Risk Reporting: An Analyses of the Dutch Banking Industry

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Abstract

In this thesis research has been done to the risk disclosures of Dutch Banks. After discussing relevant literature in the field of risk disclosure studies in general and more specific in the field of banks, new risk disclosure frameworks that measure the quantity and quality of risk disclosures have been developed. The frameworks have been applied to a sample of eight Dutch banks. For these banks the quantity and quality disclosures scores over a period of four years have been calculated. The results show differences in the disclosure scores between years and within the years. These differences have been tried to be explained by testing some hypothesis; (1) Whether banks with high quantity scores do not have high scores on the quality framework, (2) the relationship between the level of risk disclosures and banks size, (3) the relationship between the level risk disclosures and the profitability level of the bank, and (4) if the risk disclosures are significant higher in 2007 and 2008 compared to 2005 and 2006. The variable bank size has been measured by the natural logarithm of total assets and the relative profitability has been measured by the return on average assets and the return on average equity. Furthermore, in this research proposal suggestions are made for future research on the development of risk disclosures and the relationship with for instance the cost of capital.

Keywords: Risk disclosures, Dutch banks, IFRS 7, annual reports, quantity, quality

Preface

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This thesis has been written for the completion of the master Accounting, Auditing and Control. The development of risk disclosures in the Dutch banking sector is the central theme in this thesis. In order to improve the quality of this thesis J. Maat of the Erasmus University has been involved in the process. I want to thank J. Maat for all of his advices during the process.

Ruud van der Kruk

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Abbreviations

AICPA	American Institute of Certified Public Accountants
AIMR	Association of Investment Management and Research
ASB	Accounting Standards Board
BW	Burgerlijk Wetboek
CDO	Collateralized Debt Obligations
DAX	Deutscher Aktien Index
EG	European Union
EU	European Union
FTSE	100 Financial Times Stock Exchange
GAS	German Accounting Standards
IAS	International Accounting Standards
IASB	International Accounting Standards Board
ICAEW	Institute of Chartered Accountants in England and Wales
IFRS	International Financial Reporting Standards
RMBS	residential mortgage-backed securities
ROAA	Return on average assets
ROAE	Return on average equity
SEC	Securities and Exchange Commission
UK	United Kingdom
US	United States
VAR	Value-at-risk

1. Introduction

1.1 Risk reporting

> "*The essence of any bank is that it is a risk taking enterprise and therefore, as a part of good corporate governance, it is expected that relevant risk-related information will be released to the market place*" (Linsley and Shrives, 2005).

In 2007 it became clear that many banks had to take huge impairments and losses on their investments in financial instruments like collateralized debt obligations (CDO's), residential mortgage-backed securities (RMBS) and subprime mortgages, due to enormous decreasing values of these financial instruments. The consequence of these decreasing values is that many banks, in for instance the US, UK, Germany, France and the Netherlands, got big financial problems. Due to this also other companies got problems, because it became very difficult to refinance or get new loans of the banks. Today, this crisis is known as the credit crunch or financial crisis. As a consequence of this crisis, one questions why nobody knew about the risks of the financial instruments that banks had or maybe still have on their balance sheet. Possibly because, as also stated by Linsley and Shrives in 2005 before the financial crisis begun, people expected that relevant risk information was disclosed to the marketplace.

Although some suggest that companies will disclose more bad news when their financial position is threatened (Darrough and Stoughton, 1999; Suijs, 2005), Linsley et al. (2006, 279) state that banks might wish to keep discussions about their risk levels out of the public domain. Despite companies maybe do not want to disclose information about their risk levels the demand for disclosures has increased over the years (Cole and Jones, 2005) due to major corporate scandals, the increasing complexity of business structures and a changing environment and technology. Although the focus on risk disclosures increased until the introduction of IFRS 7 from January 1, 2007 no regulation with respect to risk disclosures was available in the Netherlands. IFRS 7 became mandatory for companies with financial instruments that report in conformity with the International Reporting Standards (IFRS), the accounting rules for all stock listed companies since January 2005 and for all banks since January 2006. After the introduction of IFRS 7 a year later banks do also have to comply to Basel II, a capital agreement drawn up by the Basel Committee on banking supervision and the successor of Basel I. Basel II pillar 3 contains specific risk disclosures for banks.

The credit crisis and the introduction of IFRS 7 and Basel II, however, will only increase the focus on risk disclosures by banks all over the world and are the reasons for examining risk disclosures of Dutch banks.

Last years the topic of risk disclosures in annual reports is studied, mostly focusing on stock listed, non-financial firms in other countries than The Netherlands (Kajüter and Winkler, 2003;

Beretta and Bozzolan, 2004; Linsley and Shrives, 2006; Abraham and Cox, 2007; Amran et al., 2009). All the researches, except Kajüter and Winkler (2003) who studied the risk disclosures over more than one year, focused on the annual reports in a single year and are only measuring the quantity of risk disclosures.
With respect to risk disclosures in the banking sector only the Basel Committee (2001,2002,2003), Linsley et al. (2006) and Helblok and Wagner (2006) did research to it and published some articles on this. But also only measured the quantity of risk disclosures.

