicates the significant difference between level 1 and 2 between 1995 and 2010. Where risk categories were made quantitatively, a large majority (i.e. five times to twenty-nine times more than level 1) were at level 2. This means that disclosure contained comparison data providing higher and more meaningful information content than just a single number. Moreover, it appears that quantitative disclosures of level 2 showed a slight increase over time. This increase was related to the increasing number of risk categories disclosed.

To examine the upward trend of quantitative disclosure (as shown in figure 8.6), the proportion of quantitative disclosures was calculated by using total number of

quantitative disclosures level 1 and 2 divided by total number of risk categories. Figure 8.7 provides the proportion of frequencies containing both levels of quantitative disclosure (divided by total number of risk categories) between 1995 and 2010, in all companies.

Figure 8.7 *The frequency of quantitative disclosure as a proportion of total risk categories (in all companies)*
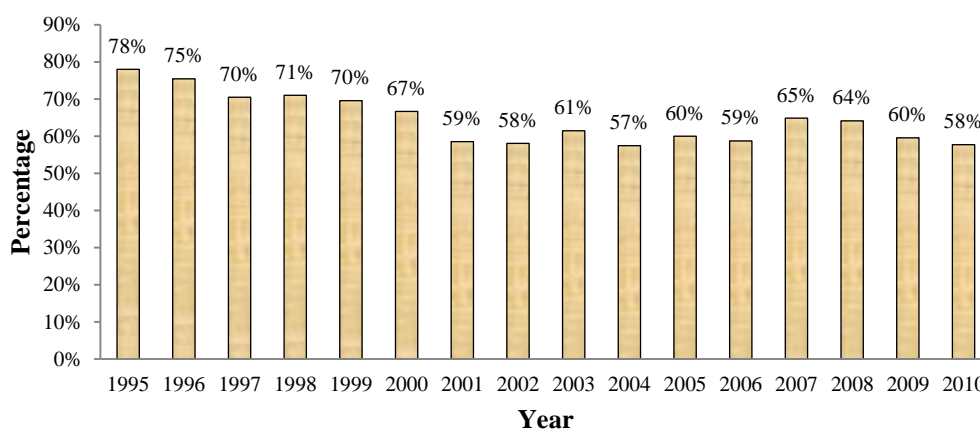
Since the number of risk categories has increased over time (see figure 8.6), the proportions that were disclosed quantitatively fell against the total number of categories disclosed (particularly between 1995 and 2002), after which they slightly fluctuated between 57% and 65%.

8.2.4   *The Association between quantitative disclosure and factual disclosure*

It was notable that the downward longitudinal trend of quantitative disclosures was the same shape as the percentage of factual disclosures as a proportion of total sentences (in all companies). To explore this relationship, figure 8.8 illustrates the correlation between factual disclosures and quantitative disclosures.

Figure 8.8 *The correlation between factual disclosures and quantitative disclosures (in all companies) (r = 0.632, n = 16, p = 0.009)*
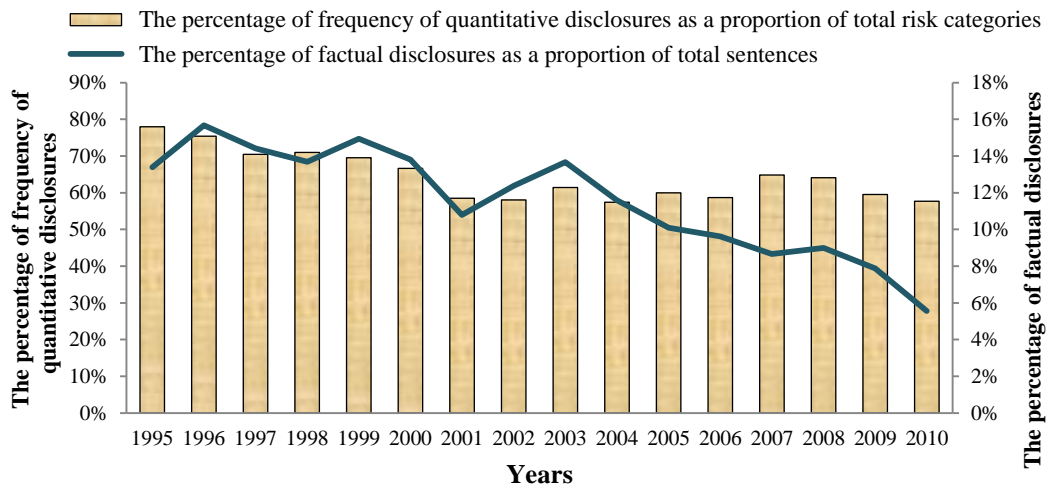
It is evident from figure 8.8 that factual disclosures were positively correlated with quantitative disclosures: Spearman's rho (r) was 0.632. The rates of decrease in the proportion of both disclosures were comparable between 1995 and 2004, although in the subsequent years the rate of decrease in the percentage of factual disclosures gradually grew more than the decrease rate of the percentage of frequency of quantitative disclosures.

The rationality for this finding is that almost all of the numerical information was proven or verifiable information, which was caused because the sentences mainly contained statements of fact. In addition, Beattie and Thomson (2007) in their study of the intellectual capital disclosures of Next plc in its annual report for the year 2004 also found that quantified disclosures tended to be factual information. There was also a higher rate of decrease in factual disclosures of Next plc after 2004. They explained this as the effect of the introduction of a new international accounting standard in 2005, which meant that Next plc tended to disclose a large volume of explanatory risk to support confidence in their factual information and numerical information. When coupled with the economic collapse in the US, which began in 2006, and the accelerated collapse in the UK, which began in 2007, it was inevitable that the companies in this present study have provided perceptive information that was significantly larger than fact.

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8.3 The Intensity of Societal Discussion

This study has also investigated the correlation between the number of newspaper citations for risk issues and the risk disclosures in the companies' annual reports. LexisNexis (an online searchable database) was employed via Newcastle University database archives to search and to count news related to thirty-five risk categories by using specific words cited in fourteen newspapers (see Chapter 5, table 5.13).

The results of the Spearman correlation (r hereafter) are categorised into three main groups of correlation, which are: high correlation (r is between ± 0.63 and ±1.00, p < 0.01), moderate correlation (r is between ± 0.50 and ± 0.62, p < 0.05), and no correlation (r is less than ± 0.50).

8.3.1 *Correlations between intensity of societal discussion and information richness disclosed (in all companies)*

In this study there was a high association between disclosure direction and newspaper citations. Specifically, the disclosures of bad news were found to be positively associated with newspaper citations. Meanwhile, the disclosures of neutral news were negatively associated with newspaper citations. Figure 8.9 shows the correlation between proportion of bad news disclosed and number of risk citations in newspaper.

Figure 8.9 *The correlation between the disclosure of bad news as proportion of all sentences and the number of newspaper citations (in all companies)*
(r = 0.70, n = 16, p = 0.003)
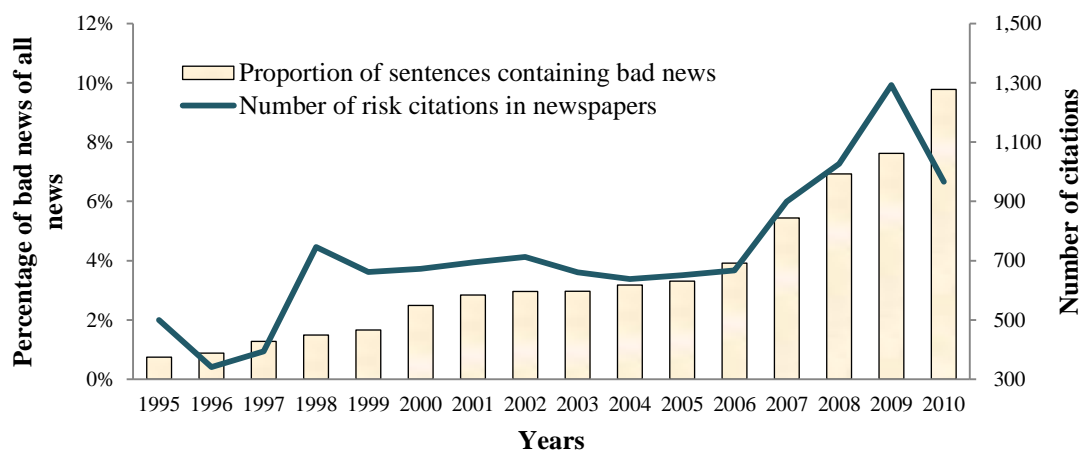
As can be seen from figure 8.9, there was a high correlation between the disclosure of bad news as a proportion of all sentences and the number of newspaper citations at 70% (r = 0.70). It should be noted that this correlation has been very close since 2003. This may have been caused by the onset of the Enron scandal (which began in late 2001 and spread continually in 2002), which has led to societal discussion about banking risks. Moreover, the financial crisis that emerged following the negative signal of an economic slowdown in 2006 (which became a crisis between 2007 and 2009) was an influential factor. In this figure, this crisis shows as a strong association during this period of time. Therefore, it can be said that a bank's disclosure tended to respond to an intensification of societal concern about bad news, particularly during stressful events.

The disclosures of fact and perception show that there was a significantly positive correlation between the proportion of perception disclosed and the number of newspaper citations (r = 0.688, p = 0.003). In contrast to this relationship, the proportion of fact disclosures was found to be negatively associated with the number of newspaper citations (r = -0.688, p = 0.003). These results suggested that the bank's disclosure responded to societal discussion with information containing opinion and perception, rather than fact or verified information.

The other interrogations of risk disclosures show that there was no association between the time orientation of disclosures (i.e. future, present, and past) and the number of newspaper citations. Further findings also showed that the quality of disclosure (either quantitative or qualitative disclosures) was not associated with number of newspaper citations.

8.3.2   Correlations between intensity of societal discussion and risk categories (in all companies)

The statistical analysis shows that there were eleven risk categories out of a total of thirty-five risk categories that have a positive correlation with the number of newspaper citations, as well as variable numbers of total risk categories. It is apparent that the intensity of societal discussion about banking risks can be seen in the patterns of bank risk disclosures.

In the three main areas of risk (i.e. total risk categories, risk management, and financial risk) there were significantly positive correlations between the number of newspaper citations of risk categories and the number of sentences of seven variables, which include:

1) All risk categories;
2) Risk management;
3) Liquidity and funding risk;
4) Credit risk;
5) Market risk;
6) Insurance and investment risk; and,
7) Equity risk.

It should be noted that these risk categories were the key strategic risks of banks. They can offer two perspectives of the findings in this study, that is: either from the point of view of a British citizen or from the point of view of a banking supervisor. Firstly, in terms of the British citizen's perspective, disclosures of the key strategic risks of banks are central issues of societal discussion when considering the finding that the disclosures of these seven risk categories had a significant positive correlation with the number of newspaper citations. Secondly, in terms of the banking supervisor's perspective, banking supervisors responded increasingly to the key strategic banking risks when considering the findings that these seven risk categories were disclosed with longitudinal volumetric increases (see Section 8.1.3). Consequently, it should be considered from the findings of this present study that these risk categories were the key strategic banking risks that were perceived by both the British public and by banking supervisors.

Moreover, the striking results from an in-depth sectoral analysis showed that risk categories disclosed by three or four companies (i.e. market risk, liquidity and funding risk, risk management, credit risk, and operational risk) had a significant positive association with the intensity of societal discussion. The risk categories disclosed were also the key strategic banking risks. This indicates that disclosures of key strategic banking risks were involved in the societal discussions on risk issues.

Turning to the associations for risk categories (in all companies) related to banking operation, the disclosure of operational risk, legal and regulation risk (as well as tax risk) were found to have had a significant positive correlation with the number of

newspaper citations. Interestingly, given the findings that disclosures of key strategic banking risks in financial risk were the central issues of societal discussion, the risks related to banking operation, operational risk, legal and regulation risk and tax risk were the main issues that were of concern to the British public and banking supervisors.

Longitudinal analysis shows that there were two risk categories (i.e. economic risk and sustainability risk) which the public enthusiastically responded to. Figure 8.10 shows the correlation between economic risk disclosure and the number of newspaper citations:

Figure 8.10 *The correlation between the number of sentences of economic risk and the number of newspaper citations (in all companies) (r = 0.697, p = 0.003)*
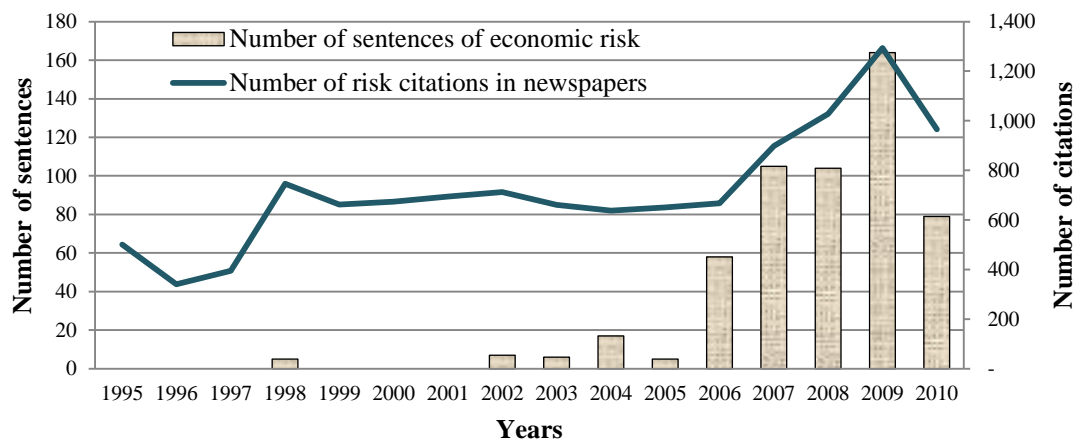
Figure 8.10 shows that disclosure of economic risk is positively associated with the number of newspaper citations. There was an even more remarkable correlation between 2006 and 2010, which may be explained because the banks' disclosures of economic risk involving societal concerns have risen since the start of the current financial crisis in 2006. Another risk category that also has a clear correlation in the same period of time is shown in figure 8.11:

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Figure 8.11 *The correlation between the number of sentences of sustainability risk and the number of newspaper citations (in all companies) (r = 0.745, p = 0.001)*
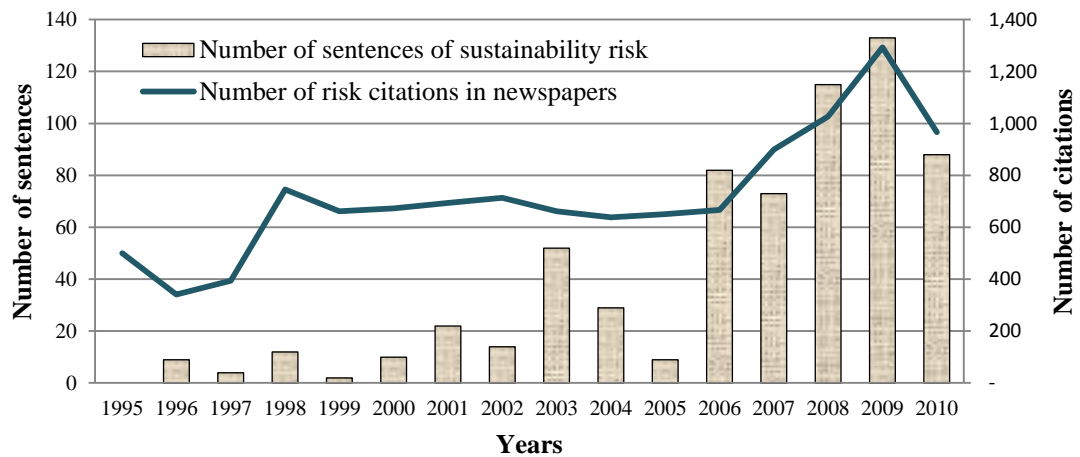
Figure 8.11 shows that there has been a clear correlation between disclosures of sustainability risk and the number of newspaper citations since 2006. The remarkable increase in the disclosure of sustainability risk reflects the policy and actions of companies in response to the needs for sustainable development of environmental effects, following which most companies have organised environmental concerns (including risk disclosures of environmental awareness). In addition, the public concern about sustainability risk may relate to the 2006 documentary film 'An Inconvenient Truth', directed by Davis Guggenheim about former United States Vice President Al Gore's campaign to educate citizens about global warming via a comprehensive slide show. Sustainability risk involves social and community issues, environment, and responsible global citizenship which are all likely to affect corporate image. Therefore, this finding suggested that companies have responded to societal concerns as they became critical issues.

8.4 An Intrasectoral Analysis

This section presents the key findings by comparing the empirical results of six sample companies.

8.4.1 Disclosure with switching increase by comparing six companies

In this study there were many risk categories that had a volumetric increase with clear switch points in different years. The switching point tends to be a signal to reflect the likely impact on companies that are faced with unprecedented problems.

The results showed that 2008 contained nineteen risk categories, which was the most frequently occurring risk category, with clear switch points as disclosed by four of six companies (i.e. RBS, NatWest, Barclays, and HSBC). Meanwhile, 2007 contained nine risk categories, which was the second most occurring risk category of this pattern, as disclosed by five of six companies (i.e. NatWest, Lloyds TSB, HBOS, Barclays, and HSBC). The reason for the striking results from this investigation was that this was a period of financial crisis, which began in the second half of 2007. Therefore, many risk categories were disclosed with switching increase in this period, including 2009, which contained six risk categories disclosed by three companies (i.e. RBS, NatWest and Lloyds TSB). Hence, this finding indicates that the financial crisis has had an effect on risk category disclosed with switching increase pattern because the financial crisis of 2007 has revealed that massive financial fraud and misconduct has long been a part of the enormous risks taken by many banks and financial institutions (Tomasic, 2011).

There was another switching year in 2005, when four companies (i.e. RBS, NatWest, Barclays, and HSBC) disclosed with switching pattern for many risk categories (i.e. risk related to impairment, hedged risk, insurance and investment risk). The most striking observation to emerge from this result was that most risk categories were related to the first-time adoption of International Accounting Standard 32 'Financial Instruments: Presentation' ('IAS 32'), IAS 39 'Financial Instruments: Recognition and Measurement' ('IAS 39') and IFRS 4 'Insurance Contracts' ('IFRS 4'). This in-depth sectoral analysis also confirmed the key finding of switching increase of risk disclosures in 2005 by all companies, as mentioned in Section 8.1.3.

8.4.2 Disclosure with volume fluctuation by comparing six companies

Many of the risk categories had a disclosure with volumetric fluctuation. This reflects that the companies have faced uncertainty in many areas related to their operations.

Table 8.2 presents the number of risk categories that the companies disclosed with volume fluctuation over a sixteen year period between 1995 and 2010.

Table 8.2 *The number of risk categories containing volume fluctuation of disclosure (by company)*

Company	The Number of Risk Categories	Percentage
RBS	15 of 31 categories	48.39%
NatWest	16 of 30 categories	53.33%
Lloyds TSB	26 of 31 categories	83.87%
HBOS	20 of 26 categories	76.92%
Barclays	23 of 32 categories	71.87%
HSBC	16 of 29 categories	55.17%

As shown in table 8.2, Lloyds TSB disclosed the largest number of risk categories containing a pattern of volume fluctuation. Meanwhile, HBOS disclosed the second largest number of risk categories containing a pattern of volume fluctuation. The number of risk categories disclosed with volume fluctuation show that both Lloyds TSB and HBOS tended to face more uncertainty in their operation than the other companies.

8.5 Summary

This chapter has summarised the key findings of an investigation of risk disclosures in the annual reports of UK banks. The present study was designed to determine the effect of longitudinal and intrasectoral analysis by using content analysis. The findings have shown that all companies have increased their risk disclosures, both by number of risk categories and by volume of disclosures. Almost all of the risks were disclosed with high information content (both qualitative and quantitative aspects), although the proportion of quantitative disclosures declined over time. Meanwhile, factual disclosures as a proportion of total sentences (in all companies) have slightly decreased over time. The results show that a decrease in factual disclosure is positively correlated with the proportion of quantitative disclosure. In addition, the proportions of sentences containing bad news have increased smoothly over time.

Moreover, the key finding to emerge from investigating the risk categories disclosed was that credit risk was by far the most disclosed risk (by volume) for all banks (in all years). The volume of overall risk disclosures smoothly increased over time, although this trend concealed a switch point in many risk categories (particularly during 2005 to 2009). These findings provide revealing insights into the causes of the switch point that involved the first-time adoption of international accounting standards and the financial crisis. Moreover, the pattern of risk disclosure in each risk category was examined by the correlations between all risk categories disclosed and the number of newspaper citations. The results show that newspapers citations are positively correlated with the key strategic banking risks (i.e. risk management, credit risk, liquidity risk, and market risk).

In the last section, the findings of longitudinal and intrasectoral analysis have indicated that the first-time adoption of international accounting standard in 2005 and the financial crisis during 2007 to 2009 have had an effect on risk category disclosed with switching increase pattern by most companies. Meanwhile there was a clear pattern of disclosure with volume fluctuation by Lloyds TSB and HBOS.

Chapter 9. Conclusions and Discussion

This chapter has six sections. The first section summarises the main aspects of this study. The second section presents the key findings and answers the research questions. The third section presents a summary of the original contributions of this study, including the method development that has been used and the risk disclosures that were found in the annual reports of the banking sector. The fourth section states the implications of this study that can be developed for further practice. The fifth section states the important limitations have been observed in this study. Finally, the sixth section proposes a number of ideas for further research based on the findings of this study.

9.1 Summary of the Study

The 2007 financial crisis revealed the weaknesses in modern corporate governance and risk management, which were both critical causes of the crisis. As the importance of the financial crisis became clear, it was obvious that risk was among the most significant issues in the UK banking sector. In the aftermath of the crisis, bankers, investors, regulators and researchers around the world showed an increased interest in re-evaluating existing prudential regulatory standards, corporate governance, risk management, and risk monitoring in the banking sector. Consequently, Chapter 1 stated the motivations for the present research project and gave a brief overview of the risks, which were: corporate governance, risk management, and the importance of risk disclosure.

Chapter 2 reviewed banking risks and risk disclosures. In terms of banking risks, seven of the main risks are related to market movements or changes in the economic environment, which were: credit risk, liquidity risk, capital adequacy, market risk, interest rate risk, currency risk, and operational risk. These seven risk categories were used to explain the conceptual issues in each risk category, including its definition and its management framework. In addition to the operational framework of risk management, this chapter also identified a number of recommendations and principles

of risk management that were related to these risk categories, which included the requirements of the Basel Committee.

The influence of various stakeholders meant that risk disclosures were expected to engage the effectiveness of risk management and control systems, which may have affected an increase in shareholder value. A broad definition of risk disclosures was discussed to identify any hazard, danger, harm, threat or exposure that the banks may have conducted to the relevant stakeholders. Risk disclosures were developed to determine the nature and extent of risk disclosure in corporate reports. Furthermore, prior research into risk disclosure in a variety of countries has been reviewed. The rationale underlying the purpose of a review of the prior research was to identify the various concepts related to risk reporting and to identify any potential relationship between these concepts. Chapter 3 has built on this review by identifying potential topics of concern and by establishing the research questions.

Chapter 3 provided a theory justification that showed why agency theory was employed as the theoretical background to examine risk disclosures in this research. This chapter also described the key points of discussion in the previous studies. It then explained the need for this present research project, which aimed to address this research gap. Consequently, the main objectives of this study were to investigate risk disclosures in the UK banking sector, in both longitudinal and intrasectoral aspects, and to develop a method for evaluating the content of risk disclosures in annual reports. Given the gaps in the previous research and the research objectives, the research questions have addressed four main points (which were detailed in Section 9.2). Content analysis as a method involving the creation of research design was developed in this study to answer the research questions.

Chapter 4 described the conceptual and methodological developments of content analysis. It introduced the concept of content analysis design, which was comprised of categorising data, unitising text, and recording units. This chapter also described the issues of measurement under the analytical construct topic. Measurement was developed to link the selected concepts and the collected data by transforming the data into numbers that can be analysed statistically. All measures (i.e. nominal, ordinal, interval and ratio) were important to help researchers clarify the textual evidence in the same story because the appropriate measures may have affected the reliability and

validity of the content analysis. This chapter also described how reliability, validity and limitations in content analysis involved the use of a proper procedure to increase the quality of measurement.

Chapter 5 presented the method development, which was summarised into two main topics: the sample and the coding matrix. This chapter started with a description of the sample, which included the selection of the samples, the selected time frame, and the reasons for using annual reports as media selection. The annual reports of six companies (i.e. RBS, NatWest, Lloyds TSB, HBOS, Barclays, and HSBC) over a sixteen year period between 1995 and 2010 were selected to examine risk disclosures in terms of both longitudinal and intrasectoral effects. The analysis of the risk disclosures for the sample companies was performed on all narrative sections, including the notes to the accounts that contained details of the preparation of the financial statement, a summary of significant accounting policies, details of the assets and liabilities, and other additional information that related to the company's periodic reports. The risk disclosures of all sample companies were then investigated by constructing coding matrix. This matrix was developed to analyse risk disclosures for six interrogations (which are described in the subsections which follow).

9.1.1 Interrogation one: Risk categories

The articulations and structuring of data related to risk disclosures were conducted to obtain risk categories in two aspects. In the first aspect, the risk categories were classified by name, as given by the companies. In the second aspect, the risk categories were classified as the companies disclosed risks without grouping risk categories. Consequently, when based on the generating categories, there were thirty-five risk categories that were used in this study (see table 5.3 of Chapter 5).

9.1.2 Interrogation two: Disclosure direction

One interrogation of the narrative in content analysis was the direction of disclosures, which generally had three directions of disclosures that were grouped as: bad news, good news, and neutral news. However, because of the difficulty in evaluating the

attitudes of UK banks towards risk disclosure of good news, this study has classified the sentences that contain good news as neutral news because the tone of good news was ambiguous and difficult to classify appropriately (for example, see three ambiguous classifications of good news in Section 5.4 of Chapter 5). Consequently, two characteristics of disclosure direction (i.e. neutral news and bad news) were used in this study.

9.1.3   Interrogation three: Time orientation of disclosures

Risk disclosures published in the annual report were classified into three categories, which were: firstly, backward-looking information (or past information); secondly, present information; and thirdly, future (or forward-looking) information. The adoption of effective content analysis tools for examining forward-looking information had many perspectives; therefore, this study has defined forward-looking characteristics by using a set of words to capture forward-looking sentences in risk disclosures, which was based on both the previous studies and on the companies providing these words in the annual reports under the heading of a cautionary statement regarding forward-looking disclosures (see table 5.6 and table 5.7 of Chapter 5). In terms of past and present information, a grammatical tense was employed in this study to code past information while present information was coded by using the gap when a recording unit was neither past nor forward-looking information.

9.1.4   Interrogation four: The disclosures of factuality and perception

It is crucial to define both terms in order to classify the risk disclosures that have been disclosed as factual or non-factual information. This study defined fact as information reported as fact, which is immediately verifiable or objective in nature. On the other hand, non-factual information or perception (including the forward-looking content that was defined in table 5.7 of Chapter 5) was defined as subjective information, which is not immediately verifiable or which is opinion.

Based on four interrogations mentioned above, the interrogations of risk categories were used as themes to capture risk disclosure. When using risk categories as themes,

sentences under a theme as recording units were performed in three interrogations, as guided in the coding matrix, which were: disclosure direction, time orientation of disclosures, and the disclosure of factuality and perception. Each sentence was analysed for three rounds (the first round for disclosure direction, the second round for time orientation, and the third round for factuality and perception). The recording results were counted and the sum of the results was then filled in on the recording sheet in each risk category and for each company in the individual company analysis. The results in each company were added together in totality in order to analyse the overall pattern (see the recording sheet in figure 5.2 of Chapter 5).

9.1.5 *Interrogation five: The quality of risk disclosures*

The contents of risk disclosures in an annual report were mainly to be found in the narrative statement. However, the numerical statement influences the quality of disclosures because numerical information may have conveyed a specific meaning to readers and it was also likely to be evidence of a responsive management who wished to communicate with investors. To distinguish clearly between qualitative and quantitative disclosures, the annual reports were analysed separately between narrative and numeric disclosures. This was done because this study found that the quality of qualitative disclosures were independent from quantitative disclosures. Evaluation of the content of qualitative disclosures for all companies in this study employed three levels of quality: Qualitative Level 1 was defined as disclosing with mention only, or mention with minimal discussion; Qualitative Level 2 was defined as disclosing with contextualised explanations of risk and exposure; and, Qualitative Level 3 was defined as disclosing with contextualised explanations of risk and exposure, including a description of management or mitigation of that risk. Meanwhile, quantitative disclosure was measured by using two levels: Quantitative Level 1 was defined as numerical data on risk while Quantitative Level 2 was defined as numerical data against comparison. Each risk category (by year) of the annual report of each individual company was analysed as a theme for two rounds: firstly, the narrative was evaluated on the basis of the defined qualitative level; and secondly, the numerical disclosure of each risk category was evaluated on the basis of the defined quantitative level. Frequency counts of both qualitative levels and quantitative levels were then performed to examine the risk disclosures in the interrogation of the quality of disclosures.

9.1.6 Interrogation six: Frequency (by year) of newspaper hits (by risk category)

The review of the influence of media coverage on public perception which was conducted in this study has found that newspapers are one of the most important mass media channels that provide an in-depth coverage of the issues. The number of newspaper citations may have helped to reflect the publics' interest in many subjects (Joshi et al., 2011). In this study content analysis of the news coverage through the UK newspapers was conducted over the period from 1995 to 2010. The LexisNexis electronic database was used via Newcastle University database archives to search for citations of risk news. Risk categories were used as keywords to search the LexisNexis database. The number of newspaper citations in each risk category between 1995 and 2010 that were retrieved from the LexisNexis database was then recorded on a recording sheet. The association between volumes of longitudinal banking sector risk disclosures against the intensity of societal discussion (as proxied by the frequency and by the year) of relevant newspaper citations (by risk category) was examined.

Chapters 6 and 7 provided the results of the longitudinal findings and analysis in three aspects, which were: a volumetric analysis of risk categories, information richness, and the association between volumes of longitudinal risk disclosures against the intensity of societal discussion (as proxied by the frequency and by the year) of relevant newspaper citations (by risk category). Chapter 6 gave an overall view of the findings for all six companies (i.e. RBS, NatWest, Lloyds TSB, HBOS, Barclays, and HSBC). Meanwhile, Chapter 7 provided the intrasectoral longitudinal findings, which were analysed by comparing six companies for three aspects as mentioned. It then compared findings between this research and those of prior research. The main findings and discussions from Chapters 6 and 7 were highlighted in Chapter 8 in order to focus on the key contributions and to answer research questions in this study.

9.2 Answering the Research Questions

This thesis has addressed four research questions (as detailed in Chapter 3), as follows:

Research Question 1: *How can longitudinal banking sector risk reporting by total volume, by company, and by year be described?*

Research Question 2: *How can longitudinal banking sector risk reporting by risk category, by company, and by year be described?*

Research Question 3: *How can longitudinal banking sector risk reporting by information richness (i.e. the time orientation of disclosure, the disclosure of factuality and perception, disclosure direction, and quality of disclosure) by company and by year be described?*

Research Question 4: *How can the association between volumes of longitudinal banking sector risk disclosures against the intensity of societal discussion as proxied by the frequency, by year, of relevant newspaper citations, and by risk category be described?*

Table 9.1 shows how the research questions of this study have been answered by summarising the main findings as presented in Chapter 8.