1.2 Objectives

This thesis has some objectives. The first is to overcome certain limitations of content analyses approaches and frameworks as used in previous research by creating new frameworks. As well a framework for measuring the "quantity" of risk disclosures as a framework for measuring the "quality" of risk disclosures is developed. Although the use of the terms quantity and quality suggest that the quantity framework measures no quality of risk disclosures at all, this framework, which is based on IFRS 7, also measures quality of risk disclosures to some extent because IFRS 7contains risk items that are considered to be relevant for the users of the financial statements. The "quality" framework measures the quality of risk disclosures with regard to the qualitative characteristics; relevance, comparability, reliability and understandability and contains no mandatory items according to IFRS 7. The second objective of this thesis is to examine the development of risk disclosures of Dutch Banks between 2004 and 2008 by using the new developed disclosure index models. The third objective of this thesis is to come to explanations for different risk disclosure scores of banks by for instance using firm specific characteristics. The fourth objective is to determine if quantity is a good proxy for quality by testing if banks with high quantity scores also score high on the quality framework.

1.3 Research questions

Because of the introduction of IFRS 7, the Credit crunch and the lack of research with respect to risk disclosures in the Dutch banking sector this thesis has the following research question:

> *"What are the risk disclosures over the years 2005-2008 in the Dutch banking sector based on the results of new developed disclosure index models and can possible differences be explained?"*

To come to an answer to the research question some other questions are formulated:

1. *What is risk?*
2. *How has risk reporting developed in general and more specific for Dutch Banks?*
3. *What is the theory behind risk reporting?*
4. *What other research has been done with respect to risk reporting and more specific risk reporting in the banking sector?*

5. *What are the different approaches of content analyses and what are the limitations of it?*
6. *Which model is frequently used for risk disclosure studies and what are its limitations?*
7. *Can certain limitations of other content analyses approaches and frameworks as used in previous research be overcome by creating new frameworks?*
8. *Can the quantity of risk disclosures be considered as a good proxy for the quality of risk disclosures?*
9. *How can possible differences between (the quantity and quality of) risk disclosures in the annual reports of Dutch banks be explained?*

1.4 Research design

This research and thesis can be divided in four parts. The first part is the descriptive research. In this part not only the background of risk disclosures is discussed, but also the institutional setting of Dutch Banks, the theory behind risk reporting and previous empirical research on this topic. Also the different approaches of content analyses and its limitations will be discussed in this part to get a better understanding of the possibilities of measuring risk disclosures.

Although Linsley et al. (2006) also used content analyses to do research on risk disclosures in the banking sector their framework is not used. In the second part of this thesis new frameworks are developed to overcome the limitations of other content analyses approaches and frameworks as used in previous research. The new developed frameworks measure in contrast to the framework used by Linsley et al. (2006) also the quality of the risk disclosures, incorporates IFRS 7 and are based on the disclosure index models approach because counting words or sentences is to time expensive and according to Abraham and Cox (2007) companies can influence the disclosure scores by adapting their writing style.

In the third part of this thesis the model will be applied to eight Dutch banks over the years 2004-2008 in order to come to empirical results in the form of disclosure scores for each bank for each year.

In the last part of the thesis the results of applying these frameworks will be analyzed and differences in the disclosures scores will be tried to explain by hypothesis that are also drawn up in this part of the thesis. The data of other variables and the disclosure scores will be put into SPSS to calculate the Pearson correlation coefficients, the significance of the relationships and Paired - Sample T-tests.

1.5 Relevance

For several reasons this research contributes to the already existing literature on risk reports. First and most important contribution of all, this study focuses on banks. Only the Basel Committee (2001,2002,2003), Helbok and Wagner (2006), and Linsley et al. (2006) have studied the risk disclosures of banks before and published some articles on this, with only the last two using content analysis to test their hypotheses. The results of these studies will be discussed in other parts of this thesis.

Second, not only the quantity of risk disclosures is measured but also the quality of risk disclosures. As far as known no other research has examined these relationships for Dutch Banks. Third, new risk disclosure frameworks based on the disclosure index models approach are developed. Fourth, by examining the annual reports of the past four years I hope to show an increase in risk disclosures especially since the introduction of IFRS 7 in 2007 and the demand for more information about risk due to the credit crunch in the last two years. Empirical studies on German listed companies have already reported an increase in the quantity of risk disclosures in the period 1999-2002 (Kajüter and Winkler, 2003; Fischer and Vielmeyer, 2004). Fifth, based on the results of my research many other research in the field of behavioral research and market-based research can be conducted to examine, for instance, the relationship between disclosures and the cost of capital. Sixth, I focus on Dutch firms in a recent time period. Camfferman and Cooke (2002) once before studied Dutch companies, but mainly focused on the differences in disclosures in the annual report between UK and Dutch companies and found that disclosures by UK firms were at that time more comprehensive. Besides al these reasons this research is also relevant out of a public view due to the reason that until the credit crisis it always have been expected that relevant risk information is disclosed (Linsley and Shrives, 2005). This research will show if relevant risks are voluntary disclosed in the years before the introduction of IFRS 7 because also the years 2005 and 2006 are examined on presence of the IFRS 7 risk disclosure items, which are expected to be relevant. When the disclosures in the years 2005 and 2006 are significant lower than in 2007-2008 this can possibly be one of the reasons why nobody knew about the risks of the financial instruments of the banks. This research is also relevant for standard setters because based on the disclosure scores it can be seen if the introduction of IFRS 7 has resulted in more risk disclosures. Also for external auditors this research is relevant because for them It becomes clear if their clients do comply to the disclosure items of IFRS 7 and they can compare the scores with other banks.

1.6 Demarcations and Limitations

Companies have to deal with many types of risks, like financial risk, business risk, integrity risk etcetera. According to the importance of financial instruments to banks and the increased attention to the risks facing the financial instruments this thesis will only focus on the risks of financial instruments. According to IFRS 7.32 the risks of financial instruments can be divided in: credit risk, liquidity risk and market risk, with market risk divided into interest rate risk, currency risk and other price risk. All other risks will not be taking into account in this thesis.