Table 9.1 *Research Questions (RQ), answers and analysis*

RQ	Answer	Analysis
RQ1 and RQ2	The top ten most disclosed categories by volume, in all companies, and in all years were: 　1) Credit risk; 　2) Risk management; 　3) Market risk; 　4) Insurance and investment risk; 　5) Liquidity and funding risk; 　6) Capital management risk; 　7) Legal and regulation risk; 　8) Risk related to derivatives; 　9) Interest rate risk; and, 　10) Operational risk.	Credit risk was the most disclosed risk by volume for all companies and all years, the other risk categories did not have sequential ranking as provided in this answer when considered as individual companies. This indicated that credit risk was the most concerned risk in all companies.
RQ1 and RQ2	The number of risk categories disclosed had risen over time in all companies. There was no significant difference in shape when considering overall and individual companies.	The average lowest categories disclosed were eight categories and the average highest were twenty-five categories.
RQ1	The number of sentences of risk disclosures (in all risks and in all companies) increased over time from	Although both the number of risk categories and the number of sentences by all companies had a smooth increase

RQ	Answer	Analysis
	1,075 sentences in 1995 to 9,941 sentences in 2010, an increase of approximately nine times.	over time, the increase in risk disclosures contained the other patterns of disclosure (i.e. a switching increase and volume fluctuation).
RQ1 and RQ2	There were three risk disclosures which contained a smooth change in volume (in all companies), which were: risk management, market risk, and risk related to capital management.	These three risk categories were the key strategic banking risks. When investigating risk disclosures of each sample company (as the pattern of smooth increase in volume), all of the risk categories with this pattern were also found to be the key strategic banking risks.
RQ1 and RQ2	Risk disclosures in 2005 (in all companies) had a significant increase in risk related to fair value, risk related to impairment, hedged risk, and insurance and investment risk.	This switching increase was caused by the first-time adoption of IAS 32 'Financial Instruments: Presentation', IAS 39 'Financial Instruments: Recognition and Measurement' and IFRS 4 'Insurance Contracts'.
RQ2	The year 2005 was one of the switching years when four companies (i.e. RBS, NatWest, Barclays, and HSBC) disclosed risks with switching pattern for many risk categories, including the risks related to impairment, hedged risk, insurance and investment risk, and tax risk.	Most risk categories were related to the first-time adoption of IAS 32 'Financial Instruments: Presentation', IAS 39 'Financial Instruments: Recognition and Measurement' and IFRS 4 'Insurance Contracts'.
RQ1 and RQ2	Risk disclosures in 2006 (in all companies) had a significant increase in economic risk.	The year 2006 was the beginning of the current economic slowdown in the UK.
RQ1 and RQ2	Risk disclosures in 2007 (in all companies) had a significant increase in liquidity and funding risk, credit risk, and operational risk.	The severity of the financial crisis during 2007-2009 affected credit markets, constraining the ability to lend. When coupled with a lack of liquidity market, this led to the problems of liquidity resources and capital to run on-going banking systems.
RQ1 and RQ2	Risk disclosures in 2008 (in all companies) had a significant increase in strategic and business risk.	The significant increase in volume of risk disclosure was related to the most critical stage of the crisis, which started in September 2008 when Lehman Brother's collapsed, inducing significant losses in many counterparties.
RQ1 and RQ2	Risk disclosures in 2009 (in all companies) had a significant increase in legal and regulation risk.	A number of proposals for the adjustment of regulatory regimes were put forward because of the impact of the financial crisis of 2007 to 2009. The aim was to

RQ	Answer	Analysis
		improve the banking sector's ability to absorb shocks, risk management, and to strengthen bank transparency and disclosure.
RQ2	The year 2008 contained nineteen risk categories, which were the most frequently occurring risk category with clear switch points as disclosed by four companies (i.e. RBS, NatWest, Barclays, and HSBC). Meanwhile, the year 2007 contained nine risk categories, which was the second most occurring risk category of this pattern as disclosed by five companies (i.e. NatWest, Lloyds TSB, HBOS, Barclays, and HSBC).	This finding indicated that the financial crisis that started during the second half of 2007 had a significant effect on the risk categories that were disclosed with switching increase pattern.
RQ2	The risk category disclosed with the pattern of volume fluctuation was most frequently disclosed by Lloyds TSB. Meanwhile, this pattern was the second most frequently disclosed by HBOS.	Both Lloyds TSB and HBOS have tended to face more uncertainty in their operation than the other companies.
RQ3	The factual disclosures as a proportion of total sentences (in all companies) slightly decreased over the period of 1995 to 2010. This meant that as the volume increased over time the perception-based sentences were slightly favoured over (higher volumes by sentences) those containing 'hard facts'.	The director's rhetorical statements may have had an incentive to disclose because they supported confidence in the factual information that they claimed. Since they were explanatory, rhetorical disclosures tended to be made in large volumes and they had less credibility than factual disclosures in content analysis. When considering the results of the individual company, there was no significant difference of proportion with analysis in all companies.
RQ3	The proportion of sentences (in all companies) containing bad news (divided by all sentences) increased smoothly over time, although bad news was a low proportion.	It was difficult to indicate that companies faced more risks over time because there were several possible reasons behind the disclosure of bad news. For example, market participants were more aware of the risks. Companies may discuss bad news by referring to uncontrollable external factors in order to describe the good news that they have mitigated the risk effectively. Additionally, companies needed to be prepared to reveal bad news to avoid the suspicion that they were

RQ	Answer	Analysis
		concealing problems. When considering the results of the individual company, there was no significant difference of proportion with analysis in all companies.
RQ3	The total frequencies of risk categories of all companies were mainly disclosed on Level 3, which was described as the disclosure including a description of the management or mitigation of that risk.	Most risk categories were disclosed with high information content. When considering the results of the individual company, there was no significant difference of proportion of qualitative disclosure with analysis in all companies.
RQ3	Where risk categories (in all companies) were made quantitatively, a large majority of quantitative disclosure contained comparison data providing higher and more meaningful information content than just a single number. However, while the number of risk categories (in all companies) increased over time, the proportions that were disclosed quantitatively fell against the total number of categories disclosed.	This confirmed that the number of categories disclosed qualitatively that were an inverse relationship of this method had increased as a proportion.
RQ3	The proportion of factual disclosures (in all companies) was positively correlated with the proportion of quantitative disclosures.	Almost all of the numerical information was proven or verifiable information, which can be explained by the sentences mainly containing statements of fact.
RQ4	The proportion of disclosures of bad news (in all companies) was found to be positively associated with newspaper citations.	A bank's disclosure tended to respond to an intensification of societal concern about bad news, particularly during stressful events (i.e. the outbreak of Enron scandal during 2001-2002, an economic slowdown in 2006, and the financial crisis during 2007-2009).
RQ4	There was a positive correlation between the proportion of perceptions disclosed (in all companies) and the number of newspaper citations. Meanwhile, the proportion of fact disclosures (in all companies) was found to be negatively associated with the number of newspaper citations.	A bank's disclosure responded to societal discussion with information containing opinion and perception rather than fact or verified information.

RQ	Answer	Analysis

RQ4	There were significant positive correlations between the number of newspaper citations of risk categories and the number of sentences (in all companies) of seven variables, which were:
	  1) Total risk categories;
	  2) Risk management;
	  3) Liquidity and funding risk;
	  4) Credit risk;
	  5) Market risk;
	  6) Insurance and investment risk; and,
	  7) Equity risk.
		These risk categories were the key strategic risks of banks for banking supervisors and also British citizens, who both responded strongly to the risk.
		The risk categories disclosed by three or four companies (i.e. market risk, liquidity and funding risk, risk management, credit risk, and operational risk) all had a significant association with the intensity of societal discussion and they were all disclosed as key strategic risks of the banks. This indicated that the disclosures of the key strategic risks of banks all involved societal discussions on risk issues.

RQ4	Risk disclosures in the group of operational banking risks were found to have a significant correlation with the number of newspaper citations, particularly in operational risk, legal and regulation risk as well as tax risk.	Given the findings that disclosures of key strategic risk of banks in financial risk were central issues of societal discussion, in terms of operational banking risk it was found that operational risk, legal and regulation risk, and tax risk were the main issues that the British public were most concerned about.
RQ4	There were two risk categories (i.e. economic risk and sustainability risk) which were found during the longitudinal analysis to have a clear correlation with newspaper citations since 2006.	The banks' disclosures of economic risk involving societal concerns had risen since the start of the current financial crisis in 2006. Meanwhile, disclosure of sustainability risk since 2006 had a clear association with societal concerns because disclosure of sustainability risk had reflected the policy and actions of companies to respond the needs of sustainable development.

9.3 Summary of Original Contributions

The current findings added two main contributions to a growing body of literature, which are:

1) Contributions to the development of methodology; and,
2) Contributions to the understanding of risk disclosure in the banking sector.

9.3.1 *The development of methodology*

This study has gone some way towards enhancing the development of the methodology on risk disclosure. For example, the content analysis instrument that was developed for this study represented an extension and enrichment of the prior method. In addition, this study made an original contribution by establishing the comprehensive coding matrix that contained six interrogations for analysing risk disclosures. The interrogation itself contributed to knowledge by addressing comprehensive aspects in the methodology when compared with the previous studies.

The first interrogation uses risk categories that cover all risks of all banks over a sixteen year period between 1995 and 2010 (which consisted of thirty-five categories) while the prior method only used the main categories for capturing risk disclosures. For example, Linsley and Shrives (2006), Kothari et al. (2009), and Poshakwale and Courtis (2005) used six categories and Linsley et al. (2006) used twelve categories (for more details see table 5.2 of Chapter 5). The use of more categories in this study has clearly indicated the risk categories that affected a company's disclosure.

There were three interrogations used for analysing contents in this study that were based on the frequency counts of the sentences, which were:

1) The second interrogation: disclosure direction (i.e. neutral and bad news);
2) The third interrogation: the time orientation of disclosures (i.e. future, present, and past information); and,
3) The fourth interrogation: the disclosures of factuality and perception.

Some authors have employed disclosure direction and time orientation to analyse the contents of risk disclosures (e.g. Beretta and Bozzolan, 2004; Linsley and Shrives, 2005a; Linsley et al., 2006; Hill and Short, 2009); however, this study has improved the content analysis method by adding the interrogation of factuality and perception to explain and interpret the findings in a more meaningful way.

This study developed a fifth interrogation of content categories. In particular, the interrogation of disclosure quality was developed from the study of Beck et al. (2010), who examined content analysis in environment reporting with a five score system that mixed both qualitative and quantitative measures. This study made an original contribution by constructing a content analysis score of disclosure quality by separating

the quantitative measure from the qualitative measure. The score system had two quality indicators, which were: measuring qualitative disclosures (which was comprised of three levels) and measuring quantitative disclosures (which was comprised of two levels).

For the sixth interrogation, this is the first study that has explored the association between volumes of longitudinal banking sector risk disclosures against the intensity of societal discussion as proxied by the frequency, by year, of relevant newspaper citations. Furthermore, this interrogation was the first to draw multiple aspects of linked variations in risk reporting by investigating the correlation between the interrogation of frequency (by year) of newspaper hits (by risk) and the other five interrogations.

In conclusion, the method developed in this study contributed to the methodology of comparative studies that used both longitudinal analysis and intrasectoral analysis. The enrichment of method under six interrogations of coding matrix to capture information content of risk disclosures can be used by further studies to indicate the quality of content.

9.3.2 *The understanding of risk disclosures*

This study contributed to the further understanding of risk disclosures over a sixteen year period between 1995 and 2010. This was the longest period of time that has so far been used to investigate risk reporting in the UK banking sector. Additionally, the constitution of the sample offered the opportunity for longitudinal study and also the opportunity for an intrasectoral study about risk disclosure practices among different banks in the UK. This study presented contributions with four areas of findings that are based on the longitudinal period, and which are described in more detail in the subsections which follow.

a) *Volumetric findings*

The key results of the volumetric analysis in this study allowed a number of insights to be made into the disclosure pattern and trends, which were based on an analysis of disclosures.

The top ten most disclosed categories by volume, all companies, all years were:
11) Credit risk;
12) Risk management;
13) Market risk;
14) Insurance and investment risk;
15) Liquidity and funding risk;
16) Capital management risk;
17) Legal and regulation risk;
18) Risk related to derivatives;
19) Interest rate risk; and,
20) Operational risk.

This finding was different from those of the prior studies, which have employed a shorter period of investigation and captured merely the main risk categories in different business sectors. For example, Lajili and Zéghal (2005) found that the most frequently cited categories were financial risk, commodity and market risk. Helbok and Wagner (2006) found that disclosures mainly covered market and credit risk, while Bischof (2009) found that the major part of the risk report covered the three areas of risk exposure, which were: credit risk, liquidity risk and market risk.

Analysis showed that the volume of risk disclosures (in all risks and in all companies) increased over time. This present finding confirmed the findings of previous studies (e.g. Bischof, 2009; Pérignon and Smith, 2010; Hughes et al., 2011). However, this study contributed additional evidence to show that the quantity of risk disclosures and the number of risk categories disclosed have risen over time in all companies.

Further findings and unique aspects indicated that there were three main patterns of risk disclosures, which were: a smooth increase in volume of disclosure, a switching increase in disclosure, and volume fluctuation. It should be noted that the pattern of

smooth increase consisted of risk management, market risk, and risk related to capital management were all key strategic risks of banks.

The pattern of switching increase in disclosure in this study showed that the adoption of IAS 32 'Financial Instruments: Presentation', IAS 39 'Financial Instruments: Recognition and Measurement' and IFRS 4 'Insurance Contracts' caused a pattern of switching increase in disclosure in 2005. This finding confirmed the previous findings in the aspect of increasing overall risk disclosures when adopting IAS/IFRS standards (Iatridis, 2008; Bischof, 2009; Taylor et al., 2010); however, this present study identified that a switching increase in 2005 was related to risk related to fair value, risk related to impairment, hedging risk, and insurance and investment risk, which affected four out of a total of six companies (i.e. RBS, NatWest, Barclays, and HSBC).

While Helbok and Wagner (2006) found that voluntary risk disclosure increased in both extent and content over the period between 1998 and 2001, the striking findings in this study have shown that there were three risk categories of voluntary disclosures having a clear switching increase in disclosure in 2006, comprised of sustainability risk, economic risk, and pension risk.

The pattern of switching increase in volume of disclosure was practised in many risk categories between 2007 and 2009, which was related to a period of intense financial crisis. The risk categories disclosed with this pattern in this period were liquidity and funding risk, credit risk, operational risk, strategic and business risk, and legal and regulation risk.

b) *Information richness*

The original findings that emerged as a result of this study consisted of four interrogations of information richness, which were: firstly, the time orientation of disclosures; secondly, the disclosures of factuality and perception; thirdly, disclosure direction; and fourthly, quality of disclosure.

There was no meaningful longitudinal change in the time orientation of disclosures as a proportion of all disclosures. The largest quantity of time orientation of disclosures was

present information and the second largest quantity was forward-looking disclosure. The lowest proportion of time orientation of disclosures was past information. This finding disagreed with the findings of Beretta and Bozzolan (2004), who studied risk reporting of non-financial listed companies in Italy and found that disclosed items were more focused on the present and the past than on the future. While studies categorised time orientation of disclosures for future and past information without present information, Linsley et al. (2006) and Oliveira et al. (2011b) found that future information was disclosed less often than past information.

Over time, the clear pattern of risk reporting had become proportionately more concerned with opinion and perception rather than facts. This finding showed that the interrogation of factuality and perception was capable of depicting data that was overlooked in previous studies.

The largest proportion of risk disclosure were the general statements (neutral news direction) while there was a small proportion of bad news disclosure. This current finding confirmed the findings of several previous studies (i.e. Beretta and Bozzolan, 2004; Linsley and Shrives, 2005a; Linsley and Shrives, 2006; Linsley et al., 2006; Oliveira et al., 2011b). This study contributed additional evidence that the proportion of bad news disclosure increased over time, although it was a low proportion.

Looking closer at the main proportion of generalised statements, the analysis of disclosure quality showed that most risk categories were disclosed by the description of the management or mitigation of those risks.

Focusing on the volume of quantitative disclosure, several studies have found that risk reporting appeared to lack the disclosure of quantified information (i.e. Lajili and Zéghal, 2005; Linsley and Shrives, 2005a; Yong et al., 2005; Linsley and Shrives, 2006; Linsley et al., 2006). Moreover, the further finding in the aspect of quality of quantified information in this study showed that risk categories (in all companies) were disclosed at quantitative disclosure Level 2 or comparison data provided higher and more meaningful information content than simply a single number; however, the proportions that were disclosed quantitatively fell against the total number of categories disclosed over time.

The findings also supported the conclusion that risk reporting has become proportionately more concerned with the narrative of opinion and perception rather than facts and quantified information. This was especially observed in the outcome of the positive association between factual disclosures and quantitative disclosures, in which both factual and quantitative information was disclosed with decreased proportions of total disclosures over time.

c) *Intensity of societal discussion*

To analyse the influence of societal discussion on risk reporting of banking sector, this study has investigated what variables of risk disclosure are associated with the societal discussion. The following findings show the original contributions of those associations.

Overall, the proportion of disclosure of bad news was positively associated with the number of newspaper citations. Hence, the risk disclosures of banks have tended to respond to an intensity of societal concern about bad news, particularly in the stressful events (e.g. the outbreak of Enron scandal of 2001 to 2002 and the financial crisis of 2007 to 2009).

The disclosures of fact and perception showed that there was a significantly positive correlation between the proportion of perception disclosed and the number of newspaper citations. Meanwhile, the proportion of fact disclosures was found to be negatively associated with the number of newspaper citations. These results suggested that the bank's disclosures responded to societal discussion with information containing opinion and perception rather than fact or verified information.

There were significantly positive correlations between the number of newspaper citations of risk categories and the number of sentences of seven variables, which included:

1) Total risk categories;
2) Risk management;
3) Liquidity and funding risk;
4) Credit risk;
5) Market risk;

6) Insurance and investment risk; and,

7) Equity risk.

It should be noted that these risk categories were the key strategic risks of banks, which offered two perspectives of the findings in this study, that is: either a British citizen or a banking supervisor. Firstly, in terms of the British citizen's perspective, disclosures of the key strategic risks of banks were central issues of societal discussion when considering the finding that the disclosures of these seven risk categories had a significant positive correlation with the number of newspaper citations. Secondly, in terms of the banking supervisor's perspective, banking supervisors responded increasingly to the key strategic banking risks when considering the findings that these seven risk categories were disclosed with longitudinal volumetric increases (see Section 9.3.2). Consequently, it should be considered from the findings of this present study that these risk categories were the key strategic risks of banks that both banking supervisors and British citizens responded to strongly.

The risks related to banking operation, operational risk, legal and regulation risk, and tax risk were found to be positively associated with the number of newspaper citations. Interestingly, given the findings that the disclosures of the key strategic risks of banks in financial risk were central issues of societal discussion, in terms of operational risk it was legal and regulation risk and tax risk that were the main issues that the British public were concerned about.

The findings that there were clear correlations since 2006 showed that disclosures of economic risk and sustainability risk had a significant positive correlation with the number of newspaper citations. This happened because the public and banking supervisors had enthusiastically responded to economic risk since 2006, which marked the start of the current financial crisis. Meanwhile, a switching increase of sustainability risk disclosure in 2006 was related to the policy and actions of the companies in response to the need for sustainable environmental development. Consequently, this finding suggested that the companies responded to societal concerns when they are of critical concern.

d) Intrasectoral effects

With respect to intrasectoral study, most studies in the field of risk reporting have focussed on inter-country comparative studies (Linsley et al., 2006; Poshakwale and Courtis, 2005; Helbok and Wagner, 2006; Bischof, 2009; Yong et al., 2005). However, no previous study has investigated risk disclosures in the banking sector by conducting a comparative study among banks.

The results showed that 2008 contained nineteen risk categories, which was the most frequently occurring risk category, with clear switch points disclosed by four of six companies (i.e. RBS, NatWest, Barclays, and HSBC). Meanwhile, 2007 contained nine risk categories, which was the second most occurring risk category of this pattern, as disclosed by five of six companies (i.e. NatWest, Lloyds TSB, HBOS, Barclays, and HSBC). This finding indicated that the financial crisis has had an effect on risk category disclosed with switching increase pattern because the financial crisis of 2007 has revealed that massive financial fraud and misconduct has long been a part of the enormous risks taken by many banks and financial institutions (Tomasic, 2011).

Lloyds TSB has disclosed the largest number of risk categories containing a pattern of volume fluctuation. Meanwhile, HBOS has disclosed the second largest number of risk categories containing a pattern of volume fluctuation. The number of risk categories disclosed with volume fluctuation showed that both Lloyds TSB and HBOS have tended to face more uncertainty in their operation than the other companies.

9.4 Implications

In terms of both the quantity and the number of risk categories, UK banks have increasingly disclosed risk information over the sixteen year period between 1995 and 2010. This suggested that UK banks have faced a wide array of risks. Moreover, the assessment of risk reporting has recently become one of the most significant issues in financial markets because of the internationalisation of financial flows. A number of findings of this study can help to enhance the understanding of risk disclosures. In particular, it has enhanced the understanding of risk categories, information richness,

and intrasectoral effects, which will be described in more detail in the subsections which follow.

9.4.1 Risk categories

Credit risk was found to be the most disclosed category by volume and by all companies. Credit risk was one of the most significant risk categories in the banking sector because a bank's profitability closely relates to credit risk and the weakness in credit risk management was the most important underlying cause of many bank failures. However, the top ten most disclosed categories were grouped into three main areas of risk, which were:

1) Financial risk, which is the key strategic risk of most banks;
2) Operational banking risks; and,
3) Risks related to financial instruments.

These three main areas of risk are explored in more detail in the subsections that follow.

a) Financial risk

In terms of financial risk, it should be noted that all risks in this group were also key strategic risks of banks (i.e. credit risk, market risk, liquidity risk, and capital management). In addition, these risks have recently received greater attention from banks. This supported the finding that banks disclosed risk with a pattern of smooth increase in risk management, market risk, and capital management. However, when the banks were faced with the financial crisis of 2007 to 2009, it became apparent that liquidity risk and credit risk were disclosed with a switching increase pattern, reflecting that both risks were a core component in the banking system and were sensitive issues.

Moreover, the evidence from the interrogation of frequency (by year) of newspapers hits (by risk category) also suggested that banking supervisors and British citizens were concerned about the issues of overall risk disclosed, risk management, liquidity and funding risk, credit risk, market risk, insurance and investment risk, and equity risk.

b) *Operational banking risk*

Operational risk and legal and regulation risk were among the top ten most disclosed risks in most annual reports. Considered together, both risks were also positively associated with the number of newspaper citations. This indicated that operational risk, and legal and regulation risk were causes of concern for many British citizens. In particular, they were strongly concerned with the ability of their banks to manage these risks. Consequently, UK banks have been required to enhance their practices for the management and supervision of operational risk, and legal and regulation risk.

Moreover, the finding of a pattern of switching increase in disclosure also suggested that the financial crisis of 2007 to 2009 has affected operational risk, strategic and business risk, and legal and regulation risk.

c) *Risks related to financial instruments*

Analysis of the group of risks related to financial instruments showed that risk related to derivatives was among the top ten most disclosed risks. Meanwhile, an analysis of the disclosures throughout the period of study showed that there was a pattern of switching increase in 2005 for three risks, which were: risk related to fair value, risk related to impairment, and hedging risk. The findings of this study suggested that risk related to financial instruments played an increasingly important role in banking activities following the adoption of IAS 32 'Financial Instruments: Presentation', IAS 39 'Financial Instruments: Recognition and Measurement' in 2005. In other words, the adoption of these accounting standards in 2005 increased the disclosure of risks related to these standards.

9.4.2 *Information richness*

The definition of quality level showed that the perspective of providing information of risk management or risk mitigation was measured as the high quality of qualitative disclosure, while comparison numerical data was measured as the high quality of quantitative disclosure. This study indicated that most risk categories were disclosed at

a high level of quality, containing the description of the management or mitigation of those risks as well as the comparison numerical data. However, the highest proportion of risk disclosures were neutral statements while there was a small proportion of warning direction of bad news disclosure. This finding was also supported by the study of Suijs (2007), who found that companies disclose neutral information but delay disclosing bad and good information because neutral information tends to be more attractive to investors in terms of the level of risk considerations, which become risk factors in predictions for investment opportunities when publishing further good and bad information. Moreover, Kothari et al. (2009) found that disclosures of good and bad news mean that market participants are more aware of the risks, which was reflected in the firm's cost of capital, stock return volatility, and dispersion in analysts' earnings forecasts. This led to a criticism that companies could omit the disclosure of some good and bad news that they deem to be too commercially sensitive to reveal in their public disclosures (Linsley et al., 2006).

Based on disclosures of fact and perception, the findings showed that risk reporting had become proportionately more concerned with the narrative of opinion and perception rather than facts and quantified information, which were both disclosed with decreased proportions over time. Meanwhile, the proportion of sentences containing bad news (when divided by all sentences) increased smoothly over time, although bad news was a low proportion. In addition, the proportion of perception disclosed and the disclosure of bad news as a proportion of all sentences were positively associated with the number of newspaper citations. The implication of these findings was that the bank's disclosure responded to societal discussion with information containing opinion and perception rather than fact or verified information, while the societal discussion increasingly became concerned about bad news over time.

9.4.3 Intrasectoral effects

The results showed that 2008 contained nineteen risk categories, which was the most frequently occurring risk category, with clear switch points disclosed by four of six companies (i.e. RBS, NatWest, Barclays, and HSBC). Meanwhile, 2007 contained nine risk categories, which was the second most occurring risk category of this pattern, as disclosed by five of six companies (i.e. NatWest, Lloyds TSB, HBOS, Barclays, and

HSBC). Hence, this finding indicated that the financial crisis has had an effect on risk category disclosed with switching increase pattern because the financial crisis of 2007 has revealed that massive financial fraud and misconduct has for some time been a part of the enormous risks taken by many banks and financial institutions (Tomasic, 2011).

There was another switching year in 2005, when four companies (i.e. RBS, NatWest, Barclays, and HSBC) disclosed with switching pattern for many risk categories (i.e. risk related to impairment, hedged risk, insurance and investment risk). The most striking observation to emerge from this result was that most risk categories were related to the first-time adoption of International Accounting Standard 32 'Financial Instruments: Presentation' ('IAS 32'), IAS 39 'Financial Instruments: Recognition and Measurement' ('IAS 39') and IFRS 4 'Insurance Contracts' ('IFRS 4'). Consequently, this present finding indicated that a switching increase in 2005 was related to the risk related to fair value, the risk related to impairment, hedging risk, and the insurance and investment risk.

A study of the risk categories disclosed with the pattern of volume fluctuation showed that the most frequently disclosed risks were made by Lloyds TSB. Meanwhile, this pattern was the second most frequently disclosed by HBOS. This finding suggested that companies who disclose risk information with volume fluctuation pattern in many risk categories tended to face more uncertainty in their operations than the companies disclosing less risk categories with this pattern.

9.4.4 Policy implications

Recently, there has been a considerable amount of interest in understanding what causes banks to fail and many attempts have been made to try to predict which banks will encounter difficulty next. Much of this concern stems from the taxpayers, depositors, shareholders and investors who want to be able to identify any potentially weaknesses in banks that may cause them to fail. Even though the banking disclosure data that is available is quite comprehensive, most of the disclosures do not include any direct information on the quality of a bank's management (Hahn, 2009). In addition, this present findings and the findings of several previous studies (i.e. Beretta and Bozzolan, 2004; Linsley and Shrives, 2005a; Linsley and Shrives, 2006; Linsley et al., 2006;

Oliveira et al., 2011b) also found that the largest proportion of risk disclosures were general statements (neutral news direction) while there was a small proportion of warning direction (bad news). However, it was argued that there were several fault-lines related to the collapse of banks, such as over-reliance on short-term market instruments, poor risk management, poor corporate governance (Llewellyn, 2008), the failure in the role of monitoring, and a lack of basic knowledge of banking risks (Holland, 2010).

As the importance of the financial crisis became clear, it was obvious that risk is among the greatest significant issues in the UK banking sector. This reflects the needs for a new conceptual frame-based development in risk management and risk disclosures. In addition, the Basel committee recommended that corporate governance, risk management, the importance of disclosure, and transparency in maintaining confidence in banks are essential elements in the safe and sound functioning of banks (BCBS, 2011e). Moreover, shareholders and other stakeholders (including the UK public) require UK banks to disclose information affecting their prospects for future performance (i.e. operational risk, legal and regulation risk, tax risk, and sustainability risk) and information about key strategic banking risks. In this sense, the UK banks have responded by increasing both the quantity of risk disclosures and the number of risk categories disclosed over time. However, Linsley and Shrives (2005b) warned that increasing the volume of disclosure will not create transparency when it lacks useful information. Consequently, useful information should contain transparency, which is defined as the public disclosure of reliable and timely information that enables its users to make an accurate assessment of a bank's financial condition and performance, its business activities, and the risks related to those activities (BCBS, 1998, p. 15).

In terms of reliable information, the factual disclosure and the quantified disclosure need to be considered for the quality of risk disclosure. Arnold et al. (2011) suggested that the investor's main decision in their investment should be based on factual information and that the next decision should be regarded as the relevant information that contains the reliability of information to assess the firm's future performance. However, Hooper and Pratt (1995) argued that the directors have an incentive to disclose in their rhetorical statements because they can support confidence in the factual information that they claim. Since they are explanatory, rhetorical disclosures tend to be made in large volumes and they should gain less credibility than factual disclosures (Toms, 2002). For the quality of risk disclosure, quantified information offers useful

insights into the narrative component of financial communication. However, several studies have found that risk reporting appeared to lack the disclosure of quantified information (i.e. Lajili and Zéghal, 2005; Linsley and Shrives, 2005a; Yong et al., 2005; Linsley and Shrives, 2006; Linsley et al., 2006). When considering the findings of disclosures of fact, perception, and quantified information in this study, the clear pattern of risk reporting had become proportionately more concerned with the narrative of opinion and perception rather than fact and quantified information. In addition, the UK bank's disclosures responded to societal discussion with information containing opinion and perception rather than fact or verified information. The further finding also showed that factual disclosures were disclosed with decreased proportions of total disclosure over time. In addition, while the number of risk categories (in the UK banks) increased over time, the proportions that were disclosed quantitatively fell against the total number of categories disclosed. This reflects that shareholders and other stakeholders should be concerned about the reliability of information before making their investment decisions. Consequently, to effectively fulfil the demands of shareholders and other stakeholders for reliable information, the UK banks should improve the credibility of their communications by increasing the amount of information disclosed with regard to verified information and quantified information.