The banks included in the sample are selected from the Bankscope database. And the annual reports of the selected banks are downloaded from the KPMG annual reports database. Only the banks with an availability of annual reports of 4 years are selected. Due to timeliness not all banks are included in the sample. As a consequence of this no general statements about the whole Dutch banking sector can be made.
The construction of the frameworks and the coding of the annual reports have to deal with a certain degree of subjectivity and is a major limitation of this thesis. To partly overcome this subjectivity validation of the frameworks and reproducibility of the disclosure scores are part of this thesis.
Another limitation is that only the risk disclosures in the annual reports of banks are measured. As a consequence of this risk disclosures outside the annual reports are not part of this research and its statements. It can be questioned if this limitation has big consequences for this research because the mandatory risk disclosures on financial instruments following out of IFRS 7 have to be disclosed in the annual report of the banks.
Due to time reasons only the annual reports of Dutch banks over 4 years are analyzed. This is a limitation because differences in disclosure scores over the years can be a consequence of the introduction of IFRS 7 but also be a consequence of a general trend. This general trend cannot be determined due to the shortness of 4 years. But it is possible to use earlier research on risk disclosures in other countries to know something the general trend.

1.7 Structure

In order to come to an answer to the research question this thesis is structured as follows. In section 2 I will first discuss the concept of risk, the development of risk reporting and the institutional setting. Section 3 will discuss the rationale behind risk reporting and summarizes prior research. Section 4 then focuses on the different content analyses approaches as described in the literature and the limitations of content analyses in general. Section 5 will discuss a frequently used content analyses model that has been developed by Arthur Anderson and has been used by many researchers including Linsley et al. (2006). Also the limitations of this model will be outlined and the new developed frameworks are presented. In section 6 the hypothesis are applied to a sample of Dutch banks. In section 7 the hypothesis are drawn up and are analyzed to explain differences between disclosure scores. At last in section 8 a summary, conclusion and possibilities for future research are provided.

2. Background risk and risk disclosures

2.1 Introduction

Regulation regarding financial reporting and disclosures have an impact on every firm. Financial reports and disclosure are however "*potentially important means for management to communicate firm performance and governance to outside investors*" (Healy and Palepu, 2001, 405). These disclosures can give information on several topics, including earnings forecasts, corporate social responsibility, segments and risks. This thesis focuses on risk reporting by banks, with the disclosures on this topic becoming less voluntarily in the past few years. First of all, the concept of risk will be clarified. Next the development of risk reporting will be discussed and the institutional setting for banks in The Netherlands will be described. This will show the shift from voluntary risk disclosures to increased regulation.

2.2 Concept of risk

In the past, and more specifically the pre-modern era, people saw risk as something negative because it was at that time associated with the occurrence of natural phenomena (Linsley and Shrives, 2006, 388: Lupton, 1999). Serious studies of risk started to be performed in the Renaissance by Pascal, Fermat and others who based this on advances in algebra and calculus, and in the 17th and 18th century modern techniques for quantifying risk were developed (Bernstein, 1996). In economics the concept of risk and uncertainty was introduced by Frank H. Knight (1921), who referred to risk as a 'measurable uncertainty' and considered uncertainty as non-quantitative.

Nowadays, in the modern era, there are according to Dobler (2008, 187) two views on risk: an uncertainty-based and a target-based view. The first "defines risk as randomness of uncertainty of future outcomes that can be expressed numerically by a distribution of outcomes (Dobler, 2008, 1987: Knight, 1921). The target-based view "defines risk as the potential deviation from a benchmark or target outcome (Dobler, 2008, 187: Borch, 1968).

Risk is driven by internal and external factors, and is according to the ICAEW inherent in business. Both the ASB and ICAEW view risk as the "*uncertainty as to the amount of benefits. The term includes both potential for gain and exposure to loss*" (ICAEW, 1998, 5). According to Beretta and Bozzolan (2004, p 269) risk disclosures can consequently be defined as "*the communication of factors that have the potential to affect expected results*", although the definition of Linsley and Shrives (2006, 389) is more extensive "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" The more general definition of risk as defined by Linsley and Shrives (2006) is also used in this thesis because it includes both `good' and `bad' risks and opportunities and is according to Lupton (1999) the most widely understood definition of risk.

2.3 Development of risk reporting

Although risks in business have always existed, major corporate scandals in the past 30 years, the increasing complexity of business structures, a changing environment and technology, and the current crisis on the financial markets have increased the focus on risk and risk management. Before the ICAEW published the important discussion thesis '*Financial Reporting of Risk – Proposal for a statement of Business Risk'* in 1997, both the Cadbury Report (1992) and the AICPA (1995) already gave considerable attention to the issue of risk reporting. The AICPA report focused on the changing needs of users of financial reporting and recommended to provide more forward-looking information, including information about uncertainties and risks. The ICAEW report (1998, 5) adds to this that there is a concern about "*short-terminism*" and more forward-looking information can help investors to focus on a longer-term instead.

The years after the issuance of these reports, more reports have been issued and the opinions about risk reporting have become more sophisticated (Turnbull Report, 1999; ICAEW, 1999; ICAEW, 2002). A part of this can be attributed to the discussion around corporate governance. The ICAEW now considers "*risk reporting to be a cornerstone of accounting and investment practice*" (Abraham and Cox, 2007, 227). This suggests that risk reporting is useful for the investors, but the company and its management itself can also benefit from it. The focus of regulators is, however, still on the users of financial statements.