In terms of timely information, although risk disclosures in annual reports are not the distinct media for the purpose of providing timely information, the UK banks responded strongly to risk disclosures related to the adoption of international accounting standards in a timely manner when considering the findings that the adoption of IAS 32 'Financial Instruments: Presentation', IAS 39 'Financial Instruments: Recognition and Measurement' and IFRS 4 'Insurance Contracts' in 2005 caused a pattern of switching increase in disclosure of risks related to these standards. In contrast, it was considered that in the period of intense financial crisis between 2007 and 2009 that the UK banks did not provide useful information in a timely manner and that their risk disclosures had the role of reporting *ex post* rather than serving a more alerting role in providing useful forward-looking information to avoid the disruption. Moreover, the findings also showed that there was no meaningful longitudinal change in forward-looking information as a proportion of all disclosures, both before and during a period of the financial crisis.

With respect to the quality of risk disclosure, this present research suggests that a bank's disclosure should adequately reflect the bank's true financial condition and performance. The risk disclosures of the UK banks should improve the quality of disclosure in the aspects of reliability and timeliness of information.

9.5 Limitations of this Study

This section attempts to address the research limitations that have been observed in this study and it describes how these limitations have been minimised.

9.5.1 Sample size

Although UK banks were selected as a sampling frame to examine their risk disclosures, this study was unable to analyse all UK banks because of the limitations of time and capacity. Consequently, this study selected large companies based on the sampling frame of companies incorporated in the UK and listed on the London Stock Exchange. This method generated four sample companies, comprising of HSBC, Lloyds, Barclays and Royal Bank of Scotland (RBS).

In order to increase the number of sampling companies, HBOS plc (which is owned by Lloyds) and National Westminster Bank plc (or NatWest, which is owned by RBS) were chosen as additional sample companies. Hence, six large UK banks were chosen because of their known size effects, which were: HSBC, Lloyds, Barclays, RBS, HBOS, and NatWest.

9.5.2 Method

One caveat of content analysis that needs to be noted in this study is the reliability of the method. This study did not employ the approach of intercoder reliability, which states that the coding scheme should be used by more than one coder and that all coders should have independence from individual subjective judgement. Instead, this study used the alternative intracoder assessment approach, which is used to measure the

reliability of coding by one single coder when it is performed more than once. In order to minimise the problem of reliability, the results of testing were discussed with the supervisor. The complete coding rules were tested twice with different points in time. The first recording of results from six sample companies in 2008 was performed after revising the coding rules. It was then re-recorded two weeks later to test for the stability of recording. Furthermore, in order to satisfy the criteria that are used by content analysis theory, clear coding instruction were established to help the coder to make coding decisions and for the disambiguation of the rules used in this study (see table 5.9 of Chapter 5).

9.5.3   Media selection

This study has only examined risk disclosures in annual reports. This might have failed to capture risk reporting of sample companies through other media relating to risk issues. Looking on the positive side, the use of the same sources of documents that are published on an annual basis relates to consistency because all of the companies need to provide risk information in line with the requirements of accounting standards and market regulations. However, one could also argue that some companies may choose to report risk with voluntary disclosure in other publications. Therefore, in order to prevent bias, this study has also examined risk issues in newspapers as an external reflection on risk in the banking sector by observing the correlations between the number of newspaper citations for risk issues and the risk disclosures in the companies' annual reports.

9.5.4   Measurement of disclosure quality

This study was not specifically designed to evaluate all perspectives of disclosure quality because risk in itself is complex and difficult to capture the clear contents reflecting quality disclosed. In addition, risk is a sensitive issue and some bank's may choose to delay reporting risk or even conceal risk.

With respect to disclosure quality, the Basel Committee on Banking Supervision have required that a bank's disclosure should adequately reflect the bank's true financial

condition and performance. They also stipulated that disclosure should adhere to standards promoting comparability, relevance, reliability and timeliness of the information disclosed. In addition, the required disclosures included both qualitative and quantitative information on a bank's financial performance, financial position, risk management strategies and practices, risk exposures, aggregate exposures to related parties, transactions with related parties, accounting policies, and basic business, management, governance and remuneration (BCBS, 2011e).

Nonetheless, with regard to the importance of quality of disclosure, this study scored the distinct levels of quality in order to measure quality of qualitative disclosure in the aspect of description of management or mitigation of risk. In terms of quantitative disclosure, quality levels were used to distinguish between disclosure containing comparison numerical data (i.e. Level 2) and merely numerical data (i.e. Level 1).

9.6 Recommendations for Further Research

The findings of this study provided a great degree of understanding on risk disclosures; however, it is recommended that further research may be undertaken in three main areas (as follows).

Firstly, it would be interesting to assess longitudinal risk disclosure in the banking sector of other countries, particularly in the US and other countries in Europe because these countries were the most affected by the financial crisis of 2007. Moreover, further research related to a cross-regional study might investigate the different factors in risk categories disclosed and patterns of risk disclosures in longitudinal analysis between UK banks and banks in other countries. It is believed that comparative inter-counties longitudinal studies may provide more insight into the field of risk disclosures in the banking sector.

Secondly, since the interrogation of risk disclosure quality in this study used limited perspectives, considerably more work will need to be done in the other perspectives (such as aggregate exposures to related parties, the effects of financial position, and timeliness of information). In terms of quantitative disclosure, more information on

disclosure of quantified risk is suggested to establish a better understanding of risk disclosure in the quantitative disclosure.

Finally, since annual reports have been used in this study, it is recommended that further research might investigate corporate risk reporting by analysing contents via the corporate website. Based on the use of different media selection, further research might reveal new aspects of risk reporting because some interesting observations and interpretations can be drawn from the use of the Internet for corporate reporting. Moreover, a website can convey information with the purpose of timeliness and contain a much broader range of information for a broader range of stakeholders, which is not specifically intended for consumption by investors who receive the annual report.

Appendices

A Pattern of Switch Points in Risk Disclosure (in All Companies)

The figures demonstrate risk categories (for all years, and for all companies), which have a significant switching increase in volume of risk disclosure, as classified by year in figure 1 to 17 below.

Switch Point in 2005

Figure 1 *Disclosure of risk related to fair value*
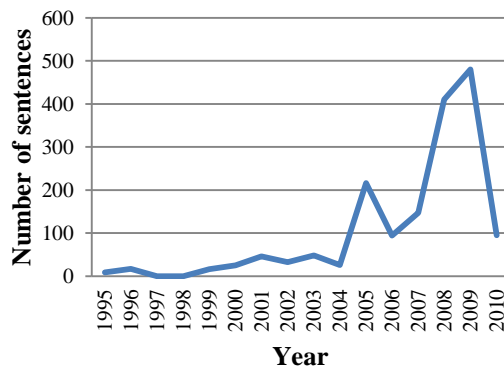
Figure 2 *Disclosure of risk related to impairment*
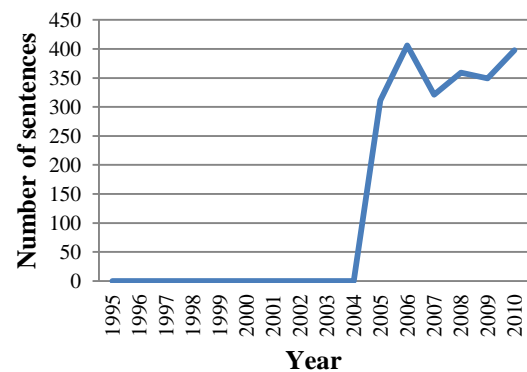
Figure 3 *Disclosure of hedged risk*
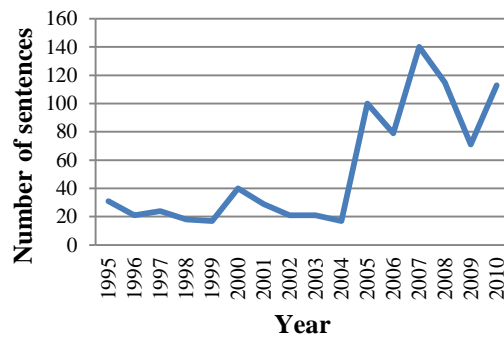
Figure 4 *Disclosure of insurance and funding risk*
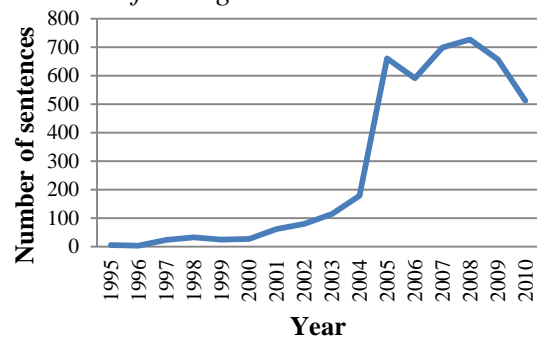
Figure 5 *Disclosure of tax risk*

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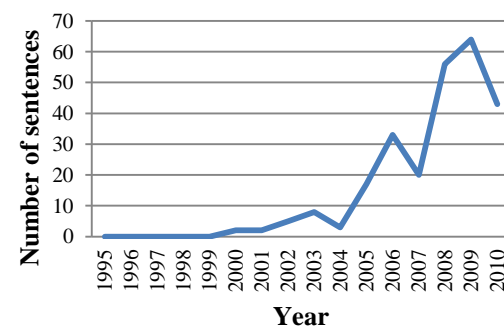
Switch Point in 2006

Figure 6 Disclosure of sustainability risk
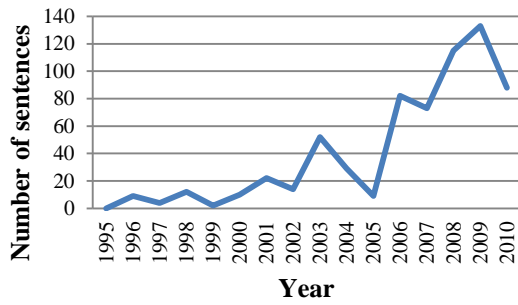
Figure 7 Disclosure of economic risk
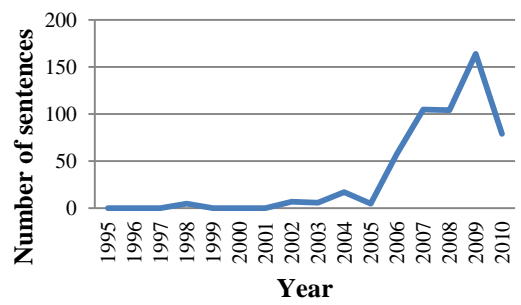
Figure 8 Disclosure of pension risk
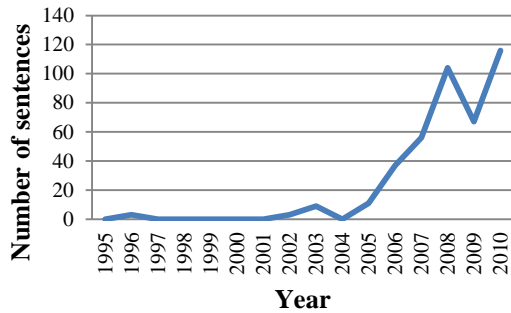
Switch Point in 2007

Figure 9 Disclosure of liquidity and funding risk
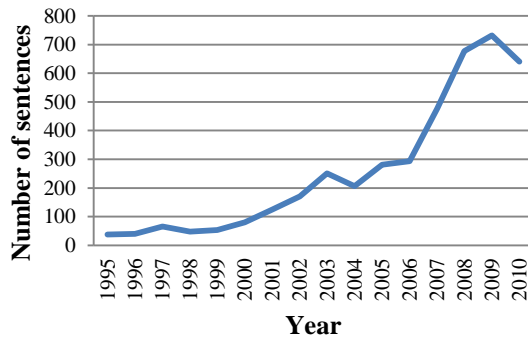
Figure 10 Disclosure of credit risk
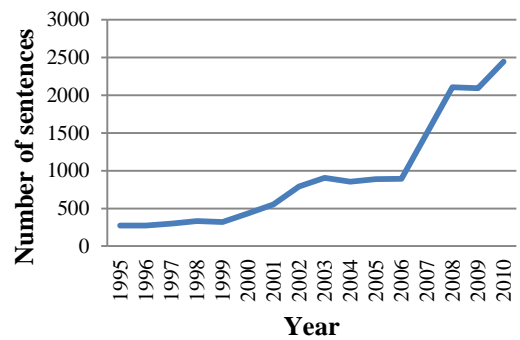
Figure 11 Disclosure of operational risk
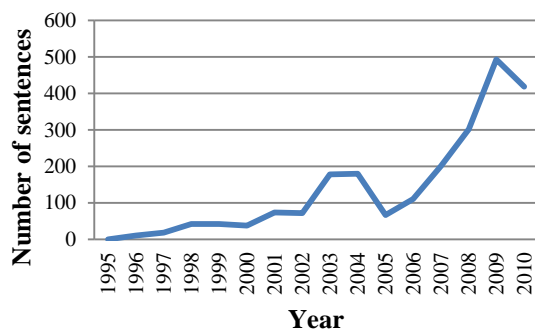
Figure 12 Disclosure of financial crime risk

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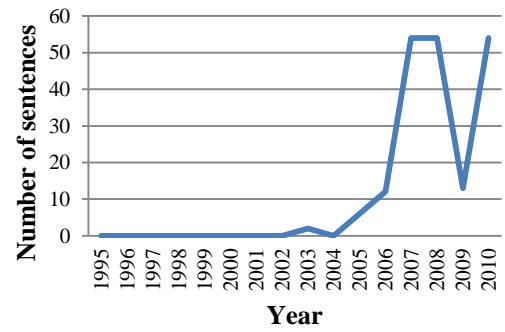
Figure 13 Disclosure of special purpose entities
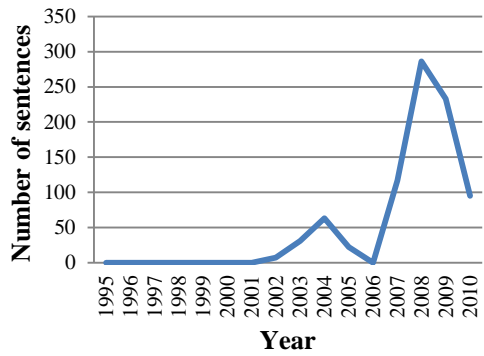
Switch Point in 2008

Figure 14   Disclosure of strategic and business risk
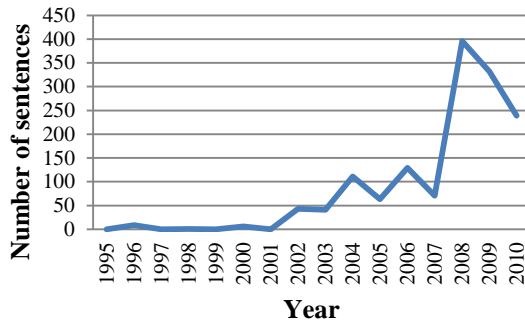
Figure 15   Disclosure of reputation risk
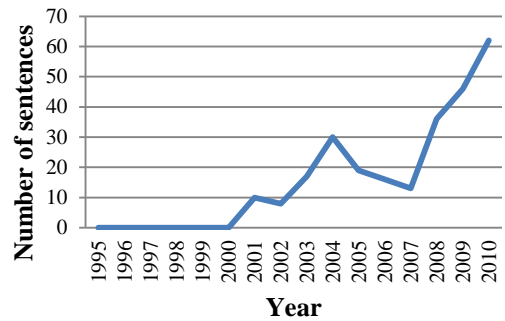
Figure 16   Disclosure of equity risk
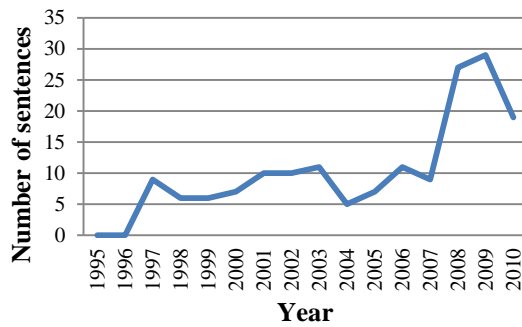
Switch Point in 2009

Figure 17   Disclosure of legal and regulation risk

254
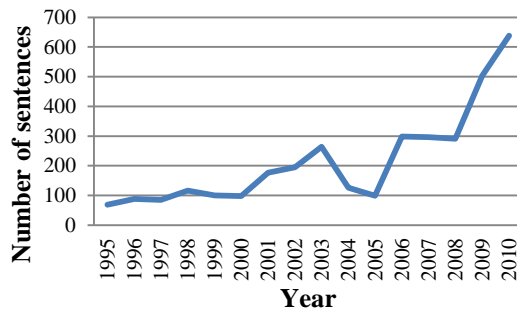
Other risk categories with switch point

The following figures demonstrate risk categories which have a switch point with low volume of disclosure.

Figure 18   *Disclosure of financial report risk*
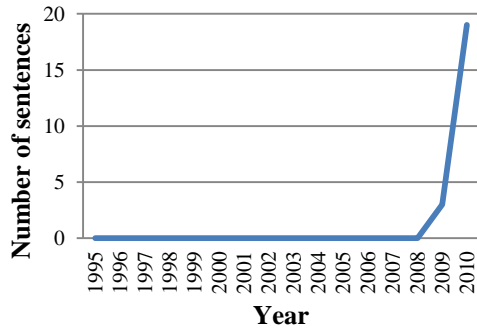
Figure 19   *Disclosure of customer treatment risk*
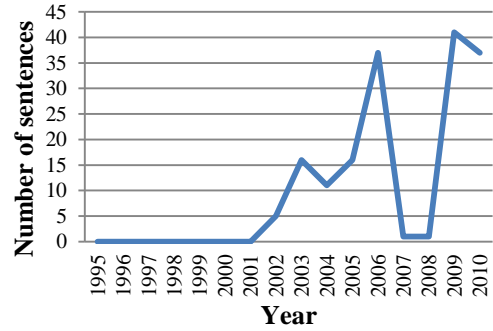
Figure 20   *Disclosure of people risk*
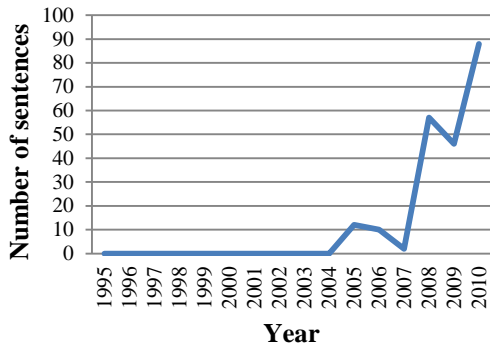
Figure 21   *Disclosure of political risk*
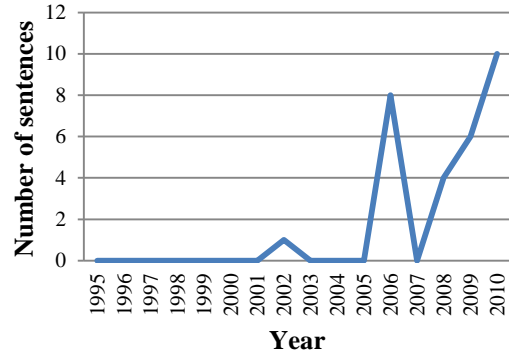
Figure 22   *Disclosure of industries risk*
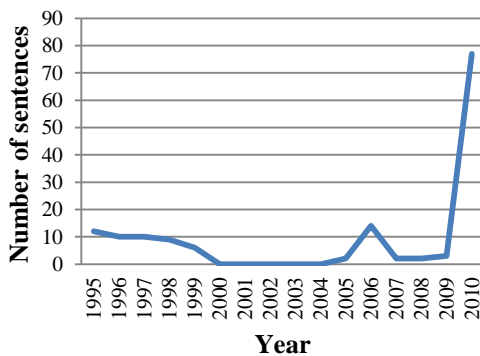
Figure 23   *Disclosure of technologies risk*
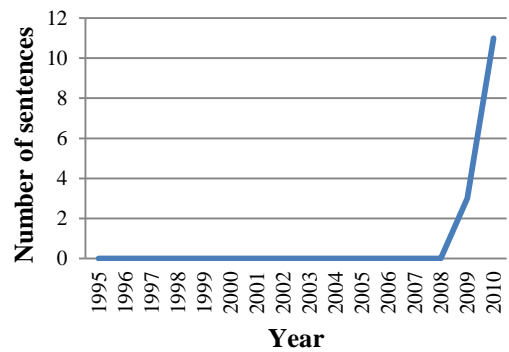
Figure 24 *Disclosure of change risk*
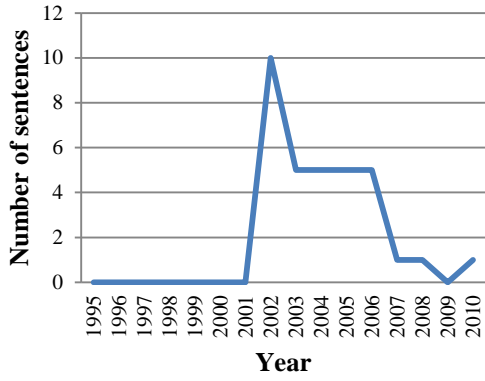
Figure 25 *Disclosure of governance risk*
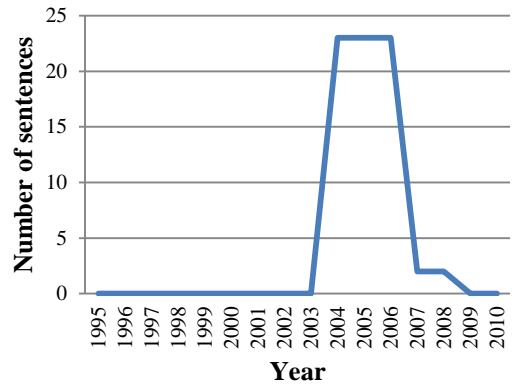
Figure 26 *Disclosure of competition risk*
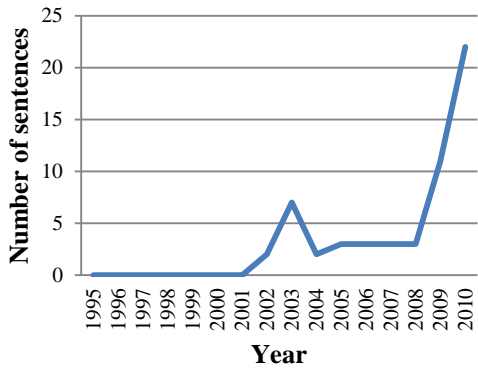
Appendix B:

Figures of Volume Fluctuation in Risk Disclosure in All Companies

To illustrate the characteristics of volume fluctuation, the below figures are illustrated in Figure 1 to 6.

Figure 1   *Disclosure of cross-border risk*
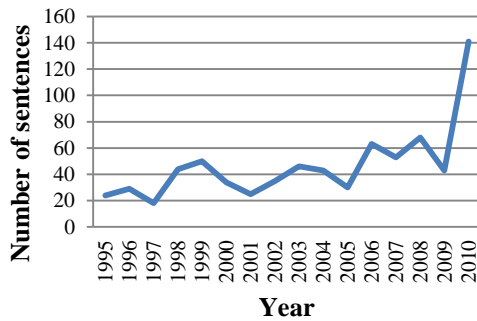
Figure 2   *Disclosure of interest rate risk*
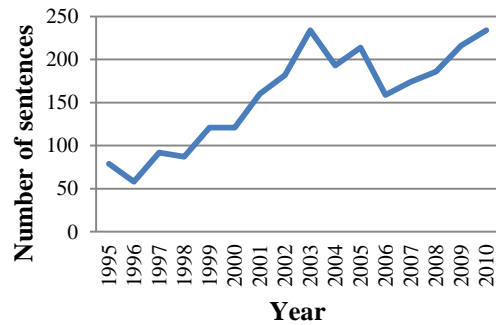
Figure 3   *Disclosure of currency risk*
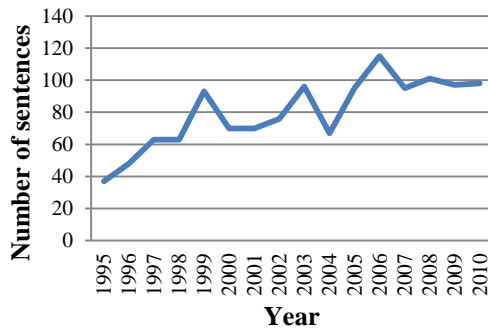
Figure 4   *Disclosure of derivative risk*
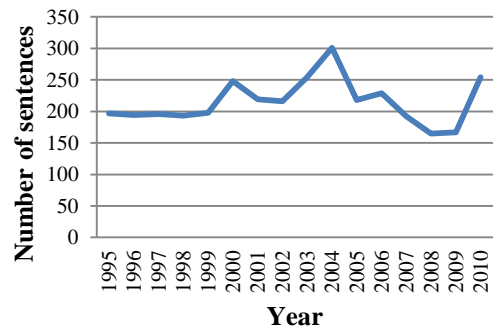
Figure 5   *Disclosure of leasing risk*
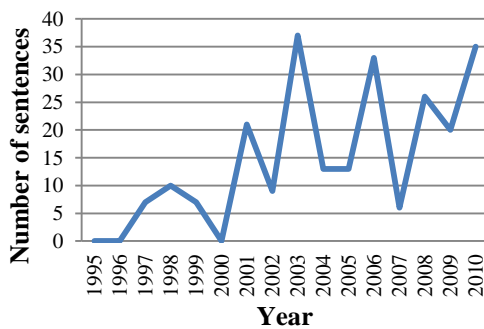
Figure 6   *Disclosure of safety and security risk*
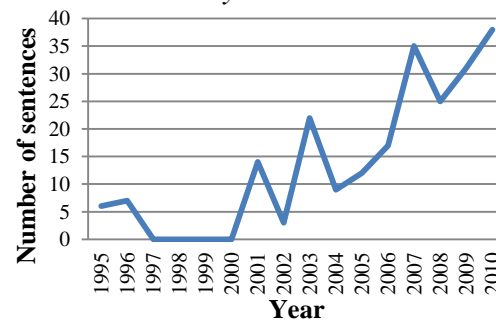
Figures of High Correlation between Intensity of Societal Discussion and Individual Risk Categories in All Companies

The following figures present twelve high correlations in the Figure 1 to 12.

Figure 1   *The correlation between the number of sentences of all risk categories and the number of newspaper citations (in all companies) (r = 0.706, p < 0.01)*
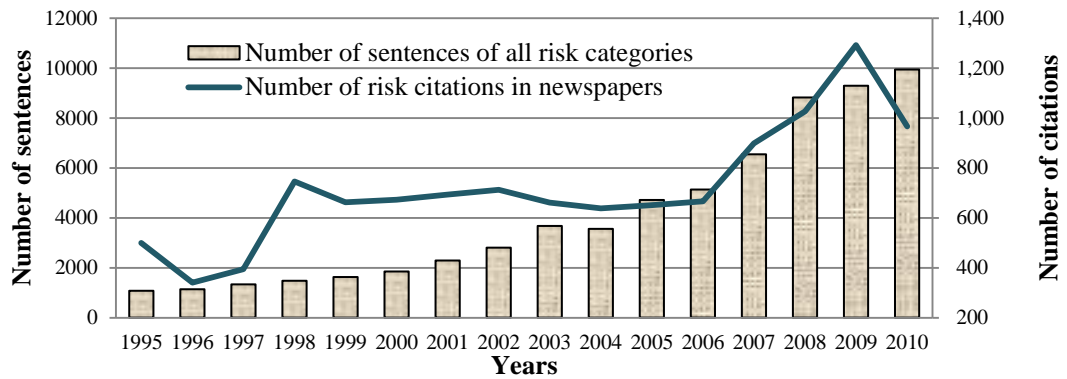
Figure 2   *The correlation between the number of sentences of risk management and the number of newspaper citations (in all companies) (r = 0.717, p < 0.01)*
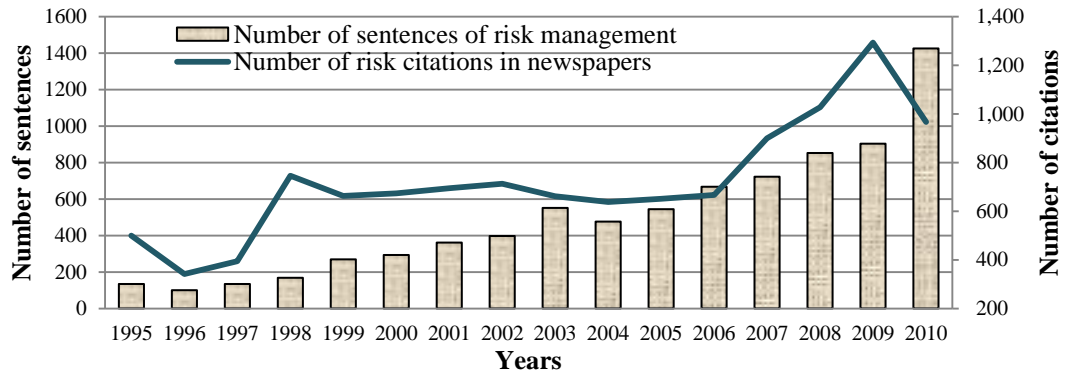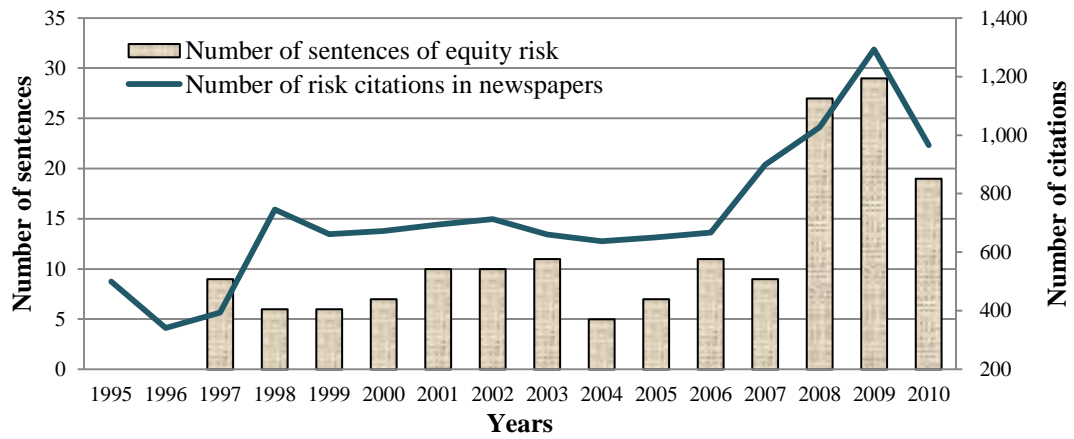