In the past few years, risk reporting has become less voluntarily, particularly with respect to financial instruments. The German Accounting Standards Board adopted already in 2001 German Accounting Standard No. 5 *Risk reporting*, with GAS 5-10 about risk reporting by banks. According to Homölle (2003, 1) this is the "first accounting standard worldwide that regulates risk reporting in a comprehensive manner". A few years later, the International Accounting Standards Board revised and enhanced the already existing regulation regarding the disclosures of financial instruments due to the fact that "*the techniques used by entities for measuring and managing exposure to risks arising from financial instruments have evolved and new risk management concepts and approaches have gained acceptance*" (IASB, 2004, 3).

Particularly with respect to the changing regulation and the current turmoil on the financial markets, caused by financial instruments from which the actual risks are now said not to be known in the past, it is interesting to examine how risk disclosures in annual reports of banks have developed in the past years. In light of the development of risk disclosures outlined above an increase in the quantity of risk disclosures would be expected. This thesis will however only focus on Dutch banks and therefore it is important to discuss the institutional setting.

2.4 Institutional setting

2.4.1 Introduction

After the corporate scandals of WorldCom, Xerox and Enron the discussion about risk disclosures and corporate governance has risen (Linsley and Shrives, 2005, 205). Not only in the United States but also in The Netherlands this resulted in more laws and regulations regarding risk reporting.

2.4.2 The Dutch law

Since July 2005 risk reporting is therefore also incorporated in the Dutch law (Burgerlijk Wetboek). In article 2:391 paragraph 1 is stated that: "The annual report also gives a description of the main risks and uncertainties with which a legal person is confronted". Article 2:391 paragraph 3 adds to this that "attention should be paid on the *price, credit, liquidity* and *cash flow risks* the legal person has" and this is also incorporated into the *Guidelines of Annual Reporting* (RJ 290.9). No attention will however be paid to these guidelines since this thesis is about Dutch banks, which have to report in conformity with the International Financial Reporting Standards to be discussed later in this section.

2.4.3 The Basel agreements

Not only the law is important for banks, from January 1, 2008 banks also have to comply to Basel II, a capital agreement drawn up by the Basel committee on banking supervision and the successor of Basel I. The Basel committee was founded in 1974 with the objective to "enhance the understanding of key supervisory issues and improve the quality of banking supervision worldwide" (www.bis.org/bcbs, January 16, 2009). The decreasing amounts of equity in relation to the supplied credits, as a consequence of the internationalizing and the forthcoming increased competition between banks, was the reason for founding the committee, which has no legal force but issues standards, guidelines and recommends statements of best practice.

In 1988 the committee introduced the first capital measurement system, commonly referred to as the capital accord or Basel I. This framework has not only been adopted by the member countries, but also in all other countries with international active banks (www.bis.org/bcbs/history, January 16, 2009). The proposal for the revised framework was issued in 1999 and impact studies and extensive consultations resulted in the 2004 thesis '*International Convergence of Capital Measurement and Capital Standards: A Revised Framework'.*

This framework, now known as Basel II, consists of three pillars. Pillar 1 is primarily about the banks minimum capital requirements and pillar 2 sets out the roles and responsibilities of supervisors. Pillar 3 is in this case the most important one, because it sets out the risk disclosures that are required to ensure that the market discipline mechanism can work effectively. The main objective is to "encourage market discipline by developing a set of disclosure requirements which will allow market participants to assess … risk exposures, risk-

assessment processes and hence capital adequacy of the institution" (Linsley and Shrives , 2005, 207). The disclosure framework of pillar 3 includes quantitative and qualitative disclosures for each separate risk area and also the risk management objectives and policies have to be described.
The risk areas that are distinguished in Basel II include *credit risk, market risk, operational risk, equity risk and interest rate risk*. Because Basel II is implemented in guidelines nr. 2006/48/EG PbEU L 177 and nr. 2006/49/EG PbEU L 177 of the European Union, it is legislative for all banks and credit institutions in the EU. In The Netherlands it is specifically implemented in de *Wet financieel toezicht (Wft)* and in *the law implementation capital agreement Basel* 2 Stb. 2006, 613 and Stb. 2006, 662. As already mentioned in the introduction only risk disclosures with respect to financial instruments are part of the research. So not all risks mentioned in Basel II are taken into account.

2.4.4 IFRS

In addition to the Dutch law and Basel II, Dutch banks also have to disclose about risks in conformity with the International Financial Reporting Standards, the accounting rules for all stock listed companies since January 2005 and for *all* banks since January 2006. Due to the increasing complexity of financial products and markets, the International Accounting Standards Board published at the end of the '90 IAS 32 *Financial Instruments – Disclosures and Presentation* and IAS 39 *Financial Instruments – Recognition and Measurement,* with the concept of fair value being heavily criticised in this period of turmoil on the financial markets. On August 15, 2005 they issued IFRS 7 *Financial Instruments – Disclosures*, which is approved by the European Commission on January 11, 2006 (regulation nr. 108/2006) and legislative from January 2007 for all companies that report in conformity with IFRS and that have financial instruments. It replaces IAS 30 ands some elements of IAS 32. One of the reasons for issuing IFRS 7, that began to play a role at the late 1990s (IFRS 7 BC2), is that in "recent years, the techniques used by entities for measuring and managing exposure to risks arising from financial instruments have evolved and new risk management concepts and approaches have gained acceptance" (IFRS 7, IN1). Other reasons are the discussions on risk disclosures and the initiatives to improve the disclosure framework (Linsley and Shrives, 2005; IFRS 7 IN1), and the fact that transparency will allow users to make more informed judgments about risk and returns (IFRS 7 IN2).

IFRS 7.31 states that "*an entity shall disclose information that enables users of its financial statements to evaluate the nature and extent of risks arising from financial instruments to which the entity is exposed at the reporting date".* The risks that are distinguished in IFRS 7 correspond largely with Basel II pillar 3 and include *credit risk, liquidity risk and market risk*, with market risk divided into *interest rate risk, currency risk and other price risk* (IFRS 7.32). In accordance to Basel II, IFRS 7.33 and IFRS 7.34 requires both qualitative and quantitative information to be disclosed.

Important to mention at last is that both Basel II and IFRS 7 demand risks to be disclosed 'through the eyes of management' and to be "consistent with the approaches and methodologies that the directors use to assess and manage the bank's risk" (Linsley and Shrives, 2005, 207).

It should now be clear that risk disclosures are for banks in general and for other companies with financial instruments not completely voluntarily anymore. On the other hand it is interesting to examine how banks deal with risk disclosures as required by Basel II pillar 3 and IFRS 7, and which part of their disclosures is voluntarily. In accordance with the development of the above outlined regulations an increase in the disclosures of banks is expected.

3. Risk disclosure literature

3.1 Introduction

The emergence of risk reporting took place in the past ten years and the attention on risks and risk reporting is now bigger than ever due to the situation on the financial markets. Information on the rationale behind risk reporting is important to understand why companies should report about risks. Prior research on risk disclosures provides me with empirical evidence from the past, which can be helpful for future research. Because of the limited amount of academic research on the risk disclosures of banks also empirical studies by audit firms are included in this section.

3.2 Rationale behind risk reporting

Although regulators and standard setters mainly focus on the information needs of users of financial statements and therefore claim that risk disclosures are necessary, the companies itself can also benefit from it. First I will however focus on the information and agency problem. According to Healy and Palepu (2001, 406) information asymmetry and the agency problem cause the demand by outside investors for disclosures to be made by management.

Information asymmetry, also described as the 'lemons problem' by Akerlof (1970), means that these investors and managers do not have the same extent of information, with the latter usually having more and better information. The manager will have more information about risks that might affect future results. Consequently, disclosing more about these risks will result in a decrease of the information asymmetry.

The agency problem arises due to the difference in interest between an agent and a principal, with the first being the manager and the latter being the shareholder (Jensen and Meckling, 1976; Fama, 1980). The problem here is that the agent has the incentive to act in his own-interest, which is not always in the interest of the shareholder as well. Healy and Palepu (2001, 410) describe several ways to reduce the agency problem, including compensation contracts, corporate governance, information intermediaries and disclosures. A decrease of the information asymmetry and agency problem is desirable for the users of the financial statements because with a lower information asymmetry and agency problem, which also results in lower information asymmetry, they can obtain a more reliable and complete understanding of the organization.

Next to that disclosures in general will reduce the information asymmetry and agency problem, it might also reduce the cost of capital. Several empirical studies have tried to confirm the connection between risk disclosures and the cost of capital and found support that cost of equity capital declines as the amount of disclosures increase (Healy and Palepu, 2001; Hutton, 2004; Botosan, 2006). The ICAEW and IASB share this view and also state that risk reporting will help companies in managing their risk and to improve their risk management. Last, but not

least they also believe that information on risks will "improve accountability for stewardship, investor protection and the usefulness of financial reporting" (ICAEW, 2002, 7).

By disclosing more information about risks, shareholders are better able to understand the company's future economic performances and its market value (Schrand and Elliot, 1998; Linsley and Shrives, 2006; Abraham and Cox, 2007; Dobler, 2008). According to the Modern Portfolio Theory of Markowitz, this information is used in decision making and give the opportunity to maximize shareholders' value (Markowitz, 1991; Solomon et al., 2000, Abraham and Cox, 2007).

Other perspectives why companies would disclose risk information are according to Linsley and Shrives (2000) the political cost and signaling perspective. Based on the Political Cost Theory by Watts and Zimmerman, banks will disclose more information in order to attract less attention from supervisors, shareholders, stakeholders etcetera.

According the signalling perspective banks will distinguish themselves which also can result in more disclosures of risk. For instance "banks with better risk management probably want to signal their superior risk management abilities to the market place via disclosures in the annual reports" (Linsley et al., 2006). It must be noticed that especially banks that are performing well will be early adopters of risk disclosures according to Helbok and Wagner (2006, 11). The fact that one bank is disclosing more than the others can result in an increase of disclosures in the whole banking sector, because others will imitate this more disclosing bank, in accordance with DiMaggio and Powell (1983) and Cooke (1992). In this way triggers the signalling perspective the disclosures of the whole banking sector.

There is however also critique on risk disclosures, because it is not always in the advantage of the company. Linsley et al. (2006) state that there are two reasons why managers are reluctant to disclose certain risk information. The first reason is that there is a '*problem of proprietary information'*, because information might be commercially sensitive and can give competitors an advantage. Second, there is the issue of forward-looking information. Although Solomon and Solomon (2004) examined that forward looking is found to be more useful in the decision making of investors and the ICAEW states this as well, forward-looking information is "unreliable and could leave directors open to potential claims from investors who have acted upon this information" (Linsley et al., 2006, 269). Fuller and Jensen (2002) on the opposite state that being clear about risks could prevent reputation damage.