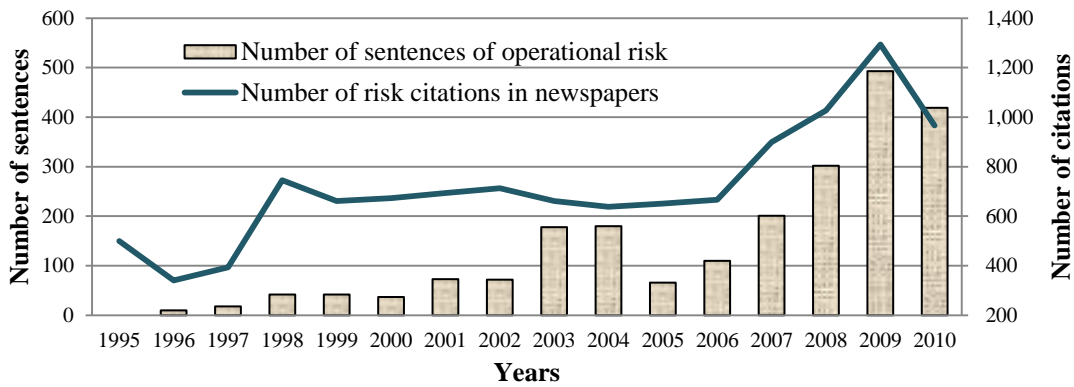**Figure 3**   *The correlation between the number of sentences of liquidity and funding risk and the number of newspaper citations (in all companies) (r = 0.671, p < 0.01)*

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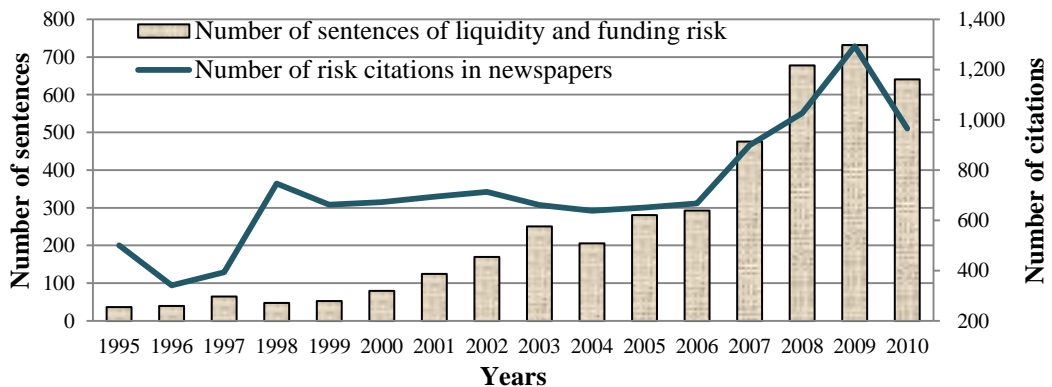
Figure 4 *The correlation between the number of sentences of credit risk and number of newspaper citations (in all companies) (r = 0.700, p < 0.01)*
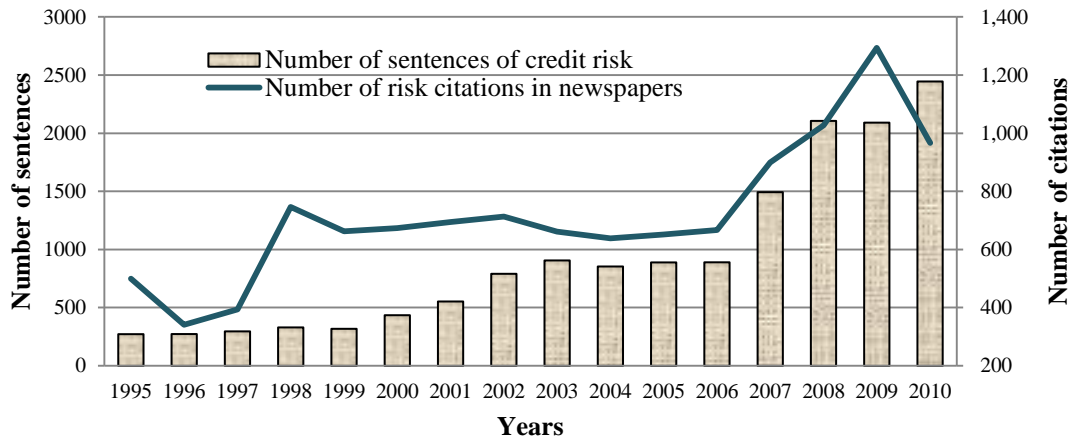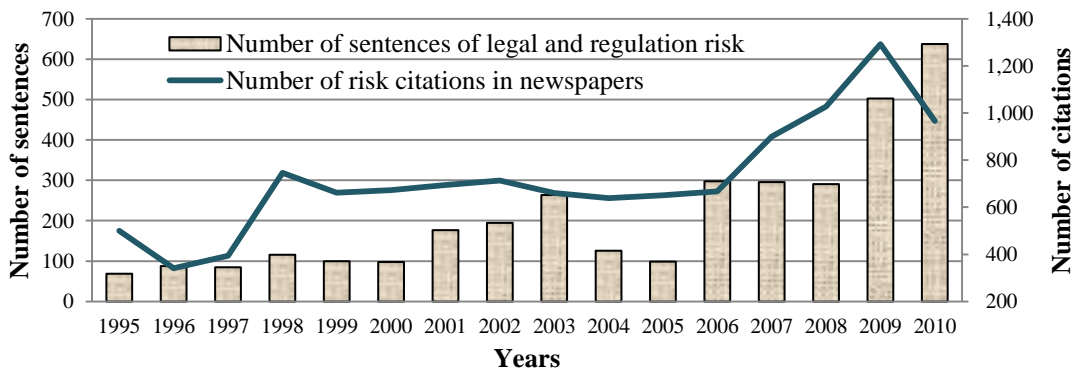

Figure 5 *The correlation between the number of sentences of market risk and the number of newspaper citations (in all companies) (r = 0.697, p < 0.01)*
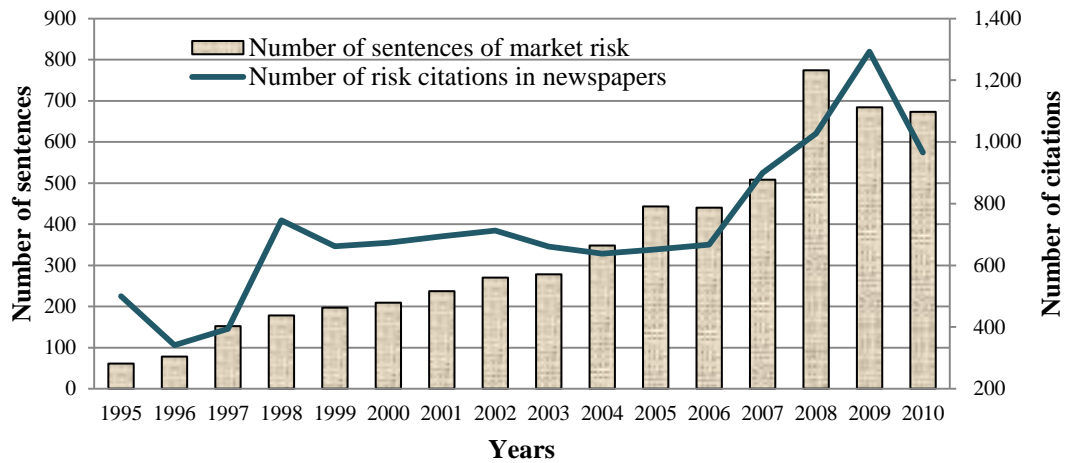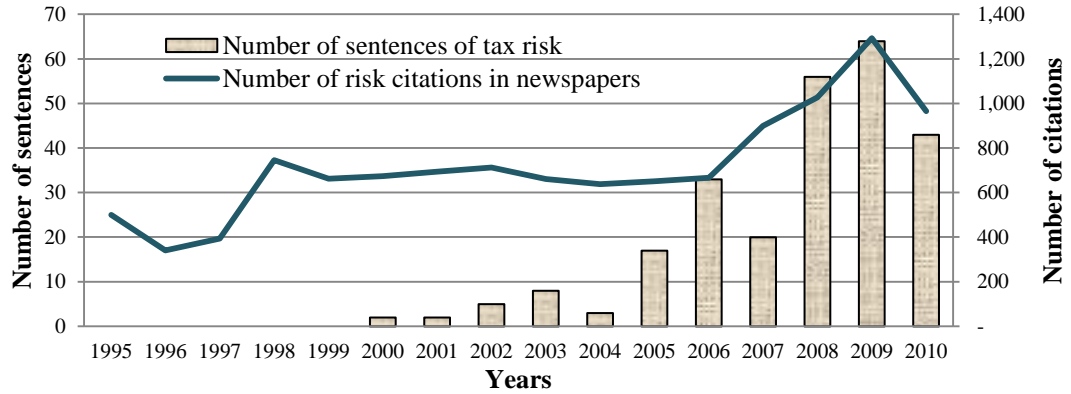

Figure 6 *The correlation between the number of sentences of insurance and investment risk, and the number of newspaper citations (in all companies) (r = 0.638, p < 0.01)*
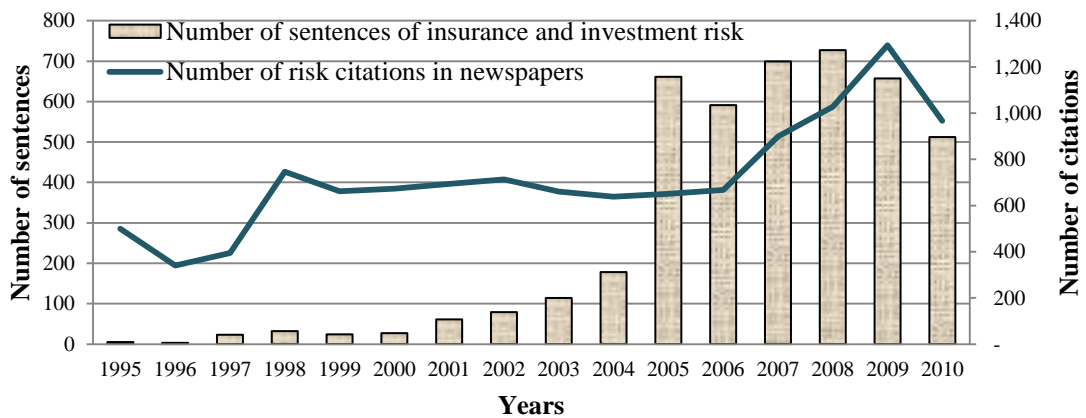
Figure 7 *The correlation between the number of sentences of equity risk, and the number of newspaper citations (in all companies) (r = 0.705, p < 0.01)*

Figure8 *The correlation between the number of sentences of operational risk and the number of newspaper citations (in all companies) (r = 0.728, p < 0.01)*

Figure 9 *The correlation between the number of sentences of legal and regulation risk, and the number of newspaper citations (in all companies) (r = 0.776, p < 0.01)*

Figure 10 *The correlation between the number of sentences of tax risk, and the*
number of newspaper citations (in all companies) (r = 0.674, p < 0.01)

Figure 11 *The correlation between the number of sentences of economic risk, and the*
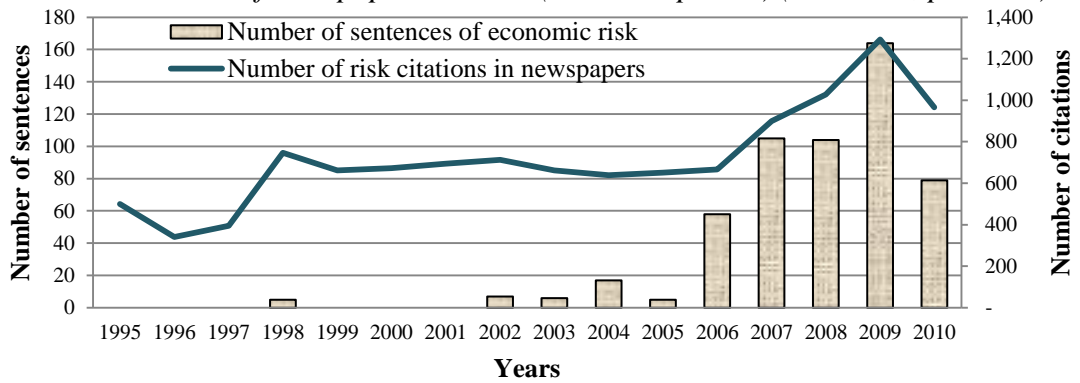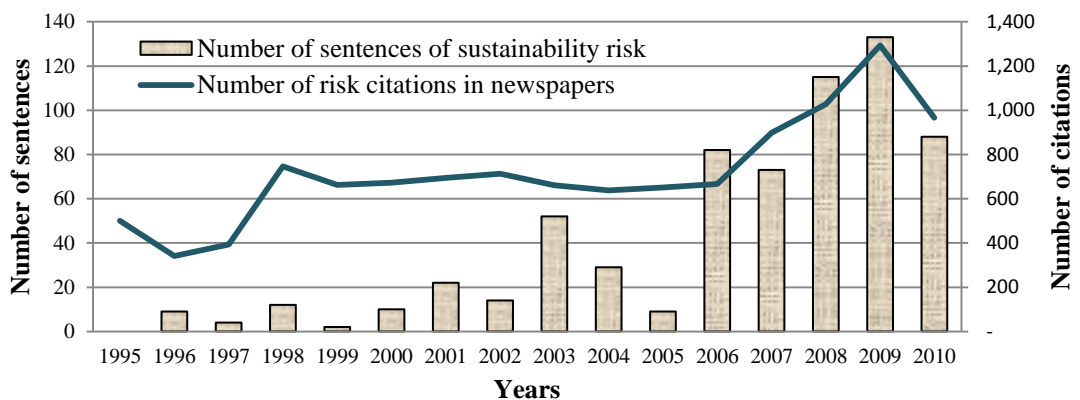*number of newspaper citations (in all companies) (r = 0.697, p < 0.01)*

Figure 12 *The correlation between the number of sentences of sustainability risk, and*
the number of newspaper citations (in all companies) (r = 0.745, p < 0.01)

Appendix D:

Findings and Analysis of Individual Companies

In this appendix, the findings of longitudinal data of individual companies between 1995 and 2010 are analysed for six interrogations, which are:

1) Risk category membership;
2) Time orientation of disclosure;
3) Factual and perception disclosures;
4) Disclosure direction;
5) The quality of risk disclosures; and,
6) The intensity of societal discussion.

The following sections provide the findings and analysis of the individual companies (i.e. RBS, NatWest, Lloyds TSB, HBOS, Barclays, and HSBC).

1. Findings and Analysis of RBS

1.1 Analysing Longitudinal Risk Category Membership, in All Years, at RBS

The following table shows the top ten most disclosed risk categories of RBS, which are illustrated to analyse the longitudinal data by total volume of sentences disclosed and by risk category.

Table 1 *The top ten most disclosed risk categories of RBS*

Ranking Number	Risk Categories	The Number of Sentences Disclosed
1	Credit risk	2,541
2	Risk management	1,274
3	Market risk	1,047
4	Liquidity and funding risk	1,014
5	Insurance and investment risk	823
6	Operational risk	643
7	Risk related to derivatives	625
8	Capital management risk	608
9	Interest rate risk	552
10	Legal and regulation risk	492

Table 1 shows that credit risk is the most disclosed risk category of RBS, having more than double the number of sentences disclosed when compared to risk management (which ranks second), market risk (which ranks third), and liquidity and funding risk (which ranks fourth). This indicates that credit risk is the most concerned risk in RBS's operations.

The following figure shows the number of risk categories that RBS disclosed between 1995 and 2010. This figure is used to analyse the longitudinal data by the number of risk categories disclosed.

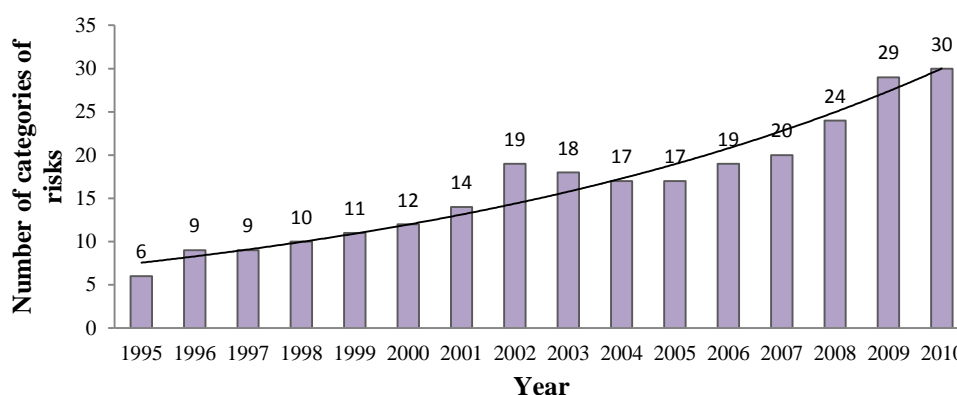*Figure 1* *The number of categories of risk disclosure at RBS*

Figure 1 shows that the number of risk categories disclosed by RBS has increased slightly over time. The lowest number of category disclosed was six categories in 1995 and the highest number of category was thirty categories in 2010. To investigate risk categories in terms of quantity of disclosure, volumetric analysis was developed on the basis of counting the number of sentences disclosed over time. The following finding shows the overall trend of risk disclosures over the period between 1995 and 2010, by all risk categories.

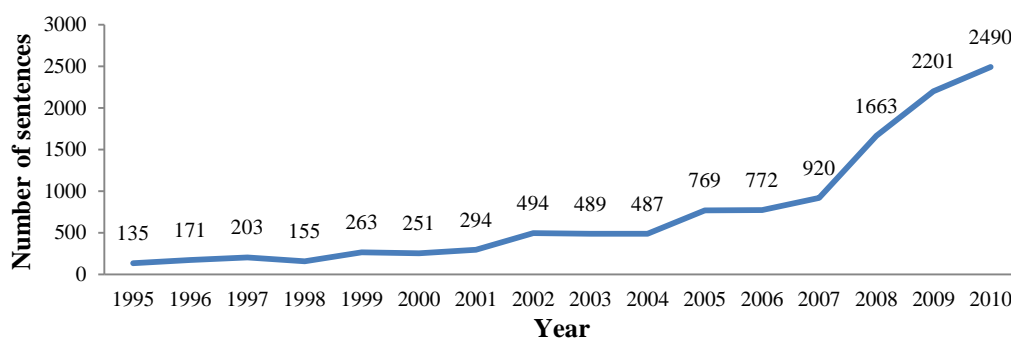*Figure 2* *The number of sentences disclosed in all risk categories by RBS (by year)*

Figure 2 is a line graph of the number of risk disclosures at RBS between 1995 and 2010. Overall, the graph shows a gradual increase in the number of risk disclosures, from 135 sentences in 1995 to 920 sentences in 2007. The numbers of disclosures then increase dramatically in 2008 and in the subsequent year. In other words, the risk disclosure in 2008 was a switch point in volume of disclosure. In addition, this study found that there were three main patterns of disclosure, which are:

1) A smooth increase in volume;
2) A volumetric increase with switch point; and,
3) Volume fluctuation.

The following table shows the risk categories in each pattern of disclosure.

Table 2 *Patterns of longitudinal disclosure of risk categories membership at RBS*

Patterns of Longitudinal Disclosure		
A Smooth Increase in Volume	**A Volumetric Increase with Switch Point, by Year**	**Volume Fluctuation**
1. Liquidity and funding risk	**2005, year of switch point** 1) Risk related to impairment 2) Insurance and investment risk **2006, year of switch point** 3) Market risk **2008, year of switch point** 4) Credit risk 5) Operational risk 6) Capital management risk 7) Reputation risk 8) Cross-border risk 9) Pension risk 10) Risk related to special purpose entities 11) Strategic and business risk 12) Equity risk **2009, year of switch point** 13) Risk management 14) Financial crime risk 15) Competition risk	1) Interest rate risk 2) Currency risk 3) Risk related to derivatives 4) Hedged risk 5) Economic risk 6) Legal and regulation risk 7) Tax risk 8) Leasing risk 9) Safety and security risk 10) Sustainability risk 11) People risk 12) Customer treatment risk 13) Political risk 14) Industries risk 15) Risk related to fair value

As shown in figure 2 and in table 2, there was a distinctive switch point pattern in the risk category disclosures of RBS, which particularly happened in 2008. This key feature may have been due to the failure of RBS in October 2008, following which the government had to inject £45.5bn of equity capital to prevent RBS's complete collapse

(FSA, 2011). In addition there was a strong public interest in whether bank executives and boards had adequate competence to balance appropriately between risk and return. Consequently, in 2008 RBS significantly increased the number of risk disclosures in its annual report, particularly in credit risk, operational risk, and capital management risk (as can be seen below in figures 3, 4 and 5).
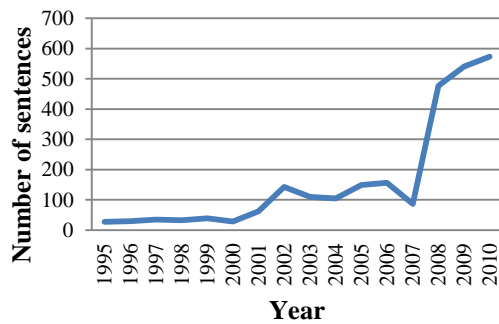
Figure 3 *Disclosure of credit risk by RBS*

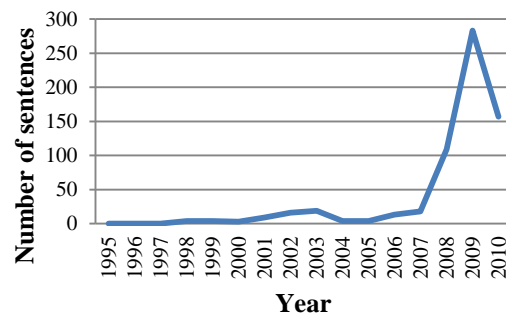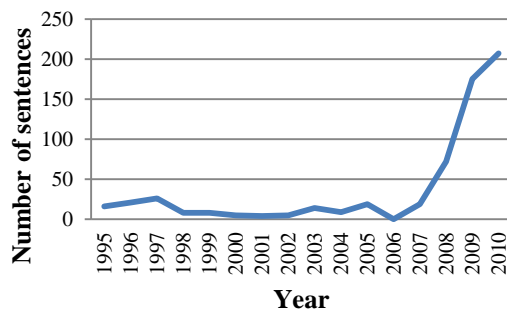*Figure 4* *Disclosure of operational risk by RBS*

Figure 5 *Disclosure of capital management risk by RBS*

1.2   Time Orientation of Disclosure at RBS

The following figure shows the percentage of three characteristics, forward-looking, present, and past disclosures as a proportion of total sentences for RBS between 1995 and 2010.

Figure 6 *The percentage of forward-looking, present, and past disclosures as a proportion of total sentences at RBS between 1995 and 2010*
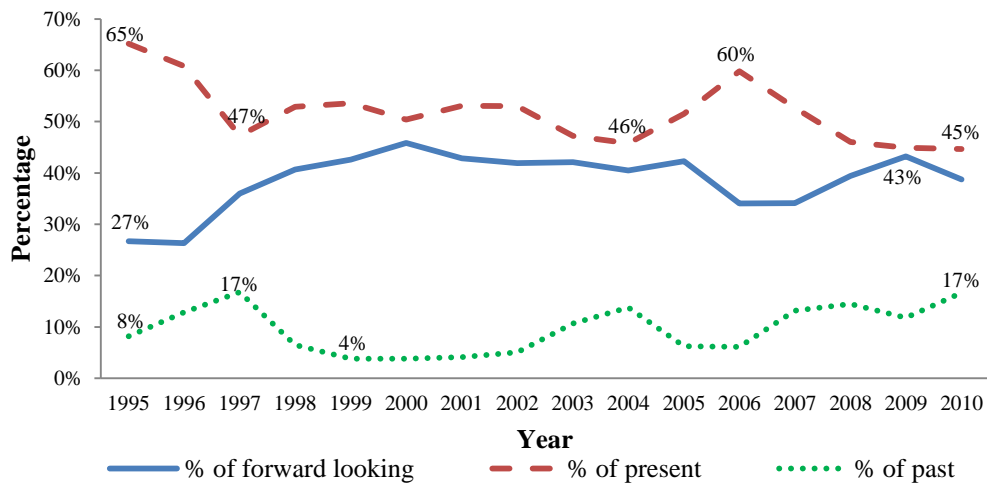

As shown in figure 6, in this period there was no meaningful longitudinal change in the time orientation of disclosures as a proportion of all disclosures. Throughout the period between 1995 and 2010, the largest quantity of time orientation of disclosures was present information. The proportion of present disclosures gradually declined from 65% in 1995 to 47% in 1997. It then gradually increased at approximately the same rate as total sentences over time; that is, it varied between 46% of the total and 60% of the total. Meanwhile, forward-looking disclosures increased at approximately the same rate as total sentences; that is, it varied between 27% of the total and 43% of the total. The lowest proportion of time orientation of disclosures throughout the period was past information, which gradually increased from 8% in 1995 to 17% in 1998. It then had a fluctuation in volume of disclosures that varied between 4% of the total and 17% of the total.

1.3 Factual Disclosures and Perception Disclosures at RBS

A volumetric measure was employed to reflect the longitudinal trend of factual and perception disclosures. The following figure shows the proportion of factual disclosures measured as an inverse proportion of perception.

Figure 7 *The percentage of factual disclosures as a proportion of total sentences at RBS between 1995 and 2010*
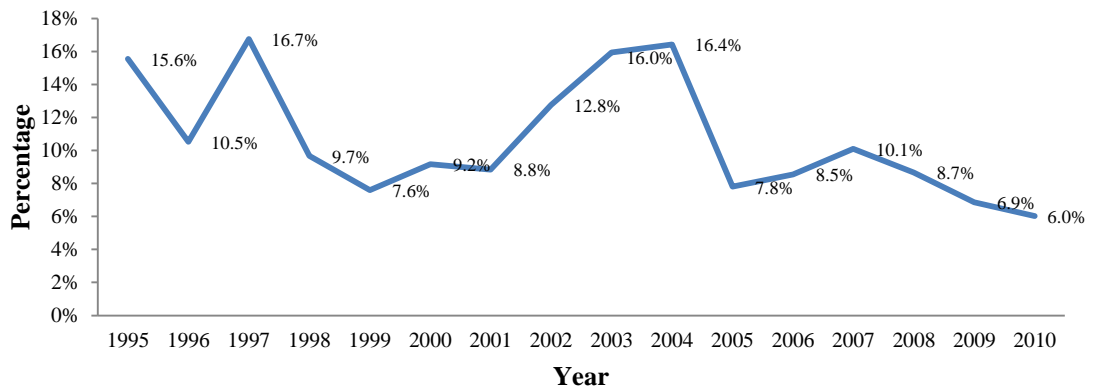
As can be seen from figure 7, the factual disclosure as a proportion of total disclosures shows the fluctuation in the quantity of disclosures over a period of time; that is, it varied between 6% of total disclosures and 16.7% of total disclosures. This indicates that the major proportion of risk disclosures of perception as the inverse proportion of fact had over five times greater volume than fact.

1.4   Disclosure Direction at RBS

The following figure illustrates the findings of the trend of bad news as a proportion of total sentences disclosed at RBS over the period.

Figure 8 *The percentage of bad news sentences as a proportion of total number of sentences disclosed between1995 and 2010 by RBS*
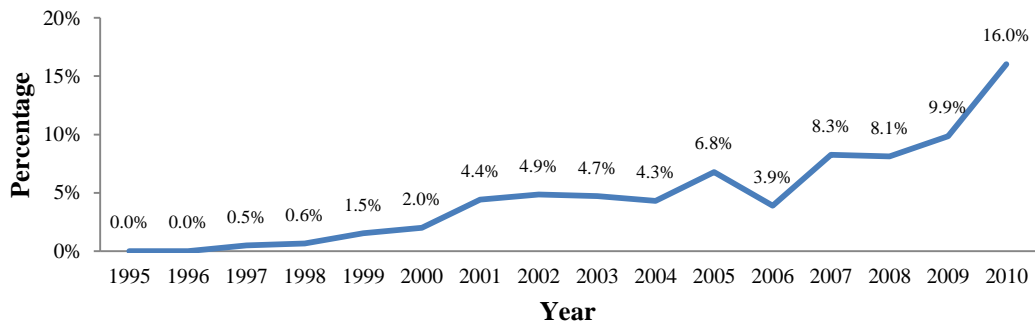

Figure 8 shows that the proportion of sentences containing bad news (divided by all sentences) increased smoothly over time. Bad news was a low proportion (i.e. from 0% in 1995 to a high of 16% in 2010) when compared to the total proportion of neutral

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news. The pattern of bad news disclosure at RBS was similar to the bad news pattern of all companies (as described in Chapter 6, Section 6.2.3).

1.5   The Quality of Risk Disclosures at RBS

The quality of risk disclosure in this study was divided into two groups: qualitative disclosure and quantitative disclosure. These two groups are described in detail in the subsections which follow.

1.5.1   The quality of qualitative disclosure at RBS

The frequency of qualitative disclosure levels was counted for all risk categories of RBS to identify the quality level in all risk categories at RBS. The analysis looked at the improvement over a period of sixteen years between 1995 and 2010; the results are shown in the following figure.

Figure 9 *Frequency counts of qualitative disclosure level under all risk categories at RBS*
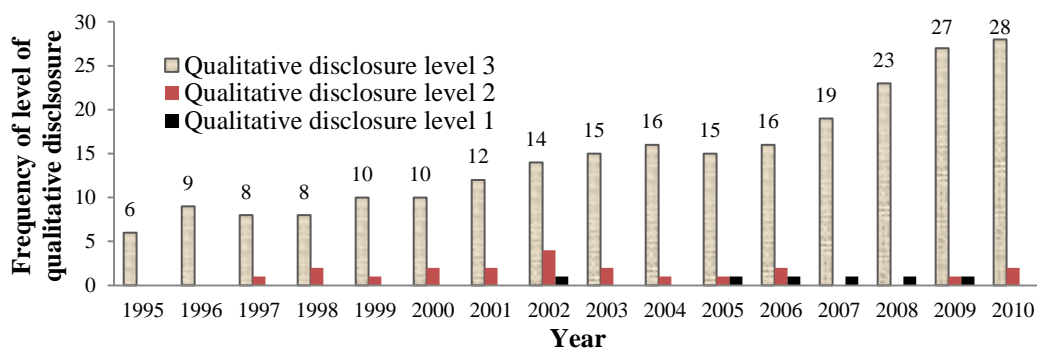
It is apparent from figure 9 that the total frequencies of qualitative disclosure were overwhelmingly disclosed on level 3 (as defined in table 6.5 of Chapter 6), this happened because the disclosure included a description of the management or mitigation of that risk. In addition, the result shows that there was an upward trend of high information content (level 3), from six risk categories in 1995 to twenty-eight risk categories in 2010. However, this upward trend in the number of increased risk categories (as shown in figure 1, Section 1.1) shows that when a risk category increased

it also had a chance to count more frequency of qualitative disclosure level. To examine the upward trend of qualitative disclosure at level 3, the number of risk categories disclosed at level 3 was divided by the total number of risk disclosures as a proportion of qualitative disclosure level 3.