Regulators and accounting standards boards continued to examine risk disclosures and by now laws and regulations about risk reporting exist in certain parts of the world and for certain companies. Kajüter and Esser (2007), however, still found large variations and deficits about risks and chances in annual reports even in spite of regulation.

3.3 Prior research on risk reporting

The past 30 years many researchers have examined voluntary disclosures in annual reports from different perspectives, including the capital market (Healy et al., 1999; Leuz and Verrecchia, 2000; Botosan and Plumlee, 2002) and positive accounting perspective (Cooke and Wallace, 1990; Ahmed and Courtis, 1999; O'sullivan, 2000; Adams, 2002; Camfferman and Cooke, 2002; Stanton and Stanton, 2002; Watson, Shrives and Marston, 2002). Recent studies focus more specifically on risk reporting in annual reports (Kajüter and Winkler, 2003; Beretta and Bozzolan, 2004; Linsley and Shrives, 2006; Abraham and Cox, 2007; Amran et al., 2009).

Most of the studies on risk disclosures focus on non-financial companies in a particular country and examine among others the relationship between the level of risk disclosures and company size. Linsley and Shrives (2006) found in according to a study by Beretta and Bozzolan (2004) of Italian stock-listed firms, that also for UK FTSE 100 listed firms there exists a positive relationship between the quantity of risk disclosures and company size. In the most recent study by Amran et al. (2009) this also holds true for Malaysian stock listed companies. There are however also other factors that could influence the disclosure levels. For example, Abraham and Cox (2007, 244) examined risk disclosures in UK FTSE 100 annual reports in 2002 by using content analysis and found that the number of dependent non-executive directors does not contribute to the amount of risk disclosures in the annual reports and that UK firms with a US stock exchange listing disclose more information on risks.

A more specific stream of risk disclosure studies, focuses on risk disclosures in relation to derivatives and other financial instruments (Adedji and Baker, 1999; Rajgopal, 1999; Jorion, 2002; Dunne et al., 2004). A study by Jorion (2002) investigated whether the Value-at-Risk (VAR) disclosures, "a standard benchmark for measuring financial risk" (911), that 8 US banks disclose "can predict future volatility in their unexpected trading revenues" (930). The result is that these disclosures by banks are found to be informative and meaningful, because this new information finds expression in the stock prices. Dunne et al. (2004) and Dunne and Helliar (2003) examined the influence of the implementation of a specific standard on financial instrument disclosures, FRS 13 *Derivatives and Other Financial instruments – Disclosures*. They not only found an increase in disclosures after the implementation, but also a market reaction. The effect of the implementation of IFRS 7 *Financial Instruments – Disclosures* has until now not been examined and will be a subject for future research.

There is also been done research to the development of risk disclosures over certain periods. For instance Kajüter and Winkler (2003, 219-228) did a research to the development of risk disclosures and found an increase in the period 1999-2001. This increase in risk disclosures is in the light of the development of risk disclosures described in section 2.2, which showed us an increased focus on risk disclosures the last years, logical and gives rise to expect an increase in the quantity of risk disclosures of Dutch banks.

3.4 Prior research on risk reporting by banks

3.4.1. Academic research on risk reporting by banks

The most relevant literature for this thesis are studies about risk reporting by banks. However, these are still rather rare. The Basel Committee was the first to study this specific topic. After that they recommended in 1997 banks to disclose more information about their risk profile, they analyzed in the years 1999, 2000 and 2001 the disclosure levels in the annual reports of about 55 banks in 13 countries all over world. From 2001 three reports were published on this subject and the findings were based on the answers on 104 questions in 12 categories about different types of risk in the annual reports, which were filled in by the national banking supervisors with yes, no or not applicable. Categories of disclosures that are examined include inter alia market risk internal modeling, credit risk modeling, capital structure and other risks.

In the 2001 thesis, the Basel Committee concluded that there is a lack of disclosures in the area of credit risk modeling and internal and external rating in the 1999 annual reports. For the year 2000 they concluded that the internal models for market risk are rather extensively disclosed, but that the disclosures of stress testing results should be improved (Basel Committee, 2002, 7). In the 2001 annual reports, they remarked that the disclosures on other risks, defined as operational, legal, liquidity and interest rate risk, increased. More conclusions of the Basel Committee can be found in the paper itself. These disclosures rates are calculated as the % of banks that disclosed on a pre-specified item.They based this on the comparison of disclosure rates during the years, but I place some remarks on this method because of the changing sample during the years.

Linsley et al. (2006), however, conducted the first content-analysis by counting sentences in the 2002 annual reports of a sample of in total 18 British and Canadian banks. Thereby they examined whether the size, profitability, risk level, and quantity of risk definitions of the bank have a positive relationship with the total quantity of disclosure levels (Linsley et al., 2006, 274).

In accordance with the studies by Linsley and Shrives (2006) and Beretta and Bozzolan (2004) of non-financial companies they also find a positive relationship between banks size, as measured by their total assets and market capitalization, and total risk disclosures of banks. No association was found between the level of risk disclosures and bank profitability and risk level. Although there was not found a statistically different level of risk disclosures between Canadian and UK banks, further research is useful before more general statements about risk disclosures by banks can be made. A summary of the article by Linsley et al. (2006) can be found in appendix II**.**

There has also been done a study in the banking sector about the development of the operational risk disclosures over a couple of years. This study is conducted by Helbok and Wagner (2006). They studied by using content analyses the annual reports of 59 commercial

banks in North - America, Asia and Europe over the years 1998-2001. They conclude in their study that the extent and content of operational risk reporting increased over the examined years and that the operational risk disclosures are "negatively related to a bank's equity ratio and profitability" (Helbok and Wagner, 2006, 23).

The study of Linsley et al. (2006) is the most relevant literature for this study on risk reporting by Dutch banks. By examining different types of financial risk and testing relationships between quantity of risk disclosures and firm specific characteristics the conclusions from this study form an important driver behind the expectations of the outcome of this study. Section 5.2 will elaborate more on this study.

In order of importance for this thesis, table 1 in appendix III *Empirical studies on risk reporting by banks* and table 2 in appendix III *Empirical studies on risk reporting by non-financial companies* provide an oversight of the most relevant literature.

3.4.2 Other research on risk reporting by banks

Apart from the academic studies on risk reporting, audit firms also study the topic of risk reporting and IFRS 7. In 2008 PricewaterhouseCoopers published a report in which they studied the 2007 annual reports of 22 banks worldwide, reporting under IFRS and US GAAP. In comparison with their 2005 survey they found that "there has been an overall improvement in the quality and breadth of disclosures compared to our previous survey, the level of improvement varied significantly across the surveyed banks" (PwC, 2008, 11). Ernst & Young (2008) also conducted a study on disclosures by banks after the implementation of IFRS 7, and took a sample of the 24 largest European banks. One of their key findings is that "disclosures made by banks in the light of the credit crisis varied significantly, reflecting, in part, their varying degrees of exposure (2008, 3). These studies however do not make use of disclosure index studies, but mostly give examples of best practices of risk disclosures by banks. Therefore these studies and their results are less relevant for my research, but still very interesting.

In contrast with the researches of PwC (2008) and Ernst & Young (2008) KPMG made use of a disclosure index framework in their 2008 Best Practice Risk Disclosure Survey in which they examined the 2007 annual reports of a sample of 25 European banks and 14 insurance companies. For this research they developed a banking framework that includes160 risk items on which a grade between 0 and 5 can be scored. Regulatory requirements, recommendations, emerging ideas and best practices are taken into account in the development of the framework (KPMG, 2008, 12). The results showed that in the credit risk area the disclosures developed the most and in the business risk area the disclosures developed the least.

4. Measurement of disclosures

4.1 Introduction

Communication can take place in many forms. Corporate and accounting information is not only disclosed in annual reports anymore but also on websites, press releases and in conference calls as well. When examining these disclosures, and more specifically risk disclosures, mostly content analysis is used to measure the disclosures.

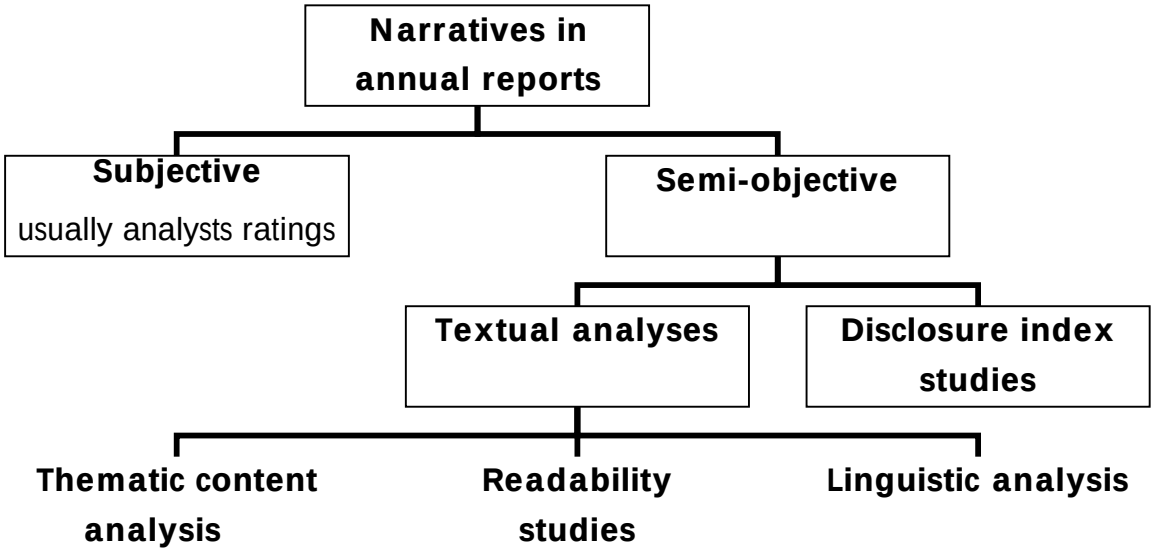
4.2 Content analysis

4.2.1 Introduction

In many prior research and literature risk disclosures are measured by using content analysis (Kajüter and Winkler, 2003; Beretta and Bozzolan, 2004; Linsley and Shrives , 2006, Linsley et al., 2006; Abraham and Cox, 2007; Amran et al., 2009). Also for examining the risk disclosures of Dutch banks I will apply content analyses because this can be used to examine large amounts of qualitative data (Holsti, 1969). In this part of the thesis I will discuss the methods used and the several approaches by which disclosures in annual reports can be analyzed by using content analysis.

Content analysis is called "the study of recorded human communication" and can be classified as unobtrusive research in which social behaviour is studied but not affected (Babbie, 2007, p 319). Based on some conceptual scheme elements of communication, for example words, sentences and paragraphs can be classified into different categories (Babbie, 2007, 345). By doing this you can observe what information is being communicated. In this research the risk disclosures will be measured afterwards and will not affect the disclosures this in accordance with the definition of Babbie (2007).