Figure 10 *The frequency of qualitative disclosure level 3 as a proportion of total risk categories at RBS*
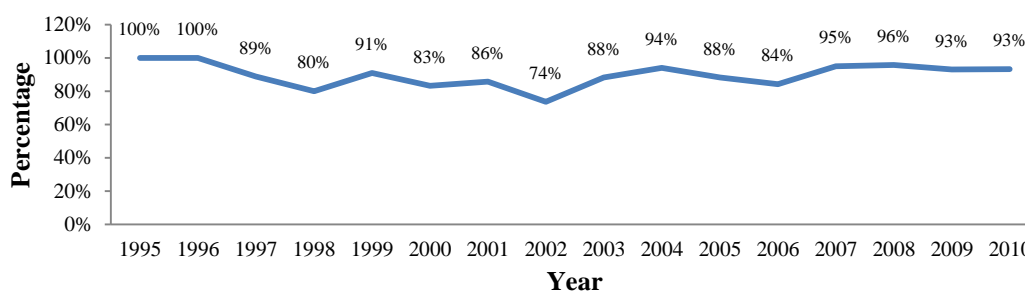

Figure 10 shows that most risk categories were disclosed with high information content at level 3; however the clear upward trend that was seen in figure 9 is absent. There is now only a slight change in frequency, which varied between 74% of total categories to 100% of total categories.

1.5.2   The quality of quantitative disclosure at RBS

Evaluating the quality of quantitative disclosures employed 2 levels (as described in table 6.6 in Chapter 6). The frequencies of both levels were counted in order to identify the pattern disclosed. An analysis of numerical data classified as level 1 and level 2 shows that there are significant different frequencies in both levels, as can be seen in the following figure.

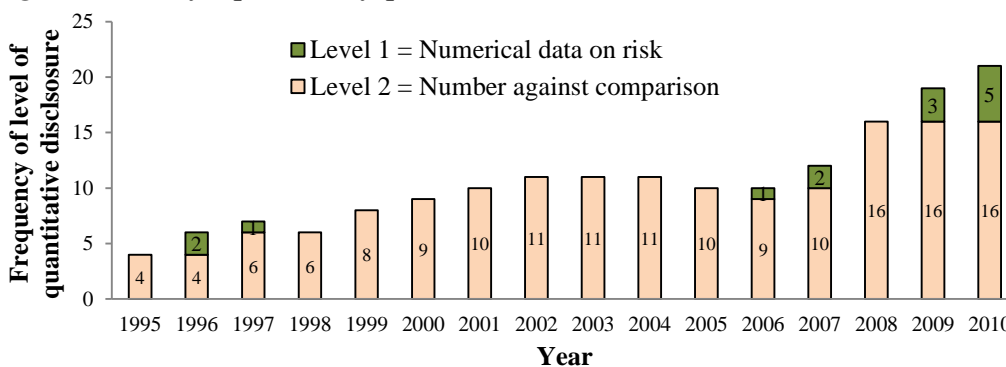***Figure 11*** *The frequencies of quantitative disclosure levels at RBS*

Figure 11 shows that there was a significant difference between level 1 and 2 during 1995 to 2010. During this time RBS disclosed risk categories quantitatively with comparison numerical data, and it purely disclosed level 2 in many years, with the exceptions of 1996, 1997, 2006, 2007, 2009, and 2010. The results of the numerical data without comparing (i.e. level 1) were mixed between one category and five categories. Moreover, quantitative disclosures of level 2 showed a slight increase from four categories in 1995 to ten categories in 2007, before switching to sixteen categories in 2008 and remaining at the same frequency in the subsequent years.

The factor of the increased number of risk categories is examined. Consequently, the following figure shows the result of making frequencies of quantitative disclosure level 2 as a proportion of total risk categories between 1995 and 2010.

Figure 12 *The frequency of quantitative disclosure level 2 as a proportion of total risk categories at RBS*
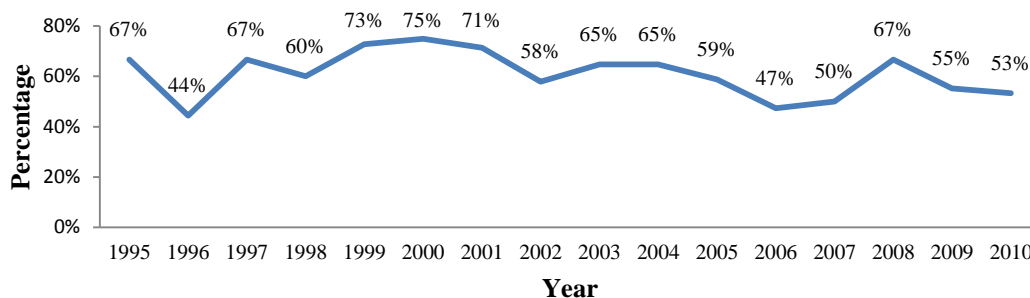
Figure 12 shows the quantitative disclosure with number against a comparison (level 2), which fluctuates in proportion of total risk categories (it varied between 44% and 75%). However, there was no the upward trend of quantitative disclosures (as demonstrated in figure 11) when the number of increased risk categories were examined by making them a proportion.

1.6 The Intensity of Societal Discussion at RBS

The intensity of societal discussion was examined by looking at the correlation between the volume of newspaper citations in the UK banking and financial sector against the risk disclosures made by RBS. The following table describes the outcome of the various findings of correlation.

Table 3 *Correlations between the number of risk issues cited in newspapers and various variables in RBS's disclosures*

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Information Richness (by proportion)			
Bad news disclosed	0.745	0.001	0.01
Neutral news disclosed	-0.745	0.001	0.01
Forward looking disclosure	0.344	0.192	no association
Present disclosure	-0.438	0.090	no association
Past disclosure	0.012	0.966	no association
Fact	-0.591	0.016	0.05
Perception	0.591	0.016	0.05
Quantitative disclosure (all levels)	-0.155	0.566	no association
Qualitative disclosure at level 3	-0.172	0.523	no association
Risk Categories (by number of sentences)			
Total risk categories	0.674	0.004	0.01
Risk management	0.744	0.001	0.01
Credit risk	0.624	0.010	0.01
Market risk	0.779	0.000	0.01
Economic risk	0.746	0.001	0.01
Operational risk	0.817	0.000	0.01
Reputation risk	0.669	0.005	0.01
Pension risk	0.750	0.001	0.01
Equity risk	0.641	0.007	0.01
Cross-border risk	0.533	0.034	0.05
Currency risk	0.503	0.047	0.05
Legal and Regulation risk	0.522	0.038	0.05
Insurance and Investment risk	0.555	0.026	0.05
Risk related to fair value	0.560	0.024	0.05
Competition risk	0.533	0.034	0.05
Tax risk	0.599	0.014	0.05
Safety and security risk	0.617	0.011	0.05
Industries risk	0.608	0.013	0.05
Risk related to impairment	0.597	0.015	0.05
Special purpose entities	0.51	0.043	0.05
Liquidity and funding risk	0.474	0.064	no association
Interest rate risk	0.244	0.362	no association
Risk related to derivatives	-0.200	0.457	no association
Hedged risk	0.410	0.114	no association
Capital management risk	0.149	0.582	no association
Strategic and business risk	0.384	0.142	no association
Financial crime risk	0.457	0.075	no association
Residual value risk	0.383	0.143	no association
Sustainability risk	0.422	0.104	no association

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Customer treatment risk	0.434	0.093	no association
People risk	0.489	0.055	no association
Political risk	0.335	0.205	no association
Financial report risk	no disclosure		
Technology risk	no disclosure		
Change risk	no disclosure		
Governance risk	no disclosure		

As can be seen in table 3, the results have been categorised into three main groups of correlation: high correlation (r is between ± 0.63 and ± 1.00, $p < 0.01$), moderate correlation (r is between ± 0.50 and ± 0.62, $p < 0.05$), and no correlation (r is less than ± 0.50). The correlations can be reported on two aspects (i.e. information richness and risk categories).

In terms of information richness, there was a positive association between the disclosure direction of bad news and newspaper citations. On the other hand, the disclosure of neutral news as the inverse proportion of bad news had a negative relationship with the number of newspaper citations. Disclosure of perception was associated positively with newspaper citations at a moderate level while factual information as the inverse proportion of perception had a negative association. Both the interrogation of time orientation of disclosures and the interrogation of disclosure quality had no association with the number of newspaper citations.

In terms of the variables based on risk categories, it was noticeable that the high correlation group consisted of total risk categories and the key strategic risks of the bank (i.e. risk management, credit risk, market risk, operational risk, and equity risk). These categories were also contained in the group of high correlation of overall analysis (in all companies), as described in Chapter 6, Section 6.3.2. However, the reputation risk and the pension risk had high correlations in RBS's disclosures, while both risks had moderate correlations in the overall analysis (in all companies). This indicates that the intensity of societal concern is associated with certain specific risk categories as disclosed by different banks.

2. Findings and Analysis of NatWest

2.1 Analysing Longitudinal Risk Category Membership, in All Years, at NatWest

The following table shows the top ten most disclosed risk categories of NatWest, which are illustrated to analyse the longitudinal data by total volume of sentences disclosed and by risk category.

Table 4 *The top ten most disclosed risk categories of NatWest*

Ranking Number	Risk Categories	The Number of Sentences Disclosed
1	Credit risk	1,041
2	Market risk	760
3	Risk management	628
4	Legal and Regulation risk	483
5	Liquidity and funding risk	442
6	Interest rate risk	388
7	Risk related to derivatives	363
8	Capital management risk	331
9	Operational risk	303
10	Risk related to fair value	186

Table 4 shows that credit risk is the most disclosed risk category of NatWest. This indicates that credit risk was the most concerned risk in NatWest's operation.

The following figure shows the number of risk categories that NatWest disclosed between 1995 and 2010 in order to analyse the longitudinal data by the number of risk categories disclosed.

Figure 13 *The number of categories of risk disclosure at NatWest*
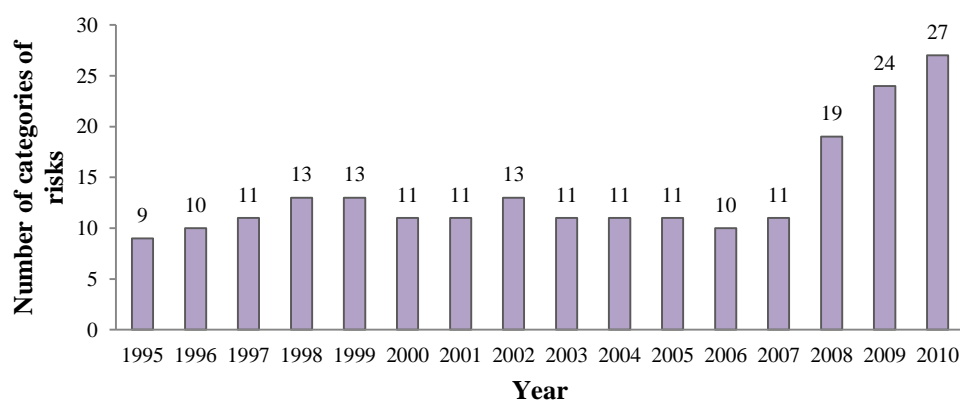
As can be seen from figure 13, the number of risk categories disclosed by NatWest changed slightly between 1995 and 2007 (i.e. it varied between nine categories and thirteen categories). However, since 2008 the number of risk categories switched from eleven categories in 2007 to nineteen categories in 2008, and it continued to increase in the subsequent year, reaching the highest point at twenty-seven categories in 2010.

Volumetric analysis was developed on the basis of counting the number of sentences disclosed over time in order to investigate the risk categories in terms of quantity of disclosure. The following figure shows the overall trend of risk disclosures over a period of time between 1995 and 2010, by all risk categories.

Figure 14 *The number of sentences disclosed in all risk categories by NatWest (by year)*
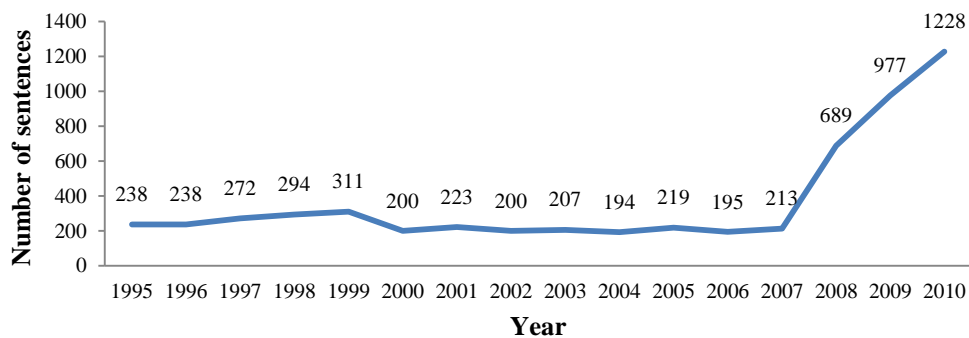

Figure 14 shows that over the period between 1995 and 2007 the quantity of risk disclosure slightly changes in a narrow range (i.e. from 194 to 311 sentences) before changing with a switching point in 2008. It experienced a more than three times increase in 2007. It should be considered that this pattern was comparable with the pattern of the number of risk categories disclosed (see figure 13). Since the change with switch point in 2008 happened in both the number of risk categories and in the quantity of risk disclosure, the key feature for many risk categories disclosed tends to be a switch point pattern. However, this study found that NatWest had two main patterns of disclosure, which are: a volumetric increase with switch point and volume fluctuation. The following table shows the risk categories in each pattern of disclosure.

Table 5 *Patterns of longitudinal disclosure of risk categories membership at NatWest*

Patterns of Longitudinal Disclosure	
A Volumetric Increase with Switch Point, by Year	**Volume Fluctuation**
2005, year of switch point	1) Cross-border risk
1) Hedged risk	2) Interest rate risk
2007, year of switch point	3) Risk related to derivatives
2) Risk related to impairment	4) Currency risk
2008, year of switch point	5) Economic risk
3) Credit risk	6) Insurance and investment risk
4) Liquidity and funding risk	
5) Operational risk	7) Reputation risk
6) Market risk	8) Financial crime risk
7) Risk management	9) Risk related to fair value
8) Strategic and business risk	10) Competition risk
9) Pension risk	11) Leasing risk
10) Tax risk	12) Sustainability risk
2009, year of switch point	13) People risk
11) Legal and regulation risk	14) Political risk
12) Capital management risk	15) Industries risk
13) Safety and security risk	16) Equity risk.
14) Customer treatment risk	

As shown in figure 14 and table 5, the key feature for many risk categories was the pattern of volumetric increase with switch point, which particularly happened in 2008. NatWest has been a part of RBS since 2000; therefore, the failure of RBS in 2008 (as described in Section 1.1) directly affected NatWest's risk disclosure in many risk categories, with a significant switching increase in 2008 (i.e. risk management, liquidity and funding risk, credit risk, market risk, and operational risk).

2.2 Time Orientation of Disclosure at NatWest

The following figure shows the percentage of three characteristic disclosures (i.e. forward-looking, present, and past disclosures) as a proportion of total sentences at NatWest between 1995 and 2010.

Figure 15 *The percentage of forward-looking, present, and past disclosures as a proportion of total sentences at NatWest between 1995 and 2010*
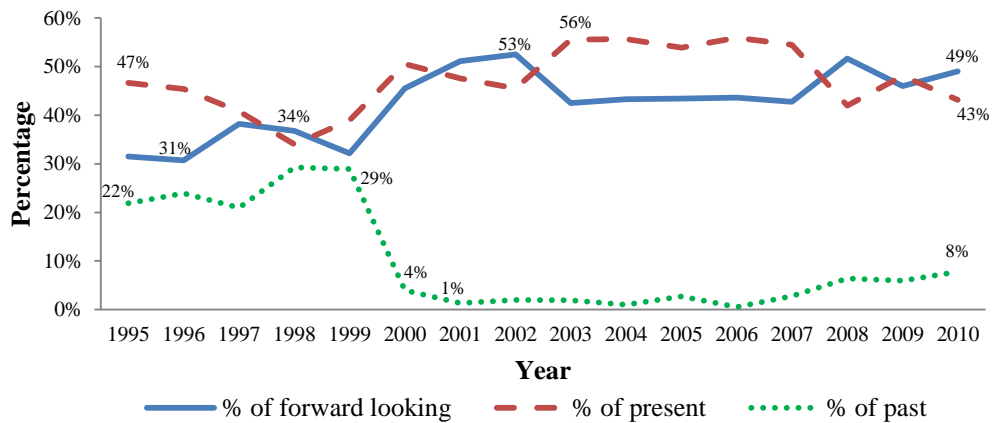

Figure 15 shows that throughout the period between 1995 and 2010 the lowest quantity of time orientation of disclosures was past information. The proportion of past disclosures slightly changed from 22% in 1995 to 29% in 1999, it then steeply dropped to 4% in 2000. After the year of 2000 the proportion of past disclosures had only slight change, it varied between 1% of total and 8% of the total. Meanwhile, both forward-looking disclosure and present disclosure switched to be the largest proportion of risk disclosures, often within close proportion of one another. The proportion of forward-looking disclosure varied between 31% and 53%, while the proportion of present disclosure varied between 34% and 56%.

2.3   Factual Disclosures and Perception Disclosures at NatWest

The volumetric measure was employed in this study to reflect the longitudinal trend of factual and perception disclosures. The following figure shows the proportion of factual disclosures measured as an inverse proportion of perception.

Figure 16 *The percentage of factual disclosures as a proportion of total sentences at NatWest between 1995 and 2010*
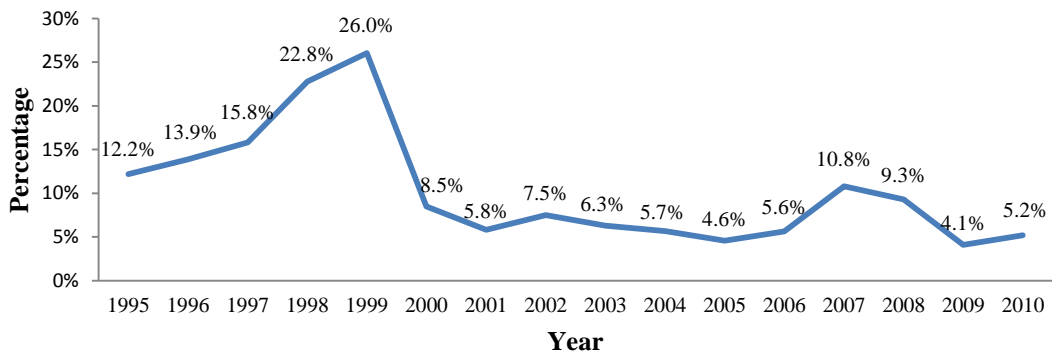

Figure 16 shows that the factual disclosure as a minor proportion of total disclosures gradually increased from 12.2% in 1995 to 26% in 1999, it then sharply decreased to 8.5% in 2000. It then fluctuated in the period between 2000 and 2010, which varied between 4.1% of total disclosures and 10.8% of total disclosures.

2.4 Disclosure Direction at NatWest

The following figure provides the findings of the trend of bad news as an inverse proportion of disclosure of neutral news.

Figure 17 *The percentage of bad news sentences as a proportion of total number of sentences disclosed between 1995 and 2010 at NatWest*
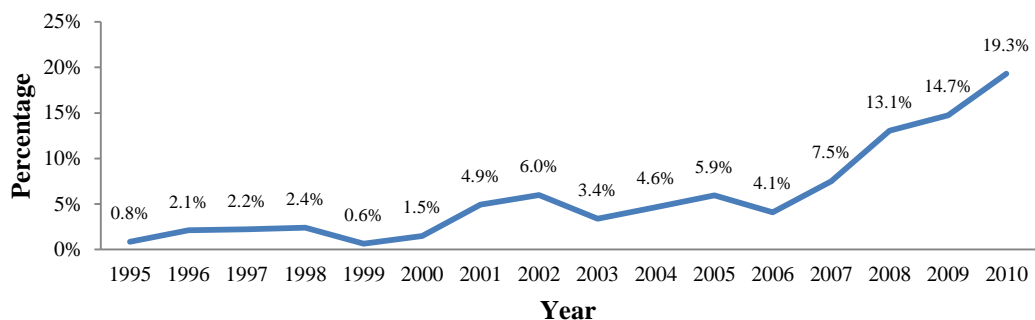

Figure 17 shows the proportion of bad news was a low proportion of total disclosure throughout the period between 1995 and 2010. In addition, the proportion of sentences containing bad news (divided by all sentences) had an upward trend with slight fluctuation over time, from 0.8% in 1995 to the highest at 19.3% in 2010. The pattern of

bad news disclosure at NatWest was comparable to the bad news pattern of all companies (as described in Chapter 6, Section 6.2.3).

2.5   The Quality of Risk Disclosures at NatWest

The quality of risk disclosure in this study was divided into two groups, qualitative disclosure and quantitative disclosure.

2.5.1   The quality of qualitative disclosure at NatWest

The frequency of qualitative disclosure levels was counted for all risk categories at NatWest to identify the quality level in all risk categories at NatWest. The analysis looked at the improvement over a period of sixteen years between 1995 and 2010; the results are shown in the following figure.

Figure 18 *Frequency counts of qualitative disclosure level under all risk categories at NatWest*
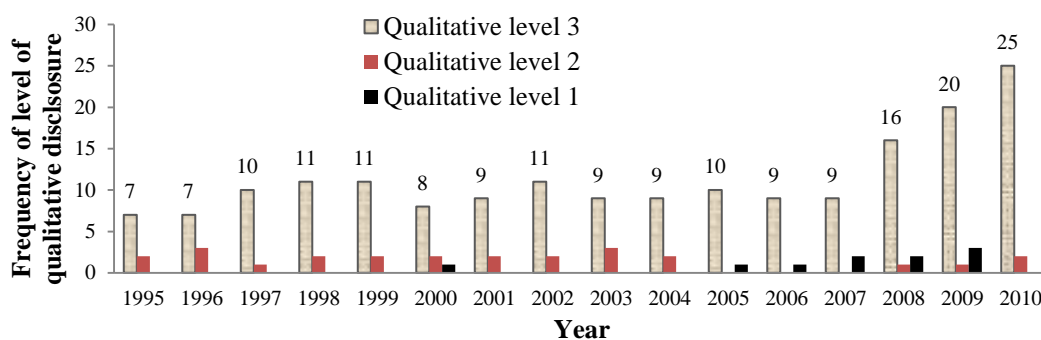
It is apparent from figure 18 that the total frequencies of qualitative disclosure at NatWest were mainly disclosed on level 3 (as defined in table 6.5 of Chapter 6) since the disclosure included a description of the management or mitigation of that risk. In addition, the result shows that there was an upward trend of high information content (level 3) from seven risk categories in 1995 to twenty-five risk categories in 2010. However, this upward trend involved the number of increased risk categories and, therefore, the following figure shows the results when the frequency of qualitative disclosure level 3 was examined by making them a proportion.

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Figure 19 *The frequency of qualitative disclosure level 3 as a proportion of total risk categories at NatWest*
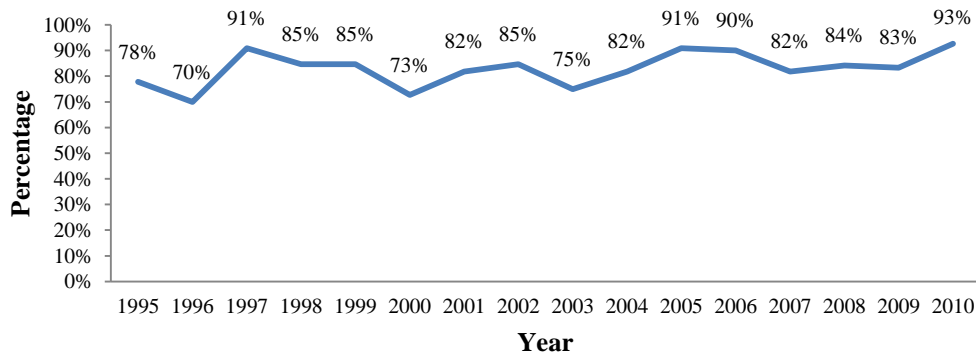

Figure 19 shows that most risk categories were disclosed with high information content at level 3 with a slight change in frequency without the upward trend, which varied between 70% of total categories to 93% of total categories.

2.5.2   *The quality of quantitative disclosure at NatWest*

Evaluation of the quality of quantitative disclosures employed 2 levels (as mentioned in table 6.6 of Chapter 6). The frequencies were then counted for both levels to identify the pattern disclosed. The analysis of numerical data classified as level 1 and level 2 showed significantly different frequencies in both levels, as shown in the following figure.

Figure 20 *The frequencies of quantitative disclosure levels at NatWest*
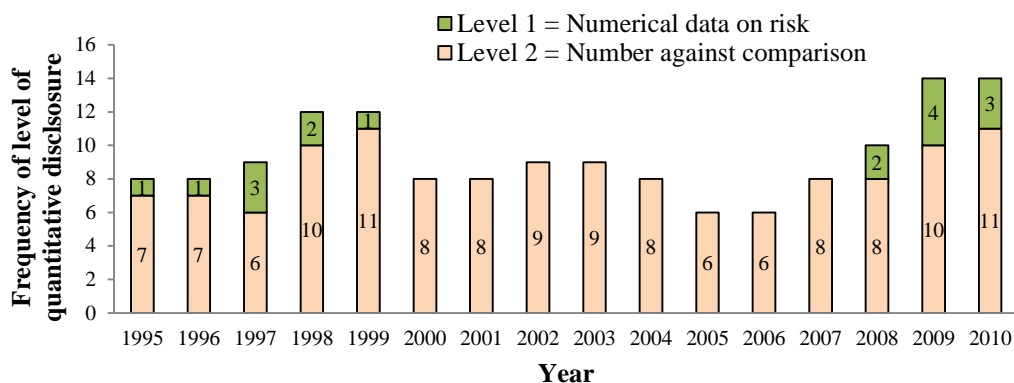

Figure 20 shows the significant difference between level 1 and 2 over the period between 1995 and 2010. NatWest disclosed risk categories quantitatively with

comparison numerical data, and purely disclosed level 2 in the period between 2000 and 2007. Moreover, quantitative disclosures of level 2 showed a fluctuation in frequencies between six categories and eleven categories. It shows that there has been an upward trend since 2007.

To examine the factor of the increased number of risk categories, the following figure shows the result of making frequencies of quantitative disclosure level 2 as a proportion of total risk categories between 1995 and 2010.

Figure 21 *The frequency of quantitative disclosure level 2 as a proportion of total risk categories at NatWest*
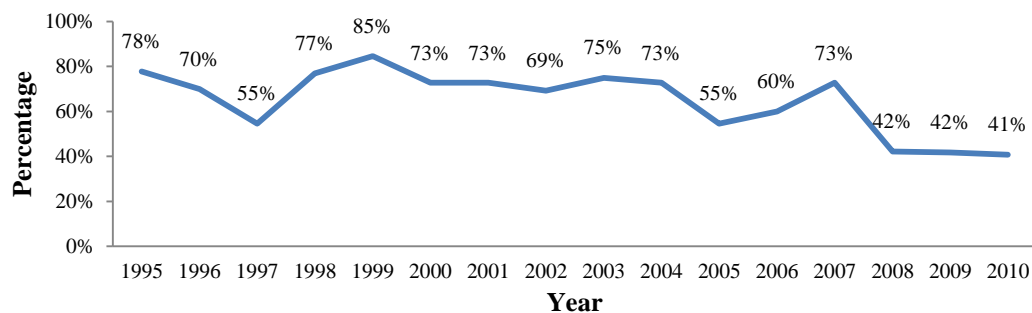

Figure 21 shows that quantitative disclosure with number against comparison (level 2) was disclosed with a fluctuation in the proportion of total risk categories over the period between 1995 and 2007, it varied between 55% and 85%. However, after 2007 the proportion of quantitative level 2 significantly decreased from 73% to 42% in 2008, before it slightly decreased to 41% in 2010. In contrast, the frequency of quantitative disclosure level 2 increased over a similar period between 2007 and 2010 (see figure 20). This result suggested that, although NatWest increased risk disclosure in both the number of risk categories and the volume of disclosure, these increased disclosures contained narrative rather than numerical data.

2.6   The Intensity of Societal Discussion at NatWest

The intensity of societal discussion was examined by looking at the correlation between the volume of newspaper citations in the UK banking and financial sector against the risk disclosures made by NatWest. The following table describes the outcome of the various findings of correlation.

Table 6 *Correlations between the number of risk issues cited in newspapers and various variables in NatWest's disclosures*

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Information Richness (by proportion)			
Bad news	0.712	0.002	0.01
Neutral news	-0.712	0.002	0.01
Forward looking disclosure	0.671	0.004	0.01
Present disclosure	-0.109	0.688	no association
Past disclosure	-0.047	0.863	no association
Fact	-0.303	0.254	no association
Perception	0.303	0.254	no association
Quantitative disclosure (all levels)	-0.535	0.033	0.05
Qualitative disclosure at level 3	0.229	0.393	no association
Risk Categories (by number of sentences)			
Liquidity and funding risk	0.730	0.001	0.01
Risk related to derivatives	-0.697	0.003	0.01
Market risk	0.682	0.004	0.01
Reputation risk	0.668	0.005	0.01
Pension risk	0.669	0.005	0.01
Tax risk	0.669	0.005	0.01
Risk related to impairment	0.654	0.006	0.01
Operational risk	0.642	0.007	0.01
Industries risk	0.574	0.020	0.05
Hedged risk	0.568	0.022	0.05
People risk	0.537	0.032	0.05
Strategic and business risk	0.531	0.034	0.05
Customer treatment risk	0.533	0.034	0.05
Safety and security risk	0.527	0.036	0.05
Total risk categories	0.371	0.157	no association
Sustainability risk	0.420	0.105	no association
Currency risk	0.378	0.148	no association
Equity risk	0.376	0.151	no association
Risk management	0.361	0.170	no association
Interest rate risk	-0.344	0.192	no association
Credit risk	0.339	0.199	no association
Fair value of financial instrument	0.325	0.220	no association
Economic risk	0.308	0.246	no association
Financial crime risk	0.308	0.246	no association
Competition risk	0.308	0.246	no association
Political risk	0.308	0.246	no association
Cross-border risk (country risk)	0.279	0.296	no association
Insurance and Investment risk	-0.268	0.315	no association
Legal and Regulation risk	0.218	0.417	no association

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Residual value risk	0.197	0.464	no association
Capital management risk	0.184	0.495	no association
Financial report risk	no disclosure		
Special purpose entities	no disclosure		
Technology risk	no disclosure		
Change risk	no disclosure		
Governance risk	no disclosure		

As shown in table 6, the results have been categorised into three main groups of correlation: high correlation (r is between ± 0.63 and ± 1.00, $p < 0.01$), moderate correlation (r is between ± 0.50 and ± 0.62, $p < 0.05$), and no correlation (r is less than ± 0.50). The correlations can be reported on two aspects (i.e. information richness and risk categories).

In terms of information richness, there was a positive association between the disclosure direction of bad news and the number of newspaper citations. Meanwhile, the disclosure of neutral news as the inverse proportion of bad news had a negative relationship. For the time orientation of disclosures, only forward-looking disclosure was found to be positively associated with the number of newspaper citations, while present and past disclosures had no association. The interrogation of factual and perception disclosure was not associated with the number of newspaper citations. For the interrogation of quality of disclosure, quantitative disclosure was found to be negatively associated with the number of newspaper citations at a moderate level, while qualitative disclosure level 3 had no association.

In terms of the variables based on risk categories, it was noticeable that there were many risk categories having no association which consisted of total risk categories and key risk categories of banking (such as credit risk, risk management, capital management risk, interest rate risk, and currency risk). This result suggests that NatWest did not respond to societal considerations in key risk issues by disclosing those risks in annual reports.

However there were certain risk categories that had a high correlation with societal concerns. Except for the risk related to derivatives (which had a high negative

correlation), the group of high positive correlation consisted of liquidity and funding risk, market risk, reputation risk, pension risk, tax risk, risk related to impairment, and operational risk.

3. Findings and Analysis of Lloyds TSB

3.1 Analysing Longitudinal Risk Category Membership, in All Years, at Lloyds TSB

The following table shows the top ten most disclosed risk categories of Lloyds TSB, which are illustrated to analyse the longitudinal data by total volume of sentences disclosed and by risk category.

Table 7 *The top ten most disclosed risk categories of Lloyds TSB*

Ranking Number	Risk Categories	The Number of Sentences Disclosed
1	Credit risk	1,565
2	Risk management	1,541
3	Insurance and Investment risk	1,023
4	Market risk	693
5	Liquidity and funding risk	630
6	Capital management risk	477
7	Risk related to derivatives	395
8	Operational risk	341
9	Strategic and business risk	304
10	Legal and regulation risk	288

Table 7 shows that credit risk is the most disclosed risk category by Lloyds TSB, while risk management is the second ranking (having nearly the same number of sentences disclosed as the first ranking). This indicates that both credit risk and risk management were the most concerned risks in Lloyds TSB's operation.

The following figure shows the number of risk categories that Lloyds TSB disclosed between 1995 and 2010, which are illustrated in order to analyse longitudinal data by the number of risk category disclosed.

Figure 22 *The number of categories of risk disclosure at Lloyds TSB*
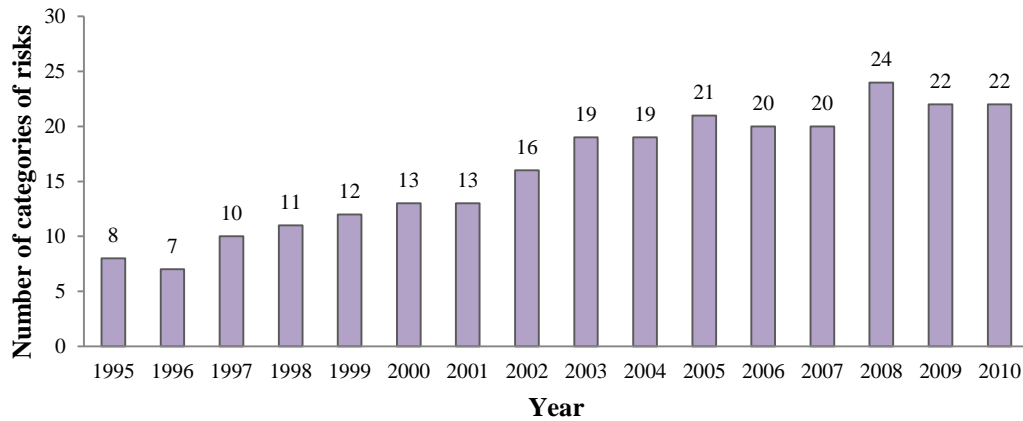
As can be seen from figure 22, the number of risk categories disclosed by Lloyds TSB has risen slightly over time. Eight categories were disclosed in 1995 and this decreased to seven categories in 1996. The number of risk categories then gradually increased, it reached a peak of twenty-four categories in 2008 and it then dropped to twenty-two categories in 2009 and 2010. Volumetric analysis was developed on the basis of counting the number of sentences disclosed over time in order to investigate risk categories in terms of quantity of disclosure. The following figure shows the overall trend of risk disclosures over the period between 1995 and 2010, by all risk categories.

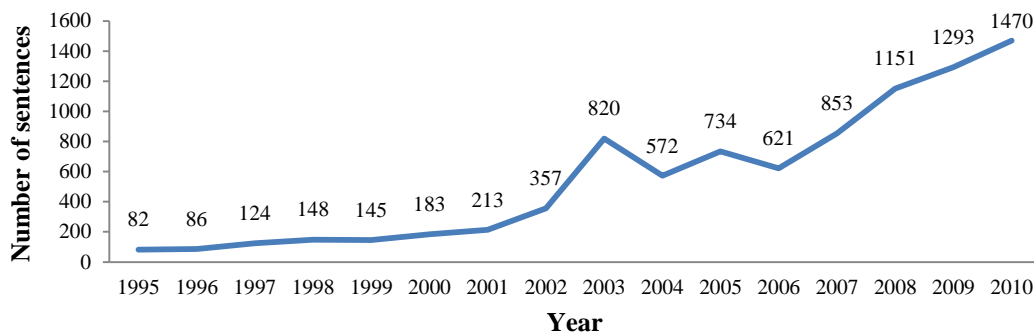**Figure 23** *The number of sentences disclosed in all risk categories by Lloyds TSB (by year)*

Figure 23 illustrates the number of risk disclosures made by Lloyds TSB between 1995 and 2010. Overall, the graph shows a smooth increase in the number of risk disclosures. The notable exception was the number of risk disclosures in 2003, which had a significant increase in volume because this was a year of considerable change for Lloyds TSB's strategic direction (i.e. it decided to focus on its core business). This change affected certain risks and, therefore, it led to an increase in volume of disclosure

in the relevant risks (such as credit risk, liquidity risk, and legal and regulation risk). Problematically, the overall trend of a smooth increase in the volume of disclosure conceals other switch-points and fluctuations in certain risk categories. The following table the shows risk categories under three main patterns of disclosure, which are: a smooth increase in volume, a volumetric increase with switch point, and volume fluctuation.

Table 8 *Patterns of longitudinal disclosure of risk categories membership at Lloyds TSB*

Patterns of Longitudinal Disclosure		
A Smooth Increase in Volume	**A Volumetric Increase with Switch Points, by Year**	**Volume Fluctuation**
1) Market risk 2) Insurance and investment risk	**2003, year of switch point** 1) Liquidity and funding risk **2007, year of switch point** 2) Risk management **2009, year of switch point** 3) Credit risk	1) Operational risk 2) Interest rate risk 3) Currency risk 4) Capital management risk 5) Cross-border risk 6) Risk related to derivatives 7) Risk related to fair value 8) Hedged risk 9) Economic risk 10) Reputation risk 11) Legal and regulation risk 12) Pension risk 13) Financial crime risk 14) Strategic and business risk 15) Competition risk 16) Tax risk 17) Leasing risk 18) People risk 19) Safety and security risk 20) Sustainability risk 21) Equity risk 22) Risk related to impairment 23) Technology risk 24) Change risk 25) Governance risk 26) Customer treatment risk

As shown in table 8, there were three categories that had a pattern of volumetric increase with a switch point in different years (i.e. 2003, 2007, and 2009).

Firstly, disclosure of liquidity and funding risk increased significantly in 2003. In this year Lloyds TSB raised funds by issuing loan capital without issuing equity for this purpose; therefore, they provided more information about credit rating, contractual obligation, and off-balance sheet arrangements in this year.

Secondly, risk management was disclosed with a significant increase in volume in 2007, which increased to a peak in 2008. This shows that Lloyds TSB's risk management disclosure was one of the strategic policies that they used to respond to the financial crisis that began in 2007.

Thirdly, disclosure of credit risk has a volumetric increase with a clear switch point in 2009. In July of 2009 Lloyds TSB made an acquisition of HBOS. In addition, the effects of the financial crisis caused Lloyds to launch its largest ever capital-raising effort in November of 2009, comprising a £9 billion debt exchange and a £13.5 billion rights issue that was backed by the UK government's support through UK Financial Investments, which meant that the HM Treasury took a 43.4 % stake in Lloyds TSB (Lloyds, 2009).

In terms of the pattern of volume fluctuation, this pattern was the key feature for many of the risk categories disclosed; it had twenty-six out of a total of thirty-one risk categories (see table 8). This reflects the frequent high volatility that Lloyds TSB have faced in their operations and in various risk categories over the longitudinal period.

3.2   Time Orientation of Disclosure at Lloyds TSB

The following figure shows the percentage of three characteristics (i.e. forward-looking, present, and past disclosures) as a proportion of total sentences at Lloyds TSB between 1995 and 2010.

Figure 24 *The percentage of forward-looking, present, and past disclosures as a proportion of total sentences at Lloyds TSB between 1995 and 2010*
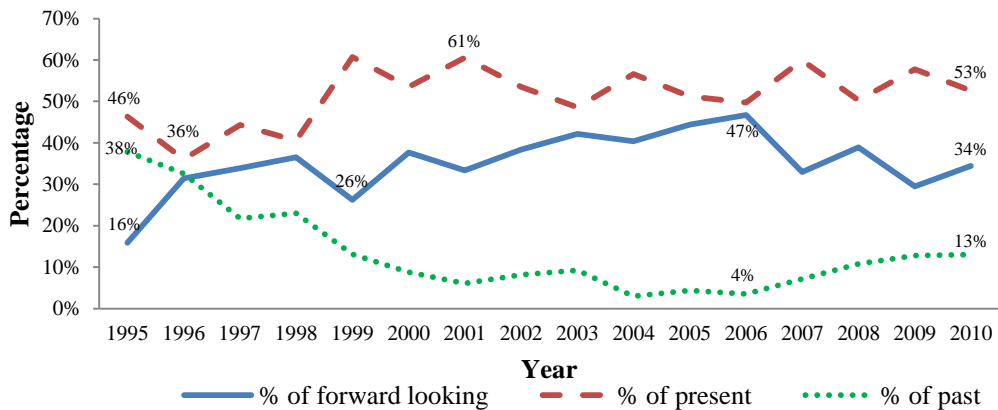

Figure 24 shows that since 1997 the lowest quantity of time orientation of disclosure was past information. The proportion of past disclosure gradually declined from 38% in 1995 to 4% in 2006, after which it gradually increased to 13% in 2010. Meanwhile, present disclosure was the largest proportion throughout the period between 1995 and 2010, which varied between 36% and 61% of total disclosures. And finally, following 1997 forward-looking disclosure was the second largest proportion, which varied between 26% and 47% of total disclosures.

3.3 Factual Disclosures and Perception Disclosures at Lloyds TSB

The volumetric measure was employed to reflect the longitudinal trend of factual and perception disclosures. The following figure shows the proportion of factual disclosures measured as an inverse proportion of perception.

Figure 25 *The percentage of factual disclosures as a proportion of total sentences at Lloyds TSB between 1995 and 2010*
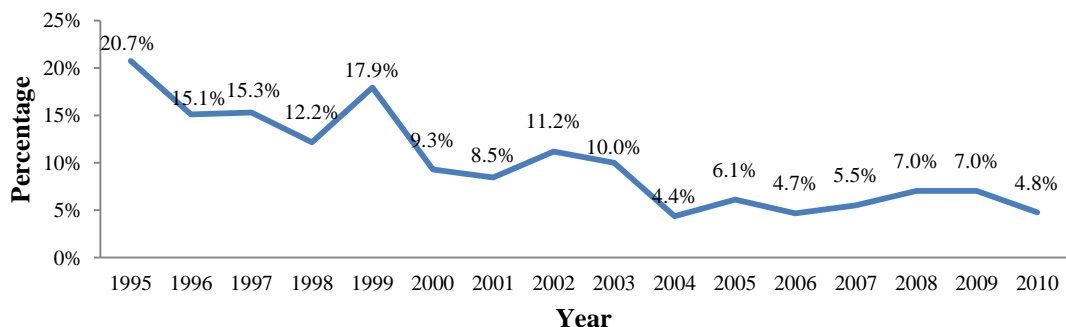
Figure 25 shows that the factual disclosure as a minor proportion of total disclosures gradually decreased from 20.7% in 1995 to 12.2% in 1998, it then increased to 17.9% in 1999. Following 1999 it had a slight fluctuation in quantity of disclosures on a downward trend, which varied between 4.4% of total disclosures and 11.2% of total disclosures.

3.4 Disclosure Direction at Lloyds TSB

The following figure provides the findings of trend of bad news as an inverse proportion of disclosure of neutral news.

Figure 26 *The percentage of bad news sentences as a proportion of total number of sentences disclosed between1995 and 2010 by Lloyds TSB*
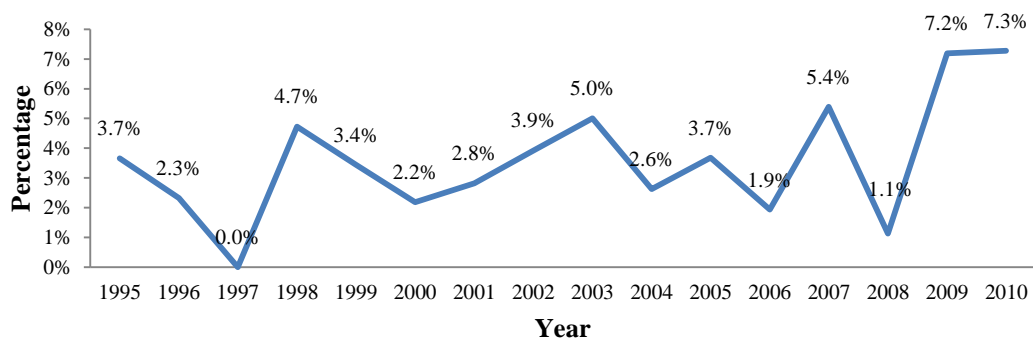

Figure 26 shows the proportion of sentences containing bad news (divided by all sentences). The fluctuation in the proportion of disclosures varied between no bad news and 7.3% of total disclosures.

3.5 The Quality of Risk Disclosures at Lloyds TSB

The quality of risk disclosure in this study was divided into two groups, qualitative disclosure and quantitative disclosure.

3.5.1 The quality of qualitative disclosure at Lloyds TSB

The frequency of qualitative disclosure levels was counted for all risk categories of Lloyds TSB to identify the quality level in all risk categories at Lloyds TSB. The analysis of this improvement over a period of sixteen years (i.e. between 1995 and 2010) was investigated and the results are given in the following figure.

Figure 27 *Frequency counts of qualitative disclosure level under all risk categories at Lloyds TSB*
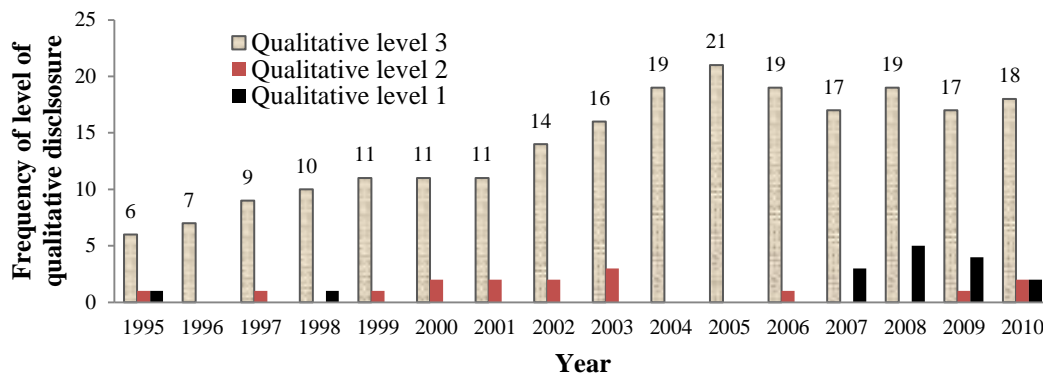
It is apparent from figure 27 that the total frequencies of qualitative disclosure were mainly disclosed on level 3 (as defined in table 6.5 of Chapter 6) because the disclosure included a description of the management or mitigation of that risk. These results also show that there was an upward trend of high information content (level 3), from six risk categories in 1995 to twenty-one risk categories in 2005. It had then changed slightly since 2006; it varied between seventeen categories and nineteen categories. However, this upward trend involved the number of increased risk categories; therefore, the following figure shows the result when the frequency of qualitative disclosure level 3 was examined by making them a proportion.

Figure 28 *The frequency of qualitative disclosure level 3 as a proportions of total risk categories at Lloyds TSB*
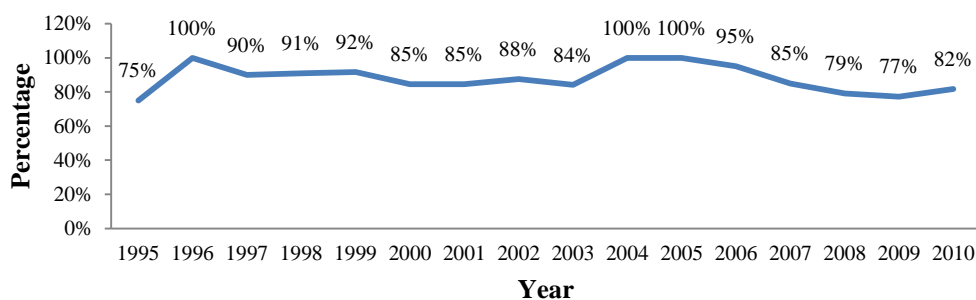

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Figure 28 shows that most of the risk categories were disclosed with high information content at level 3, with a slight change in frequency without the upward trend (as presented in figure 27), which varied between 75% of total categories to 100% of total categories.

3.5.2 *The quality of quantitative disclosure at Lloyds TSB*

Evaluating the quality of quantitative disclosures employed two levels (as mentioned in table 6.6 of Chapter 6). The frequencies of both levels were then counted to identify the pattern disclosed. The analysis of numerical data classified as level 1 and level 2 showed significantly different frequencies in both levels, as shown in the following figure.

Figure 29 *The frequencies of quantitative disclosure levels at Lloyds TSB*
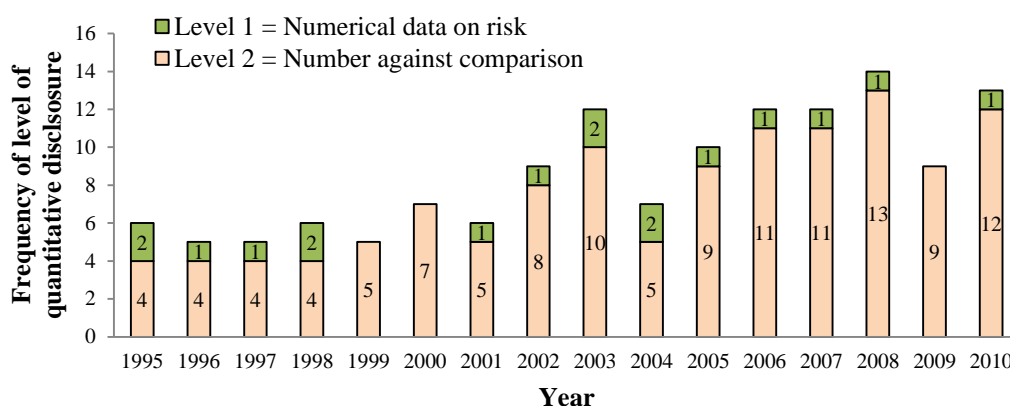
Figure 29 shows that there was a significant difference between level 1 and 2 over the period between 1995 and 2010. In this period Lloyds TSB disclosed risk categories quantitatively with comparison numerical data, it purely disclosed level 2 in 1999, 2000, and 2009. In addition, quantitative disclosures of level 2 showed a fluctuation in frequencies between four categories and thirteen categories.

To examine the factor of increasing number of risk categories, the following figure shows the results of making frequencies of quantitative disclosure level 2 as a proportion of total risk categories between 1995 and 2010.

Figure 30 *The frequency of quantitative disclosure level 2 as a proportion of total risk categories at Lloyds TSB*
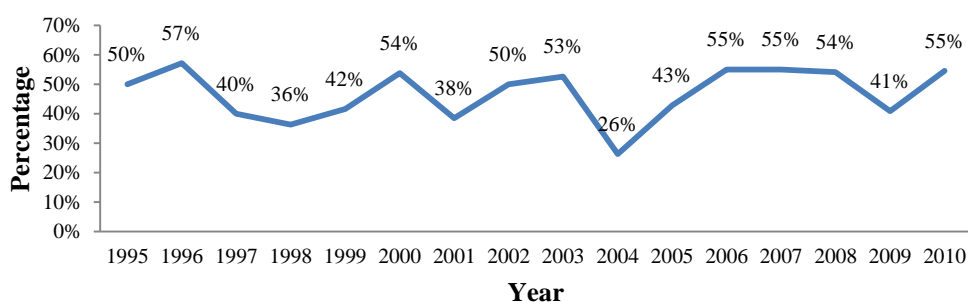
As shown in figure 30, quantitative disclosure with number against comparison (level 2) was found to have fluctuations in proportion of total risk categories over the period between 1995 and 2010; it varied between 26% and 57%.

3.6 The Intensity of Societal Discussion at Lloyds TSB

The intensity of societal discussion was examined by looking at the correlation between the volume of newspaper citations in the UK banking and financial sector against the risk disclosures made by Lloyds TSB. The following table describes the outcome of the various findings of correlation.

Table 9 *Correlations between the number of risk issues cited in newspapers and various variables in Lloyds TSB's disclosures*

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Information Richness (by proportion)			
Bad news	0.462	0.072	no association
neutral news	-0.462	0.072	no association
Forward looking	0.006	0.983	no association
Present	0.426	0.099	no association
Past	-0.144	0.594	no association
Fact	-0.397	0.128	no association
perception	0.397	0.128	no association
Quantitative disclosure(level 1&2)	-0.149	0.583	no association
Qualitative disclosure level 3	-0.512	0.043	0.05
Risk Categories (by number of sentences)			
Total risk categories	0.709	0.002	0.01
Risk management	0.674	0.004	0.01

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Credit risk	0.683	0.004	0.01
Operational risk	0.680	0.004	0.01
Insurance and Investment risk	0.680	0.004	0.01
Safety and security risk	0.674	0.004	0.01
Impairment	0.680	0.004	0.01
Market risk	0.565	0.023	0.05
Legal and Regulation risk	0.545	0.029	0.05
Liquidity and funding risk	0.540	0.031	0.05
Strategic/ Business risk	0.540	0.031	0.05
Sustainability risk	0.537	0.032	0.05
People (staff)	0.512	0.043	0.05
Pension risk	0.504	0.046	0.05
Tax risk	0.500	0.048	0.05
Hedged risk	0.493	0.053	no association
Reputation risk	0.420	0.105	no association
Cross-border risk (country risk)	-0.320	0.228	no association
Technology risk	0.308	0.246	no association
Financial crime risk	0.304	0.252	no association
Capital management risk	0.286	0.282	no association
Currency/ exchange rate risk	0.286	0.283	no association
Derivatives	-0.279	0.296	no association
Interest rate risk	0.262	0.326	no association
Fair value of financial instrument	0.241	0.368	no association
Customer treatment	0.232	0.387	no association
Economic risk	0.205	0.447	no association
Competition risk	-0.140	0.605	no association
Equity risk	-0.140	0.605	no association
Residual value risk	-0.138	0.610	no association
Change risk	0.065	0.810	no association
Governance risk	-0.018	0.947	no association
Financial report risk	no disclosure		
Political risk	no disclosure		
Industries risk	no disclosure		
Special purpose entities	no disclosure		

As shown in table 9, the results have been categorised into three main groups of correlation: high correlation (r is between ± 0.63 and ±1.00, $p < 0.01$), moderate correlation (r is between ± 0.50 and ± 0.62, $p < 0.05$), and no correlation (r is less than ± 0.50). The correlations can be reported on two aspects (i.e. information richness and risk categories).

In terms of information richness, there was a negative association between disclosure quality of qualitative level 3 (high information content) and the number of newspaper citations at moderate level, while there was no association between disclosure quality of quantitative disclosure and the number of newspaper citations. The other three interrogations (i.e. disclosure direction, time orientation, and factual and perception) were not found to be associated with the number of newspaper citations.

In terms of the variables based on risk categories, it was noticeable that the group of high correlation were of total risk categories and the key strategic risks of the bank (i.e. risk management, credit risk, operational risk, and insurance and investment risk). These categories are also contained in the group of high correlation of overall analysis (in all companies), as described in Section 6.3.2 of Chapter 6. However, the safety and security risk, as well as the risk related to impairment, had high correlations at Lloyds TSB, while both risks had moderate correlations in the overall analysis (in all companies). This indicates that the intensity of societal concern is associated with certain specific risk categories as disclosed by different banks.

4. Findings and Analysis of HBOS

4.1 Analysing Longitudinal Risk Category Membership, in All Years, at HBOS

The following table shows the top ten most disclosed risk categories of HBOS, which are illustrated to analyse the longitudinal data by total volume of sentences disclosed and by risk category.

Table 10 *The top ten most disclosed risk categories of HBOS*

Ranking Number	Risk Categories	The Number of Sentences Disclosed
1	Credit risk	1,067
2	Risk management	956
3	Insurance and Investment risk	897
4	Market risk	485
5	Liquidity and funding risk	404
6	Capital management risk	400
7	Risk related to derivatives	316
8	Operational risk	287
9	Interest rate risk	269
10	Currency risk	196

Table 10 shows that credit risk is the most disclosed risk category at HBOS. This indicates that credit risk was the most concerned risk in HBOS's operation.

The following figure shows the number of risk categories that HBOS disclosed between 1995 and 2010 in order to analyse longitudinal data by the number of risk categories disclosed.

Figure 31 *The number of categories of risk disclosure at HBOS*
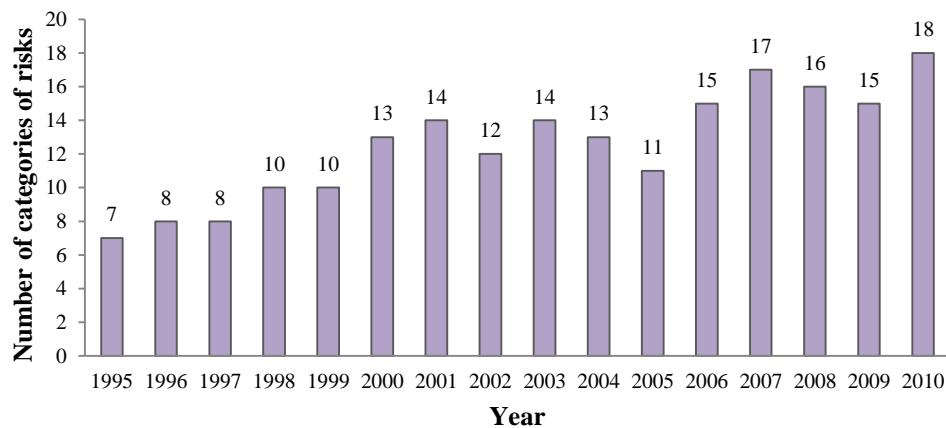
As can be seen from figure 31, the number of risk categories disclosed by HBOS has increased gradually over time. The lowest number of categories disclosed was seven categories in 1995 and the highest number of category was eighteen categories in 2010. To investigate risk categories in terms of quantity of disclosure, volumetric analysis was developed on the basis of counting the number of sentences disclosed over time. The following finding shows the overall trend of risk disclosures over the period between 1995 and 2010, by all risk categories.

Figure 32 *The number of sentences disclosed in all risk categories by HBOS (by year)*
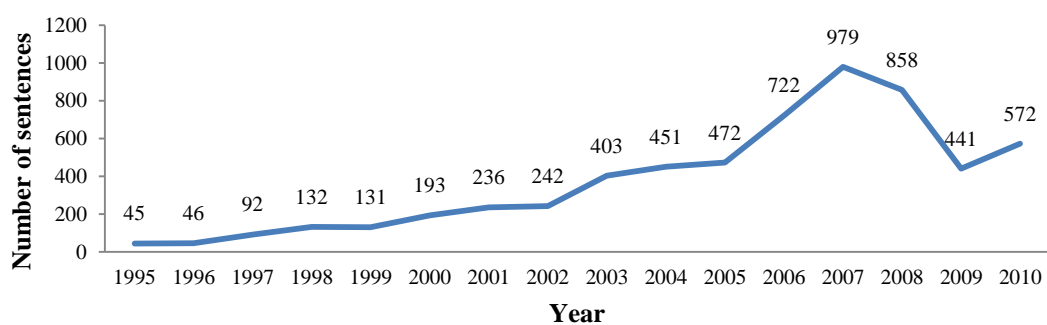

Figure 32 illustrates the number of risk disclosures made by HBOS between 1995 and 2010. The graph shows a gradual increase in the number of risk disclosures, from 45

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sentences in 1995 to 979 sentences in 2007, after which it significantly decreases to 441 sentences in 2009 and then slightly increases at 572 sentences in 2010. This study found that the overall trend of risk disclosure concealed three main patterns of disclosure, which were: a smooth increase in volume, a volumetric increase with switch point, and volume fluctuation. The following table shows the risk categories under these three patterns.

Table 11 *Patterns of longitudinal disclosure of risk categories membership at HBOS*

Patterns of Longitudinal Disclosure		
A Smooth Increase in Volume	**A Volumetric Increase with Switch Point, by Year**	**Volume Fluctuation**
1) Market risk	**2004, year of switch point** 1) Insurance and investment risk **2007, year of switch point** 2) Liquidity and funding risk, 3) Credit risk 4) Capital management 5) Risk related to fair value.	1) Risk management 2) Cross-border risk 3) Interest rate risk 4) Currency risk 5) Hedged risk 6) Risk related to derivatives 7) Economic risk 8) Operational risk 9) Legal and regulation risk 10) Competition risk 11) Tax risk 12) Strategic and business risk 13) Leasing risk 14) People risk 15) Safety and security risk 16) Sustainability risk 17) Customer treatment 18) Risk related to impairment 19) Special purpose entities 20) Equity risk.

Table 11 shows that the pattern of volume fluctuation was the key feature for many risk categories disclosed which had twenty out of a total of twenty-six risk categories. This reflects how HBOS has faced high volatility in their operation at many times and in various risk categories over a longitudinal period.

In terms of the pattern of volumetric increase with switch point in 2007, there were four risk categories disclosed by this pattern, which were: liquidity and funding risk, credit risk, capital management, and risk related to fair value. This switch point in 2007 was caused when HBOS faced the unprecedented financial turmoil in global markets. The

severe effects of financial crisis led HBOS into a liquidity problem and a credit crunch, which this was caused by its acquisition by Lloyds TSB (which was begun in 2008 and completed in January 2009). It is noteworthy that, although the 2001 merger of Halifax plc and the Bank of Scotland which formed HBOS had no the clear effect on risk disclosures, in 2007 when HBOS was faced with the financial crisis their risk disclosures increased significantly. Hence, switching increases in the volume of risk disclosures tended to be critical indicators of the areas where the banks faced difficulty with their operations.

In 2004, disclosure of insurance and investment risk increased significantly. In this year HBOS established their own underwriting capability for household insurance and general insurance as a core activity in HBOS's investment businesses (HBOS, 2004); therefore, they provided more information about insurance and investment.

4.2   Time Orientation of Disclosure at HBOS

The following figure shows the percentage of three characteristics, forward-looking, present, and past disclosures as a proportion of total sentences at HBOS between 1995 and 2010.

Figure 33 *The percentage of forward-looking, present, and past disclosures as a proportion of total sentences at HBOS between 1995 and 2010*
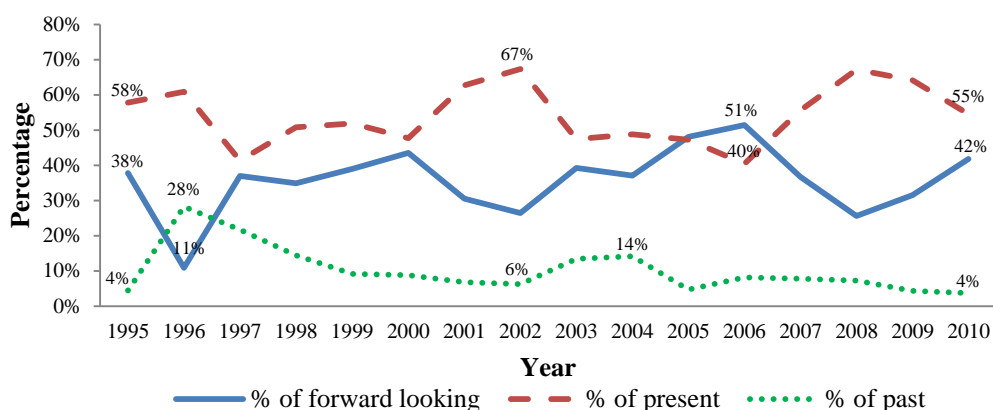

Figure 33 shows that, apart from 1996, the lowest quantity of time orientation of disclosure was past information over a period of 1995 to 2010. The proportion of past disclosure gradually declined from 28% in 1996 to 6% in 2002. It then changed with a

slight fluctuation in volume, which varied between 4% and 14% of total disclosures between 2003 and 2010. Apart from 2005 and 2006, present disclosure was the largest proportion over a period of 1995 to 2010, which varied between 40% and 67% of total disclosures. Meanwhile, forward-looking disclosure was the second largest proportion, which varied between 11% and 51% of total disclosures.

4.3 Factual Disclosures and Perception Disclosures at HBOS

The volumetric measure was employed to reflect the longitudinal trend of factual and perception disclosures. The following figure shows the proportion of factual disclosures measured as an inverse proportion of perception.

Figure 34 The percentage of factual disclosures as a proportion of total sentences at HBOS between 1995 and 2010
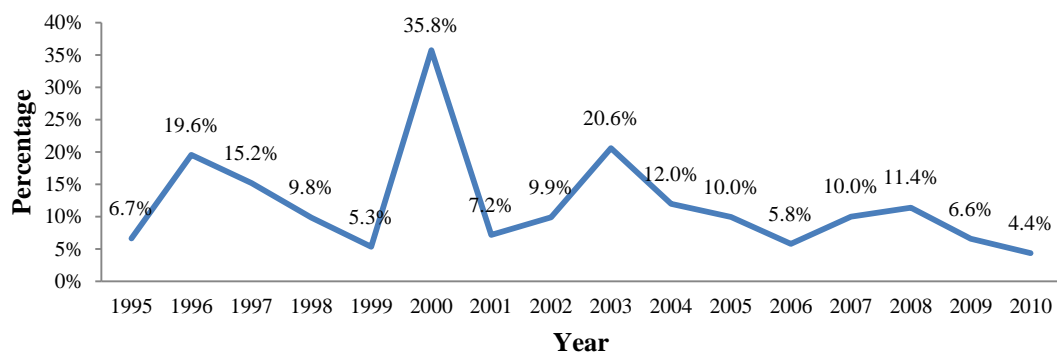
Figure 34 shows the factual disclosure as a minor proportion of total disclosures. The high fluctuation in proportion of disclosures between 1995 and 2003 varied between 5.3% and 35.8% of total disclosures. However, since 2004, it shows a slight fluctuation on the downward trend, which varied between 4.4% and 12% of total disclosures.

4.4 Disclosure Direction at HBOS

The following figure illustrates the finding of trend of bad news as an inverse proportion of disclosure of neutral news.

Figure 35 *The percentage of bad news sentences as a proportion of total number of sentences disclosed between 1995 and 2010 by HBOS*
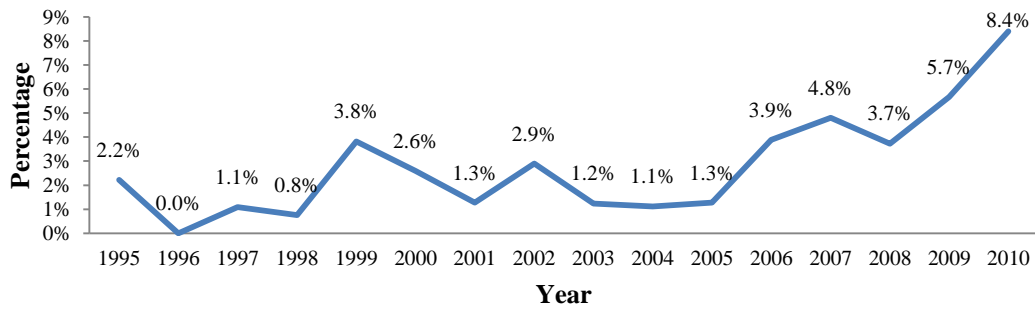
Figure 35 shows the proportion of sentences containing bad news as a minor proportion of disclosure direction. The fluctuation in proportion of disclosures between 1995 and 2005 varied between no bad news and 3.8% of total disclosures. Subsequently, it gradually increased from 3.9% in 2006 to 8.4% in 2010.

4.5 The Quality of Risk Disclosures at HBOS

The quality of risk disclosure in this study was divided into two groups, qualitative disclosure and quantitative disclosure.

4.5.1 *The quality of qualitative disclosure at HBOS*

The frequency of qualitative disclosure levels was counted for all of the risk categories of HBOS to identify the quality level in all risk categories at HBOS. The analysis of this improvement over a period of sixteen years (i.e. between 1995 and 2010) was investigated and the results are given in the following figure.

Figure 36 *Frequency counts of qualitative disclosure level under all risk categories at HBOS*
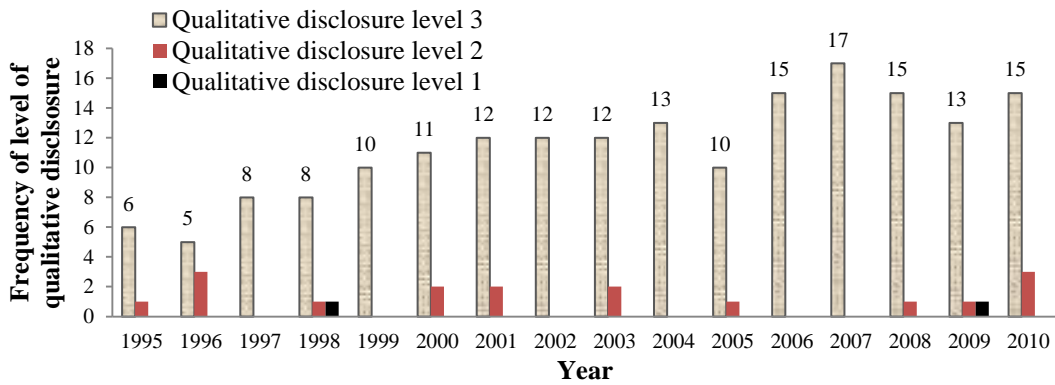
It is apparent from figure 36 that the total frequencies of qualitative disclosure were mainly disclosed on level 3 (as defined in table 6.5 of Chapter 6) because the disclosure included a description of the management or mitigation of that risk. Overall, the results show an upward trend of high information content (i.e. level 3), from six risk categories in 1995 to fifteen risk categories in 2010, although qualitative disclosure slightly fluctuates with a decrease in frequency for the years 1996, 2005, 2008, and 2009. However, this upward trend was found in the number of increased risk categories; therefore, the following figure shows the result when the frequency of qualitative disclosure level 3 was examined by making them a proportion.

Figure 37 *The frequency of qualitative disclosure level 3 as a proportion of total risk categories at HBOS*
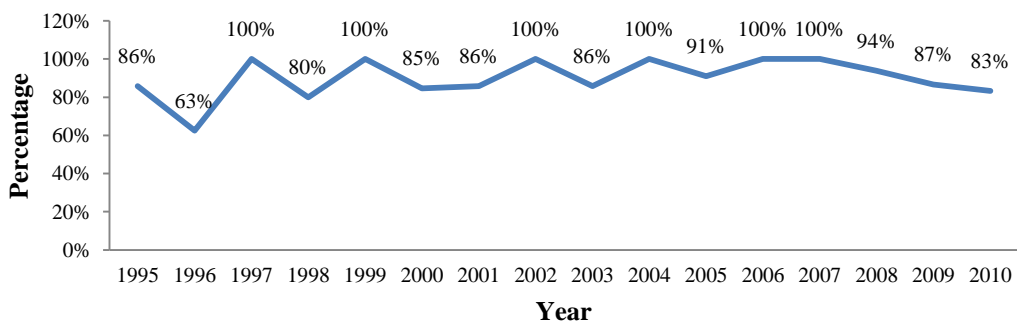

Figure 37 has no the upward trend of qualitative disclosure of level 3. Most risk categories were disclosed with high information content at level 3, with fluctuations in frequency which varied between 63% of total categories to 100% of total categories.

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4.5.2 The quality of quantitative disclosure at HBOS

Evaluating the quality of quantitative disclosures employed 2 levels (mentioned at table 6.6 of Chapter 6). The frequencies of both levels were counted in order to identify the pattern disclosed. An analysis of numerical data classified as level 1 and level 2 shows that there are significant different frequencies in both levels, as can be seen in the following figure.

Figure 38 *The frequencies of quantitative disclosure levels at HBOS*
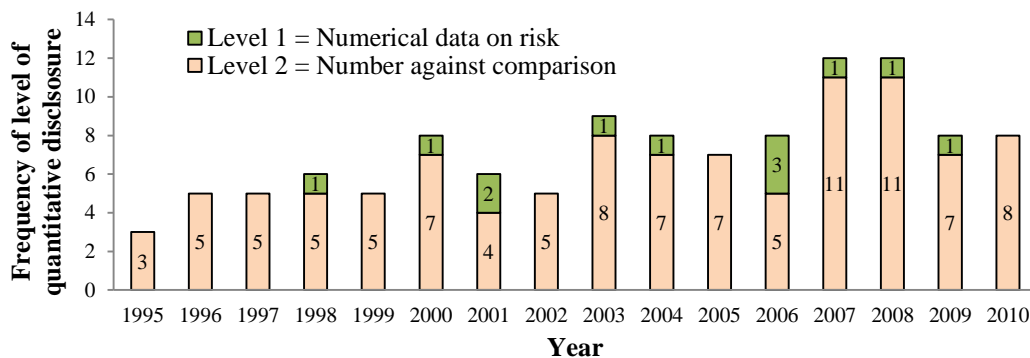
Figure 38 shows that there was a significant difference between level 1 and 2 between 1995 and 2010, when HBOS disclosed risk categories quantitatively with comparison numerical data (HBOS purely disclosed level 2 in 1995-1997, 1999, 2002, 2005 and 2010). In addition, quantitative disclosures of level 2 fluctuated in frequency between three categories and eleven categories.

The following figure shows the result making frequencies of quantitative disclosure level 2 as a proportion of total risk categories between 1995 and 2010.

Figure 39 *The frequency of quantitative disclosure level 2 as a proportion of total risk categories at HBOS*
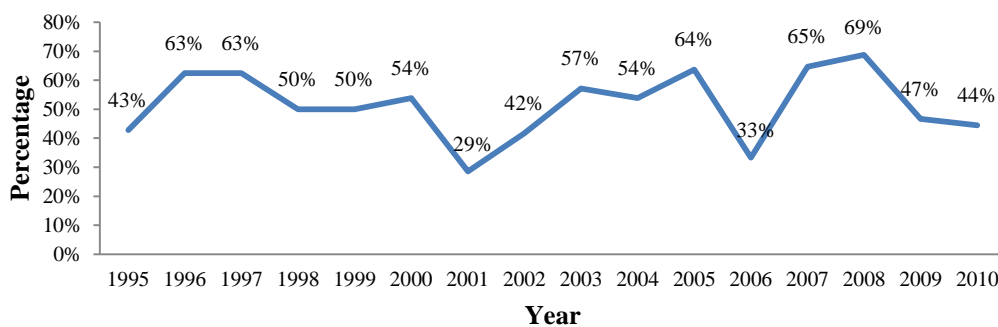
Figure 39 shows quantitative disclosure with number against a comparison (level 2), which fluctuated in proportion of total risk categories between 1995 and 2010 (it varied between 29% and 69% of total risk disclosures).

4.6 The Intensity of Societal Discussion at HBOS

The intensity of societal discussion was examined by looking at the correlation between the volume of newspaper citations in the UK banking and financial sector against the risk disclosures made by HBOS. The following table describes the outcome of the various findings of correlation.

Table 12 Correlations between the number of risk issues cited in newspapers and various variables in HBOS's disclosures

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Information Richness (by proportion)			
Bad news	0.684	0.003	0.01
neutral news	-0.684	0.003	0.01
Forward looking	-0.197	0.464	no association
Present	0.471	0.066	no association
Past	-0.529	0.035	0.05
Fact	-0.385	0.141	no association
perception	0.385	0.141	no association
Quantitative disclosure(level 1&2)	-0.081	0.765	no association
Qualitative disclosure level 3	-0.026	0.925	no association
Risk Categories (by number of sentences)			
Total risk categories	0.588	0.017	0.05
Market risk	0.750	0.001	0.01
Risk related to fair value	0.739	0.001	0.01
Liquidity and funding risk	0.681	0.004	0.01
Legal and regulation risk	0.645	0.007	0.01
Credit risk	0.621	0.01	0.05
Strategic and business risk	0.583	0.018	0.05
Customer treatment	0.537	0.032	0.05
People risk	0.527	0.036	0.05
Capital management risk	0.464	0.070	no association
Special purpose entities	0.445	0.084	no association
Risk related to Impairment	0.429	0.097	no association
Tax risk	0.420	0.105	no association

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Insurance and Investment risk	0.390	0.136	no association
Safety and security risk	-0.367	0.162	no association
Cross-border risk	-0.314	0.236	no association
Equity risk	0.308	0.246	no association
Sustainability risk	-0.284	0.287	no association
Competition risk	0.252	0.346	no association
Operational risk	0.241	0.369	no association
Economic risk	0.176	0.513	no association
Risk related to derivatives	0.167	0.537	no association
Leasing risk	0.145	0.592	no association
Currency risk	0.075	0.782	no association
Hedged risk	0.072	0.791	no association
Interest rate risk	0.055	0.841	no association
Risk management	-0.022	0.935	no association
Reputation risk	no disclosure		
Pension risk	no disclosure		
Financial crime risk	no disclosure		
Financial report risk	no disclosure		
Political risk	no disclosure		
Industries risk	no disclosure		
Technology risk	no disclosure		
Change risk	no disclosure		
Governance risk	no disclosure		

As shown in table 12, the results have been categorised into three main groups of correlation: high correlation (r is between ± 0.63 and ± 1.00, $p < 0.01$), moderate correlation (r is between ± 0.50 and ± 0.62, $p < 0.05$), and no correlation (r is less than ± 0.50). The correlations can be reported on aspects (i.e. information richness and risk categories).

In terms of information richness, there was a positive association between disclosure direction of bad news and the number of newspaper citations. On the other hand, the disclosure of neutral news was the inverse proportion of bad news, which had a negative relationship with the number of newspaper citations. For the interrogation of time orientation of disclosures, only past disclosure had a moderate positive association with the number of newspaper citations while forward-looking and present disclosure had no association. For the interrogation of fact and perception, and the interrogation of

disclosure quality, both interrogations were not found to be associated with the number of newspaper citations.

In terms of the variables based on risk categories, it was noticeable that HBOS's risk disclosures (i.e. total risk categories) were associated with the number of newspaper citations at a merely moderate level. The group of high correlation had four risk categories, which are: market risk, risk related to fair value, liquidity and funding risk, and legal and regulation risk. Meanwhile, the group of moderate correlations included: credit risk, strategic and business risk, customer treatment, and people risk. The group of no association (including certain risk categories that were the key strategic risk of bank) consisted of: operational risk, risk management, capital management, currency risk, and interest rate risk.

5. Findings and Analysis of Barclays

5.1 Analysing Longitudinal Risk Category Membership, in All Years, at Barclays

The following table shows the top ten most disclosed risk categories of Barclays, which are illustrated to analyse the longitudinal data by total volume of sentences disclosed and by risk category.

Table 13 *The top ten most disclosed risk categories at Barclays*

Ranking Number	Risk Categories	The Number of Sentences Disclosed
1	Credit risk	4,917
2	Risk management	2,497
3	Market risk	1,381
4	Risk related to derivatives	1,136
5	Capital management risk	1,126
6	Legal and regulation risk	1,078
7	Liquidity and funding risk	936
8	Operational risk	471
9	Interest rate risk	449
10	Risk related to fair value	376

Table 13 shows that credit risk is the most disclosed risk category at Barclays, having double times of the number of sentences disclosed when compared to risk management

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(ranking number two). This indicates that credit risk was the most concerning risk in Barclays's operations.

The following figure shows the number of risk categories that Barclays disclosed between 1995 and 2010 in order to analyse longitudinal data by the number of risk categories disclosed.

Figure 40 *The number of categories of risk disclosure at Barclays*
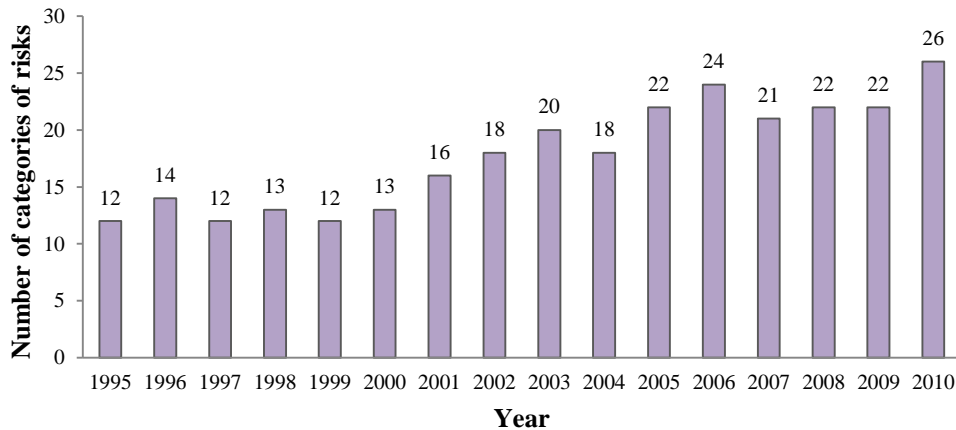
Figure 40 shows that the number of risk categories disclosed by Barclays has increased gradually over time. The lowest number of categories disclosed was twelve categories in 1995 and the highest number of category was twenty-six categories in 2010. To investigate the risk categories in terms of quantity of disclosure a volumetric analysis was developed on the basis of counting the number of sentences disclosed over time. The following figure shows the overall trend of risk disclosures between 1995 and 2010, by all risk categories.

Figure 41 *The number of sentences disclosed in all risk categories by Barclays (by year)*

Figure 41shows that there was a smooth increase in the number of risk disclosures, from 388 sentences in 1995 to 1,960 sentences in 2010. How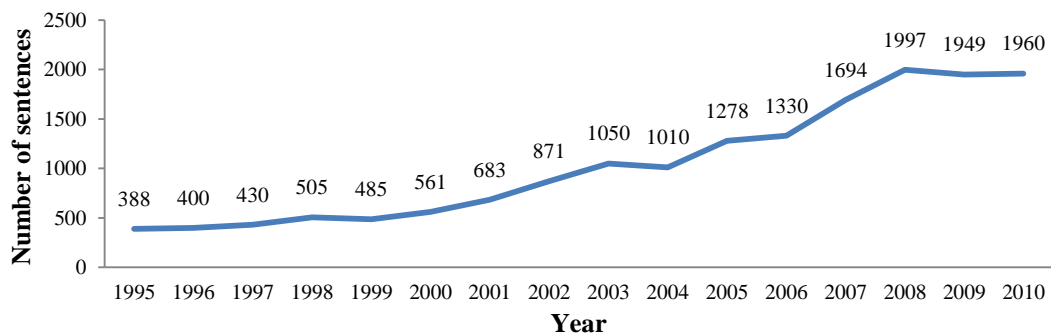ever, this study found that the overall trend with a smooth increase in volume of disclosure concealed other switch-points and fluctuations in certain risk categories.

The following table shows risk categories under three main patterns of disclosure, which are: a smooth increase in volume, a volumetric increase with switch point, and volume fluctuation.

Table 14 *Patterns of longitudinal disclosure of risk categories membership at Barclays*

Patterns of Longitudinal Disclosure		
A Smooth Increase in Volume	**A Volumetric Increase with Switch Point, by Year**	**Volume Fluctuation**
1) Risk management 2) Liquidity and funding risk 3) Market risk	**2004, year of switch point** 1) Operational risk **2005, year of switch point** 2) Risk related to impairment 3) Tax risk **2007, year of switch point** 4) Credit risk 5) Capital management risk **2008, year of switch point** 6) Legal and regulation risk	1) Cross-border risk 2) Interest rate risk 3) Risk related to derivatives 4) Currency risk 5) Hedged risk 6) Strategic and business risk 7) Economic risk 8) Reputation risk 9) Insurance and investment risk 10) Pension risk 11) Financial crime risk 12) Safety and security risk 13) Leasing risk 14) People risk 15) Competition risk 16) Sustainability risk 17) Industries risk 18) Special purpose entities 19) Technology risk 20) Political risk 21) Risk related to fair value 22) Financial report risk 23) Equity risk.

Table 14 shows that the pattern of volume fluctuation was the key feature for many risk categories disclosed; it had twenty-three out of a total of thirty-two risk categories. This reflects that Barclays has experienced frequent high volatility in their operations and in various risk categories over a longitudinal period.

In terms of the pattern of volumetric increase with switch point, a clearly significant switching increase of disclosure happened in 2007 with two risks, which are: credit risk and capital management risk. The switch point in 2007 was the result of a severe disruption in the global financial crisis, which began in the second half of 2007. Barclays also suffered both direct and indirect impacts from the effects of this crisis. This indicates that the worsening economic conditions affected the volume of risk disclosures at Barclays, particularly in credit risk and capital management, which are both key risk of banks.

5.2 Time Orientation of Disclosure at Barclays

The following figure shows the percentage of three characteristic (i.e. forward-looking, present, and past disclosures) as a proportion of total risk disclosures of Barclays between 1995 and 2010.

Figure 42 *The percentage of forward-looking, present, and past disclosures as a proportion of total sentences at Barclays between 1995 and 2010*

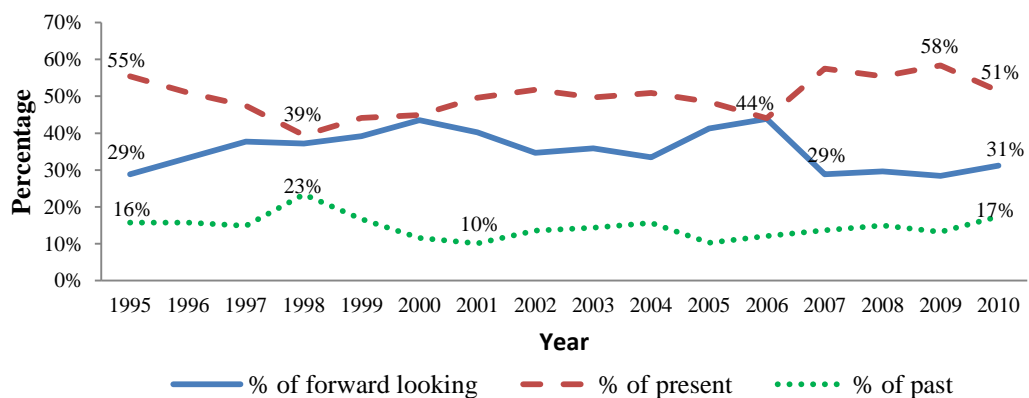Figure 42 shows that the lowest quantity of time orientation of disclosures as a proportion of risk disclosures was past information, which varied between 10% and 23% of total disclosures. Meanwhile, the largest proportion was present disclosure, which varied between 39% and 58% of total disclosures. In addition, the second largest proportion was forward-looking disclosure, which varied between 29% and 44% of total disclosures.

5.3 Factual Disclosures and Perception Disclosures at Barclays

A volumetric measure was employed in this study to reflect the longitudinal trend of factual and perception disclosures. The following figure shows the proportion of factual disclosures measured as an inverse proportion of perception.

Figure 43 *The percentage of factual disclosures as a proportion of total sentences at Barclays between 1995 and 2010*
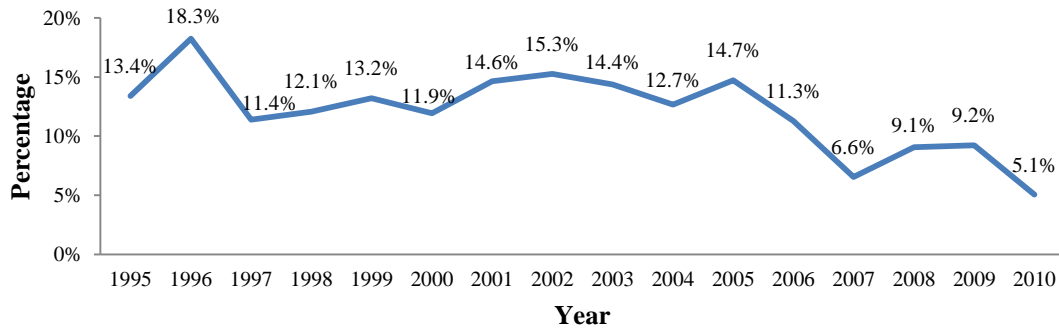
Figure 43 shows that the factual disclosure as a minor proportion of total disclosures fluctuates on a downward trend as a proportion of disclosures, it varied between 5.1% and 18.3% of total disclosures.

5.4 Disclosure Direction at Barclays

The following figure shows the trend of bad news as an inverse proportion of disclosure of neutral news.

Figure 44 *The percentage of bad news sentences as a proportion of total number of sentences disclosed between1995 and 2010 at Barclays*
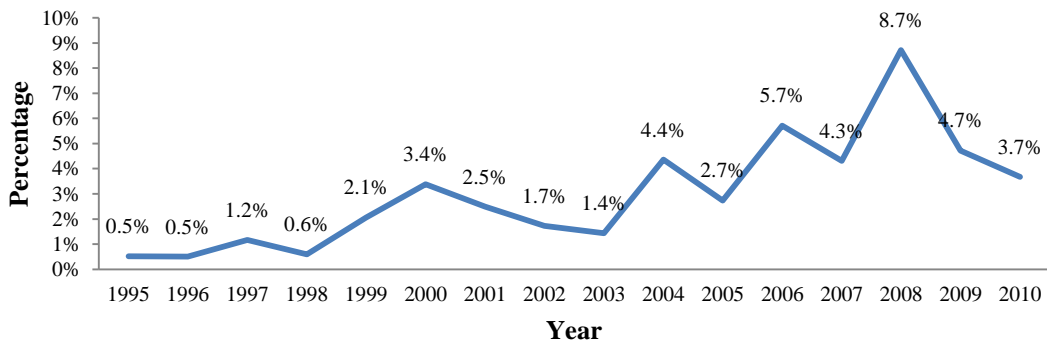
Figure 44 shows that the proportion of sentences containing bad news as a minor proportion of disclosure direction fluctuates on an upward trend of disclosures over time, it varied between 0.5% and 8.7% of total disclosures.

5.5   The Quality of Risk Disclosures at Barclays

The quality of risk disclosure in this study was divided into two groups, qualitative disclosure and quantitative disclosure.

5.5.1   The quality of qualitative disclosure at Barclays

The frequency of qualitative disclosure levels was counted for all risk categories of Barclays to identify the quality level in all risk categories at Barclays. The analysis of this improvement over a period of sixteen years between 1995 and 2010 was investigated; the results are given in the following figure:

Figure 45 *Frequency counts of qualitative disclosure level under all risk categories at Barclays*
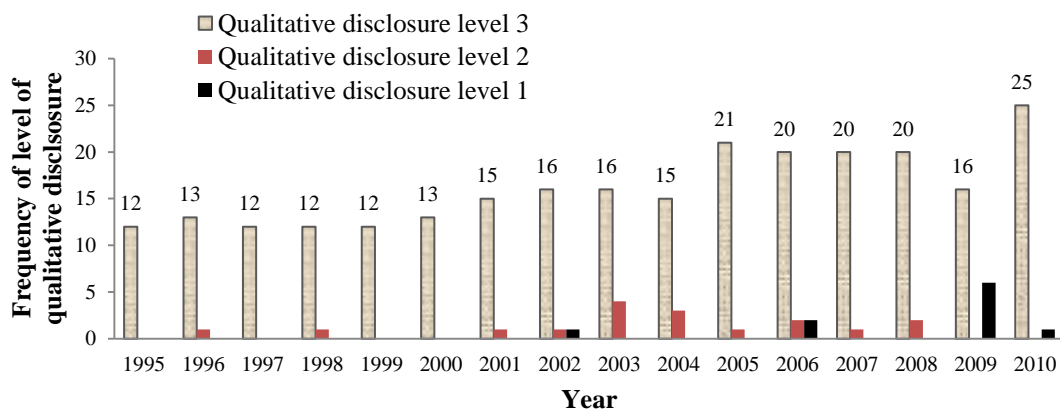
It is apparent from figure 45 that the total frequencies of qualitative disclosure were mainly disclosed on level 3 (as defined in table 6.5 of Chapter 6) since the disclosure included a description of the management or mitigation of that risk. Overall, the results show that there was an upward trend of high information content (level 3), from twelve risk categories in 1995 to twenty-five risk categories in 2010. However, this upward trend involved a number of increased risk categories; therefore, the following figure

shows the result when the frequency of qualitative disclosure level 3 was examined by making them a proportion.

Figure 46 *The frequency of qualitative disclosure level 3 as a proportion of total risk categories at Barclays*
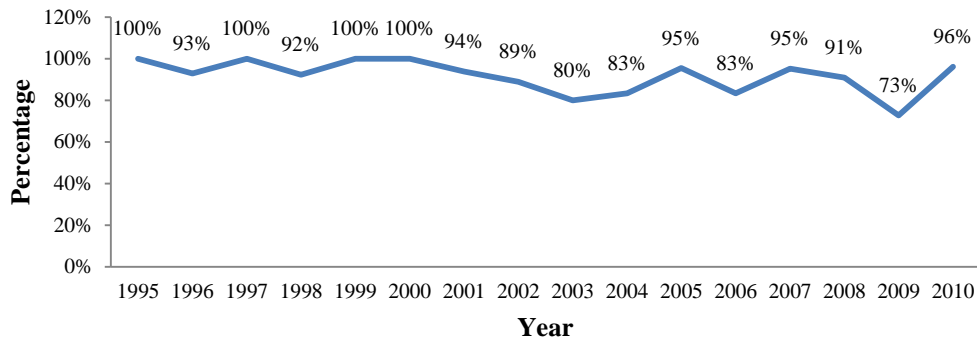
Figure 46 shows that most risk categories were disclosed with high information content at level 3, with fluctuations in frequency without a clear upward trend (it varied between 73% of total categories to 100% of total categories).

5.5.2 The quality of quantitative disclosure at Barclays

Evaluating the quality of quantitative disclosures employed 2 levels (mentioned at table 6.6 of Chapter 6). The frequencies of both levels were counted to identify any pattern disclosed. The analysis of numerical data classified as level 1 and level 2 showed significantly different frequencies in both levels, as illustrated in the following figure.

Figure 47 *The frequencies of quantitative disclosure levels at Barclays*
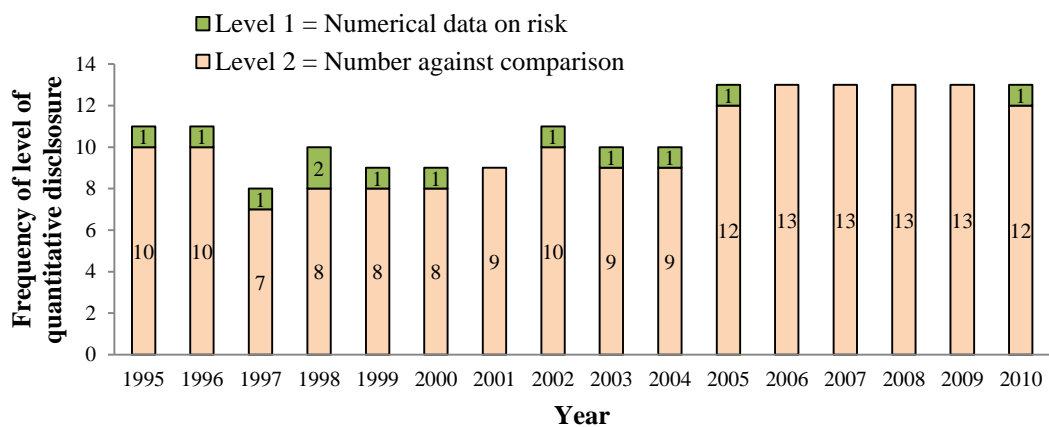
Figure 47 shows that there was a significant difference between level 1 and 2 when Barclays disclosed risk categories quantitatively with comparison numerical data (purely disclosed level 2 in 2001 and during 2006 to 2009). Moreover, quantitative disclosures of level 2 showed a fluctuation in frequencies, between seven categories and thirteen categories.

The following figure shows the result of making frequencies of quantitative disclosure level 2 as a proportion of total risk categories between 1995 and 2010.

Figure 48 *The frequency of quantitative disclosure level 2 as a proportion of total risk categories at Barclays*
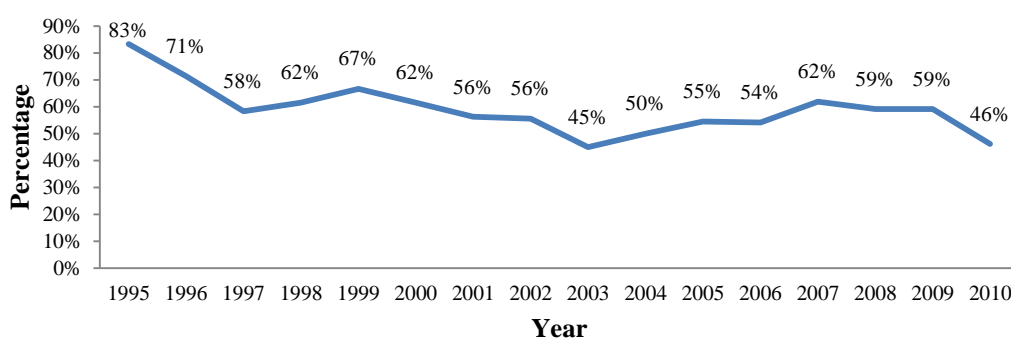
Figure 48 shows that quantitative disclosure with number against comparison (level 2) gradually decreased from 83% of total disclosures in 1995 to 45% of total disclosures in 2003. It then gradually increased to 59% in 2009 before dropping to 46% in 2010.

5.6 The Intensity of Societal Discussion at Barclays

The intensity of societal discussion was examined by looking at the correlation between the volume of newspaper citations in the UK banking and financial sector against the risk disclosures made by Barclays. The following table describes the outcome of the various findings of correlation.

Table 15 *Correlations between the number of risk issues cited in newspapers and various variables in Barclays's disclosures*

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Information Richness (by proportion)			
Bad news	0.591	0.016	0.05
neutral news	-0.591	0.016	0.05
Forward –looking	-0.294	0.269	no association
Present	0.315	0.235	no association
Past	-0.091	0.737	no association
Fact	-0.600	0.014	0.05
Perception	0.600	0.014	0.05
Quantitative disclosure(level 1&2)	-0.304	0.252	no association
Qualitative disclosure level 3	-0.301	0.257	no association
Risk Categories (by number of sentences)			
Total risk categories	0.721	0.002	0.01
Sustainability risk	0.745	0.001	0.01
Credit risk	0.718	0.002	0.01
Currency risk	0.677	0.004	0.01
Financial crime risk	0.680	0.004	0.01
Liquidity and funding risk	0.665	0.005	0.01
Risk management	0.656	0.006	0.01
Interest rate risk	0.611	0.012	0.05
Capital management risk	0.600	0.014	0.05
Tax risk	0.601	0.014	0.05
Market risk	0.552	0.027	0.05
Financial report risk	0.527	0.036	0.05
People risk	0.527	0.036	0.05
Technology risk	0.527	0.036	0.05
Legal and regulation risk	0.517	0.040	0.05
Risk related to impairment	0.497	0.050	no association
Operational risk	0.436	0.092	no association
Strategic and business risk	0.433	0.094	no association
Reputation risk	0.420	0.105	no association
Safety and security risk	0.387	0.139	no association
Insurance and investment risk	0.377	0.149	no association
Risk related to fair value	0.358	0.173	no association
Risk related to derivatives	0.325	0.219	no association
Pension risk	-0.145	0.592	no association
Cross-border risk	0.109	0.688	no association
Hedged risk	-0.105	0.699	no association
Economic risk	0.033	0.904	no association
Special purpose entities	0.032	0.906	no association
Political risk	-0.028	0.918	no association

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Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Industries risk	-0.028	0.918	no association
Equity risk	-0.028	0.918	no association
Leasing risk	0.026	0.924	no association
Competition risk	-0.019	0.945	no association
Customer treatment	no disclosure		
Change risk	no disclosure		
Governance risk	no disclosure		

As shown in table 15, the results have been categorised into three main groups of correlation: high correlation (r is between ± 0.63 and ±1.00, p < 0.01), moderate correlation (r is between ± 0.50 and ± 0.62, p < 0.05), and no correlation (r is less than ± 0.50). The correlations can be reported on two aspects (i.e. information richness and risk categories).

In terms of information richness, there was a positive association between the disclosure direction of bad news and the number of newspaper citations with moderate level. On the other hand, disclosure of neutral news as an inverse proportion of bad news had a negative relationship with the number of newspaper citations. For the interrogation of fact and perception, there was a negative association between the disclosure of fact and the number of newspaper citations with moderate level, while disclosure of perception as an inverse proportion of fact had a positive association with moderate level. However, the interrogation of time orientation (i.e. forward-looking, present, and past) and the interrogation of disclosure quality (i.e. both qualitative and quantitative disclosure) were not associated with the number of newspaper citations.

In terms of the variables based on risk categories, it was noticeable that the group of high correlation consisted of total risk categories and the key strategic risks of the bank (i.e. risk management, credit risk, and liquidity and funding). These categories were also contained in the group of high correlation of overall analysis (in all companies), as described in Section 6.3.2 of Chapter 6.

6. Findings and Analysis of HSBC

6.1 Analysing Longitudinal Risk Category Membership, in All Years, at HSBC

The following table shows the top ten most disclosed risk categories of HSBC, which are illustrated to analyse the longitudinal data by total volume of sentences disclosed and by risk category.

Table 16 *The top ten most disclosed risk categories of HSBC*

Ranking Number	Risk Categories	The Number of Sentences Disclosed
1	Credit risk	3,827
2	Insurance and investment risk	1,410
3	Market risk	1,164
4	Risk management	1,100
5	Risk related to impairment	1,045
6	Legal and regulation risk	965
7	Capital management risk	945
8	Liquidity and funding risk	750
9	Risk related to fair value	657
10	Interest rate risk	620

Table 16 shows that credit risk is the most disclosed risk category at HSBC, having more than double the number of sentences disclosed when compared to insurance and investment risk (which ranking number two). This indicates that credit risk was the most concerned risk in HSBC's operation.

The following figure shows the number of risk categories that HSBC disclosed between 1995 and 2010 in order to analyse longitudinal data by the number of risk categories disclosed.

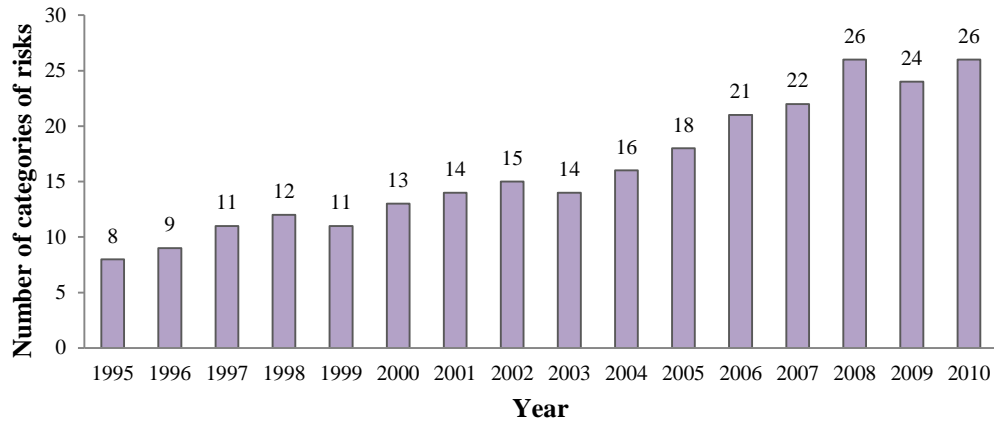**Figure 49** *The number of categories of risk disclosure at HSBC*

Figure 49 shows that the number of risk categories disclosed by HSBC has increased gradually over time. The lowest number of categories disclosed was eight categories in 1995 and the highest number of categories was twenty-six categories in 2010. To investigate risk categories in terms of quantity of disclosure, a volumetric analysis was developed on the basis of counting the number of sentences disclosed over time. The following finding shows the overall trend of risk disclosures over a period of 1995 to 2010, by all risk categories.

Figure 50 *The number of sentences disclosed in all risk categories by HSBC (by year)*
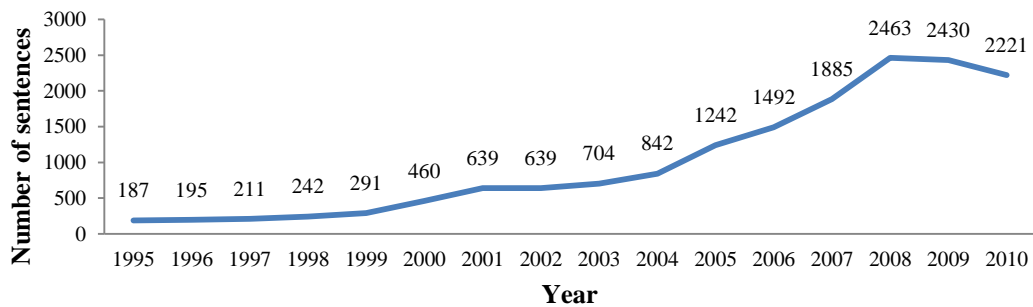
Figure 50 shows the number of risk disclosures made by HSBC between 1995 and 2010 (by year). There was a smooth increase in the number of risk disclosures, from 187 sentences in 1995 to 2,463 sentences in 2008. It then slightly declined in 2009 and 2010. Problematically, this study found that the overall trend with a smooth increase in volume of disclosure concealed other switch-points and fluctuations in certain risk categories. The following table shows the risk categories under three main patterns of disclosure, which are: a smooth increase in volume, a volumetric increase with switch point, and volume fluctuation.

Table 17 *Patterns of longitudinal disclosure of risk categories membership at HSBC*

Patterns of Longitudinal Disclosure		
A Smooth Increase in Volume	**A Volumetric Increase with Switch Point, by Year**	**Volume Fluctuation**
1) Credit risk 2) Market risk 3) Capital management risk	**2001, year of switch point** 1) Operational risk **2005, year of switch point** 2) Insurance and investment risk 3) Risk related to impairment 4) Hedged risk **2006, year of switch point** 5) Pension risk 6) Sustainability risk **2007, year of switch point** 7) Liquidity and funding risk **2008, year of switch point** 8) Economic risk **2010, year of switch point** 9) Risk management 10) Cross-border risk	1) Currency risk 2) Interest rate risk 3) Risk related to derivatives 4) Reputation risk 5) Political risk 6) Strategic and business risk 7) Tax risk 8) Financial crime risk 9) Risk related to fair value 10) Leasing risk 11) People risk 12) Safety and security risk 13) Industries risk 14) Special purpose entities 15) Equity risk 16) Legal and regulation risk.

Table 17 shows that the pattern of volume fluctuation was the key feature for many risk categories disclosed a total of sixteen out of a total of twenty-nine risk categories. This reflects that HSBC have frequently faced high volatility in their operation and in various risk categories over a longitudinal period.

In terms of the pattern of volumetric increase with switch point, a clear significant switching increase of disclosure happened in 2005 with three risks, which were: hedge risk, risk related to impairment and insurance and investment risk. This was probably caused by the effects of implementation of IAS 39, Financial Instruments: Recognition and Measurement (which governs fair value, impairment, derivatives, and hedge accounting). Meanwhile, disclosure of insurance and investment risk increased significantly in 2005 because the effects of implementation of IFRS 4 'Insurance Contracts'. In addition, in August 2005, HSBC acquired a further 9.91 % of Ping An Insurance, increasing its investment to 19.9 per cent; Ping An Insurance is the second-largest life insurer and the third-largest property and casualty insurer in China (HSBC, 2005). The switching years of 2007, 2008 and 2010 were the result of the severe disruption of the global financial crisis that began in the second half of 2007. HSBC also suffered the effects of this crisis, in both direct and indirect impacts. Consequently,

liquidity and funding risk, economic risk, risk management, and cross-border risk were
disclosed with the pattern of volumetric increase with switch point.

6.2 Time Orientation of Disclosure at HSBC

The following figure shows the percentage of three characteristics (i.e. forward-looking,
present, and past disclosures) as a proportion of total sentences at HSBC between 1995
and 2010.

Figure 51 *The percentage of forward-looking, present, and past disclosures as a
proportion of total sentences at HSBC between 1995 and 2010*
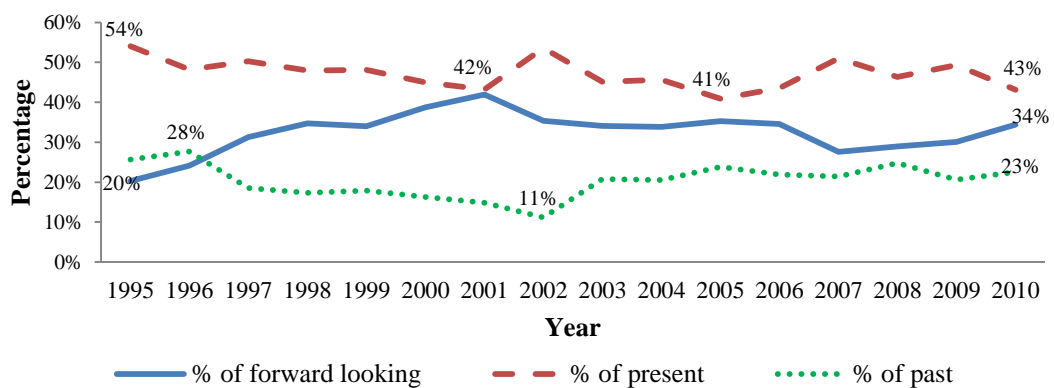
Figure 51 shows that the largest quantity of time orientation of disclosures as a
proportion was present information, which varied between 41% and 54% of total
disclosures. Meanwhile, the second largest proportion was forward-looking disclosure,
which varied between 20% and 42% of total disclosures. Finally, the lowest proportion
was past disclosure, which varied between 11% and 28% of total disclosures.

6.3 Factual Disclosures and Perception Disclosures at HSBC

A volumetric measure was employed to reflect the longitudinal trends of factual and
perception disclosures. The following figure shows the proportion of factual disclosures
measured as an inverse proportion of perception.

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Figure 52 *The percentage of factual disclosures as a proportion of total sentences at HSBC between 1995 and 2010*
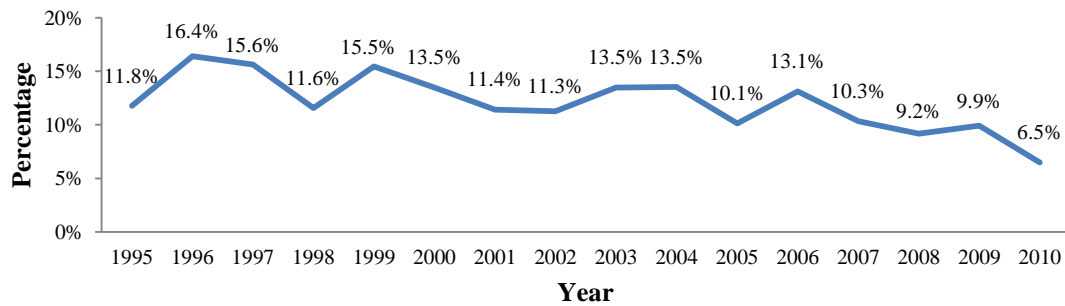
As can be seen from figure 52, the factual disclosure as a minor proportion of total disclosures shows the fluctuation on the downward trend in proportion of disclosures, which varied between 6.5% and 16.4% of total disclosures.

6.4 Disclosure Direction at HSBC

The following figure illustrates the finding of trend of bad news as an inverse proportion of disclosure of neutral news.

Figure 53 *The percentage of bad news sentences as a proportion of total number of sentences disclosed between1995 and 2010 by HSBC*
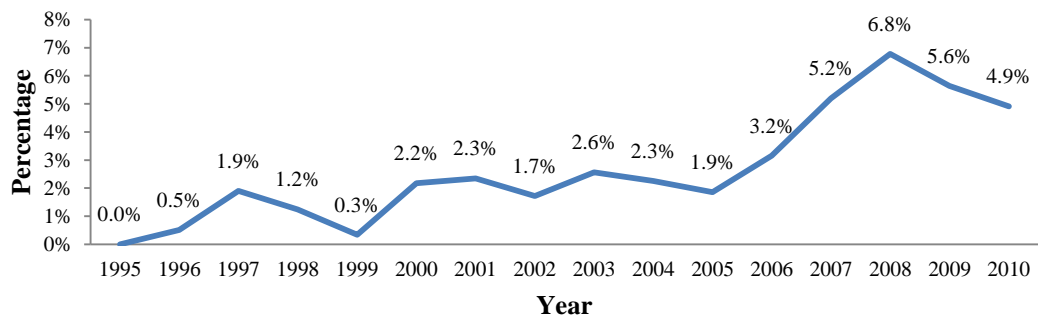
As shown in figure 53, the proportion of sentences containing bad news as a minor proportion of disclosure direction gradually increased from no bad news in 1995 to 6.8% of total disclosures in 2008, it then slightly decreased to 5.6% in 2009 and 4.9% in 2010.

6.5 The Quality of Risk Disclosures at HSBC

The quality of risk disclosure in this study was divided into two groups, qualitative disclosure and quantitative disclosure.

6.5.1 The quality of qualitative disclosure at HSBC

The frequency of qualitative disclosure levels was counted for all risk categories of HSBC to identify the quality level in all risk categories at HSBC. The results of the analysis of this improvement over a period of sixteen years (i.e. 1995 to 2010) are shown in the following figure.
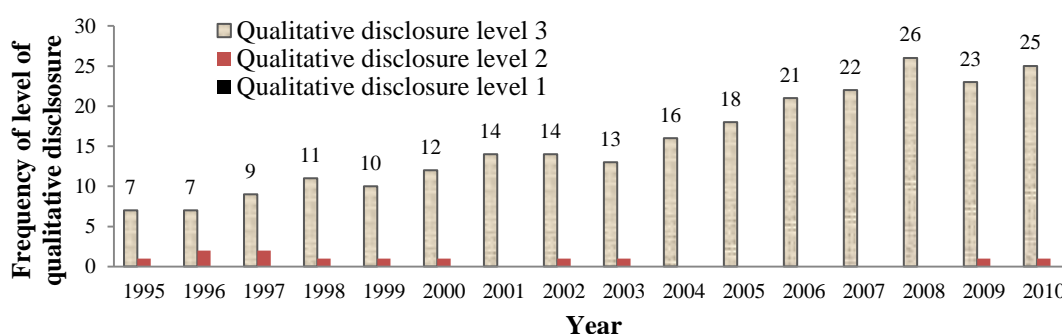
Figure 54 Frequency counts of qualitative disclosure level under all risk categories at HSBC

It is apparent from figure 54 that the total frequencies of qualitative disclosure were mainly disclosed on level 3 (as defined in table 6.5 of Chapter 6) because the disclosure included a description of the management or mitigation of that risk. It is noticeable that HSBC did not disclose on level 1 (i.e. mention with minimal discussion). Overall, the results show an upward trend of high information content (level 3), from seven risk categories in 1995 to twenty-six risk categories in 2008. It then slightly decreases to twenty-three categories in 2009 and twenty-five categories in 2010. However, this upward trend involved the number of increased risk categories; therefore, the following figure shows the results when the frequency of qualitative disclosure level 3 was examined by making them a proportion.

Figure 55 *The frequency of qualitative disclosure level 3 as a proportion of total risk categories at HSBC*
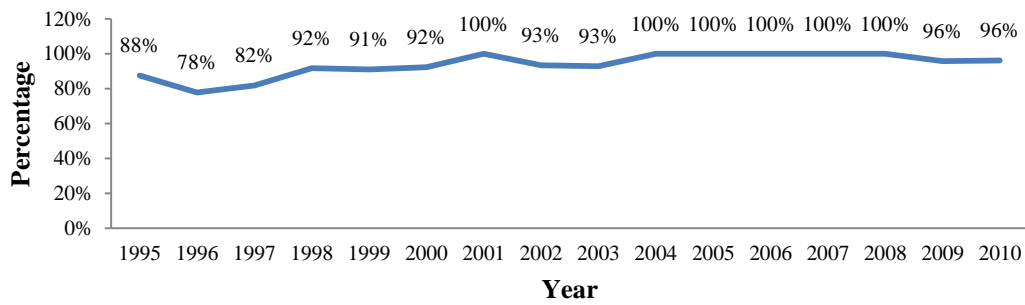
Figure 55 shows that most risk categories were disclosed with high information content at level 3, with slight fluctuation in frequency without the clear upward trend, which varied between 78% of total categories to 100% of total categories.

6.5.2 The quality of quantitative disclosure at HSBC

Evaluating the quality of quantitative disclosures employed 2 levels (as mentioned in table 6.6 of Chapter 6). The frequencies of both levels were then counted to identify the pattern disclosed. The analysis of numerical data classified as level 1 and level 2 showed significantly different frequencies in both levels, as shown in the following figure:

Figure 56 *The frequencies of quantitative disclosure levels at HSBC*

Figure 56 shows that there was a significant difference between level 1 and 2 between 1995 and 2010 when HSBC disclosed risk categories quantitatively with comparison numerical data; it purely disclosed level 2 in 1996, 1998, 2003 and 2005. Moreover, the

number of risk categories disclosed on level 2 increased from nine categories in 2004 to fourteen categories in 2005, after which it has operated in a range of between fourteen and sixteen categories. However, the quantitative disclosures of level 2 showed a fluctuation in frequencies of between six categories and sixteen categories over the period as a whole.

The following figure shows the result of making frequencies of quantitative disclosure level 2 as a proportion of total risk categories between 1995 and 2010.

Figure 57 *The frequency of quantitative disclosure level 2 as a proportion of the total risk categories at HSBC*

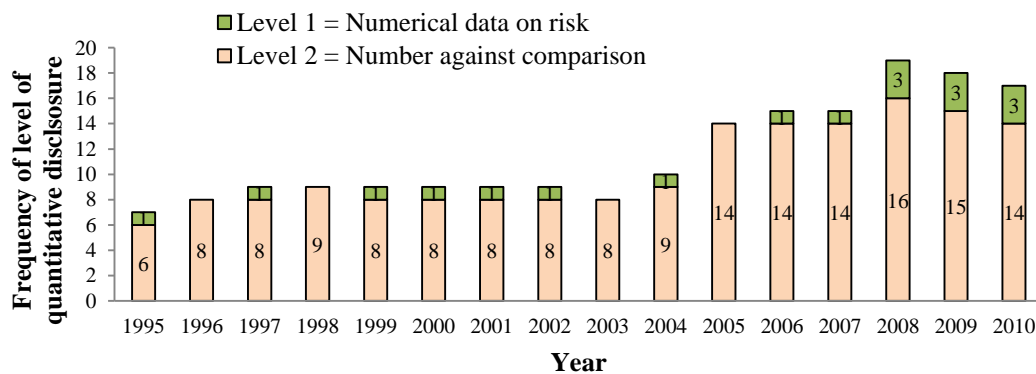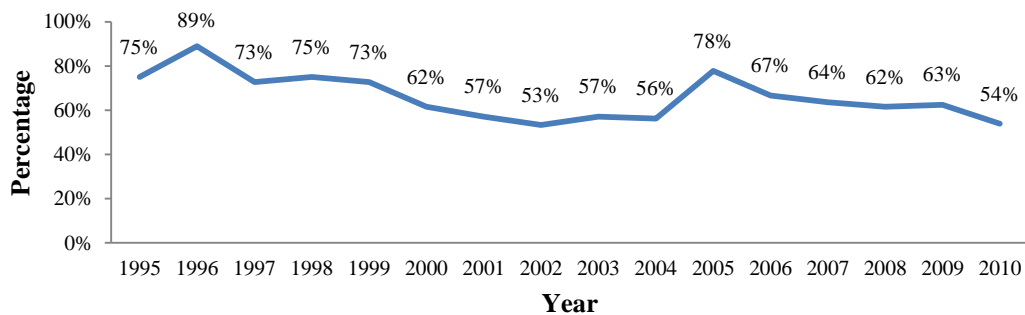Figure 57 shows that quantitative disclosure with number against comparison (level 2) had a downward trend (from 75% in 1995 to 56% in 2004). It then increased to 78% in 2005 before decreasing continually to 54% in 2010. This result reveals that the quality of quantitative disclosure did not increase as shown in figure 56 when frequencies of quantitative disclosure level 2 were examined by making them a proportion.

6.6 The Intensity of Societal Discussion at HSBC

The intensity of societal discussion was examined by looking at the correlation between the volume of newspaper citations in the UK banking and financial sector against the risk disclosures made by HSBC. The following table describes the outcome of the various findings of correlation.

Table 18 *Correlations between the number of risk issues cited in newspapers and various variables in HSBC's disclosures*

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Information Richness (by proportion)			
Bad news	0.662	0.005	0.01
neutral news	-0.662	0.005	0.01
Forward- looking	0.188	0.485	no association
Present	-0.088	0.745	no association
Past	-0.209	0.438	no association
Fact	-0.803	0.000	0.01
perception	0.803	0.000	0.01
Quantitative disclosure(level 1&2)	-0.381	0.145	no association
Qualitative disclosure level 3	0.473	0.065	no association
Risk Categories (by number of sentences)			
Total risk categories	0.705	0.002	0.01
Sustainability risk	0.774	0.000	0.01
Legal and regulation risk	0.716	0.002	0.01
Strategic and business risk	0.682	0.004	0.01
Tax risk	0.681	0.004	0.01
Liquidity and funding risk	0.657	0.006	0.01
Special purpose entities	0.644	0.007	0.01
Economic risk	0.632	0.009	0.01
Market risk	0.625	0.010	0.01
Insurance and Investment risk	0.600	0.014	0.05
Pension risk	0.600	0.014	0.05
Political risk	0.575	0.020	0.05
Financial crime risk	0.570	0.021	0.05
Hedged risk	0.568	0.022	0.05
Risk management	0.564	0.023	0.05
Credit risk	0.565	0.023	0.05
Risk related to impairment	0.549	0.028	0.05
Residual value risk	0.534	0.033	0.05
Risk related to fair value	0.520	0.039	0.05
Interest rate risk	0.513	0.042	0.05
Capital management risk	0.509	0.044	0.05
Industries risk	-0.440	0.088	no association
Operational risk	0.410	0.115	no association
Currency risk	0.393	0.132	no association
People risk	0.364	0.166	no association
Safety and security risk	0.291	0.274	no association
Cross-border risk	0.250	0.351	no association
Reputation risk	0.218	0.418	no association
Equity risk	-0.068	0.801	no association
Risk related to derivatives	-0.024	0.931	no association

Variable	Spearman Correlation (r)	Sig. (2-tailed) (p)	Level of Sig.
Competition risk	no disclosure		
Financial report risk	no disclosure		
Customer treatment	no disclosure		
Technology risk	no disclosure		
Change risk	no disclosure		
Governance risk	no disclosure		

As shown in table 18, the results have been categorised into three main groups of correlation: high correlation (r is between ± 0.63 and ±1.00, p < 0.01), moderate correlation (r is between ± 0.50 and ± 0.62, p < 0.05), and no correlation (r is less than ± 0.50). The correlations can be reported on aspects (i.e. information richness and risk categories).

In terms of information richness, there was a positive association between the disclosure direction of bad news and the number of newspaper citations with high level. On the other hand, disclosure of neutral news as an inverse proportion of bad news had a negative relationship with the number of newspaper citations. The interrogation of fact and perception shows that there was a negative association between disclosure of fact and the number of newspaper citations with high level, while disclosure of perception as the inverse proportion of fact had a positive association with high level. However, the interrogation of time orientation (which was comprised of forward-looking, present, and past) and the interrogation of disclosure quality (both qualitative and quantitative disclosure) were not found to be associated with the number of newspaper citations.

In terms of the variables based on risk categories, it was noticeable that the high correlation group consisted of total risk categories and two strategic banking risks, which are: liquidity and funding risk, and market risk. Both of these categories were also found to be contained in the group of high correlation of overall analysis (in all companies), as described in Section 6.3.2 of Chapter 6. The other risk categories in the high correlation group were: sustainability risk, legal and regulation risk, strategic and business risk, tax risk, special purpose entities and economic risk. The moderate correlation group included: insurance and investment risk, pension risk, political risk, financial crime risk, hedged risk, risk management, credit risk, risk related to impairment, interest rate risk, and capital management risk.

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