Figure 1 - ***Narritives in annual reports***
Source: Beattie et al. (2004)



According to Beattie et al. (2004, 207) there are two principle ways of measuring disclosures. The first way is to use subjective analyst disclosure quality rankings and the second way is a semi-objective way, in which the amount of disclosure is used as a proxy for the quality of disclosure by many researchers (Botosan (1997), Helbok and Wagner (2006), Linsley et al (2006). The semi-objective approach is the most used one and can be divided into approaches that encompasses all the text: thematic meaning-oriented content analysis, readability studies, linguistic analysis, and approaches known as disclosure index studies "that specify ex ante a list of items and scrutinise the text for presence, ignoring sections of the text that do not relate to this list" (Beattie et al., 2004, p 208) This approach is used by Botosan (1997) and Helbok and Wagner (2006) for instance. Each of these five approaches is discussed now more in detail below. Subsequently a computer-assisted disclosure model, introduced by Beattie et al. (2004) will be discussed.

4.2.2 Subjective ratings

Subjective ratings have been used in many studies in the US and make use of ratings of disclosure quality based on analysts' perception. The Association of Investment Management and Research (AIMR) published these rankings in the past, with 1995 as the last year. There is however a lot of critique on this approach. Lang and Lundholm (1993, 247) argue that actual disclosures are not measured and that the rankings are only based on the perception of analysts. Healy and Palepu (2001, 425-426) add to this that "it is unclear whether the analysts on the AIMR panels take the ratings seriously, how they select firms to be included in the ratings, and what biases they bring to the ratings". In the past the AIMR ratings have been used in studies by Healy et al. (1999), Bushee and Noe (2000), Botosan and Plumlee (2002), and Byard and Shaw (2003).

4.2.3 Disclosure index studies

Disclosure index studies specify the items to be studied ex ante and make use of a coding scheme (Beattie et al., 2004). A binary or ordinal scheme can be used for this, with the first checking if an item is present or absent and the latter frequently using three levels. For example Botosan (1997) used an ordinal weighted scale in which a quantified disclosure scored a 2, a qualified disclosure a 1 and no disclosure a 0. It is weighted because extra points are given to quantified disclosures. The amount of disclosures is then by many researchers assumed to be a proxy for the quality of disclosure because quality is difficult to assess (Botosan, 1997, 324). Disclosure index studies can also group items into hierarchical categories, this has been done by Vanstraelen, Zarzeski and Robb (2003) and Robb, Single and Zarzeski (2001). The critique on this method is according to Marston and Shrives (1991) however that the construction of the disclosure indices involve subjective judgement.

4.2.4 Thematic content analysis

This approach has been examined by Jones and Shoemaker in 1994. They reviewed studies about the content of accounting narratives. They explored that thirty-six of the total studies, the biggest group of the total, used themes as recording unit. Thematic content analysis can concern the entire annual report or specific sections (Beattie et al 2004). Rutherford (2002) used the thematic content analysis for his study.

4.2.5 Readability studies

Jones and Shoemaker did also review 32 readability studies in their research of 1994. According to Beattie et al (2004), "readability studies are designed to quantify the cognitive difficulty of text". To measure this they generally use a index based on a combination of sentence length and word syllable count, called the Flesch index. The outcomes are compared with external benchmarks to evaluate the degree of difficulty (Beattie et al 2004).

4.2.6 Linguistic analysis

Linguistic analysis is a method introduced by Sydserff and Weetman (1999), also called the texture index. They select six indexicals, which describe attributes of the narrative, subsequently they describe detailed rules for the classification of text units and apply them to short extracts (Beattie et al 2004)." The texture index captures much more characteristics of the text than readability studies" according to Beattie et al 2004.

According to Beattie et al (2004), the earlier mentioned approaches have two limitations. First, they are mainly one-dimensional, just classifying the topic to which the information item refers and then often only the presence or absence of a disclosure on a classified topic is measured. Second the approaches are partial, they do not analyse the entire content of a corporate annual report. To solve these two limitations Beattie et al. (2004) introduce in their thesis a new approach for measuring disclosures, '*the computer-assisted disclosure profile'* which makes use of a program called QSR NUD*IST. This is a multi-dimensional approach and aimed at analysing all of the narrative sections in the companies' annual reports.

It will be clear that concerning content analyses different approaches can be used for measuring risk disclosures. But content analyses has some limitations that will be discussed now.

4.3 Limitations

4.3.1 Introduction

Despite that content analysis is frequently used in science to examine disclosures, there are some limitations to this research method that need to be discussed in this thesis. This limitations differ from general limitations of content analyses to more specific limitations with respect to approaches of content analyses or earlier content analyses research.

4.3.2 Limitations of content analysis in general

A major limitation of content analysis in general is that it is inevitably subjective. This subjectivity is for instance a consequence of the way of analyzing the content. With respect to the research of Linsley et al. (2006), see appendix II for a summary, a certain person can classify a certain sentence as a credit risk with the characteristics quantitative, good news, future but another person can classify the same sentence as a credit risk with the characteristics quantitative, neutral, future as a consequence of different interpretations of the content. This difference is not only a consequence of the different interpretations but also a consequence of the subjective criteria determining the classification of the sentence.

Also subjectivity of content analyses arises when the amount of points is determined that will be allocated when a particular item is disclosed, this form of subjectivity arises when the disclosure index approach is used. When applying the subjective analysts ratings approach the subjectivity is present in the ratings determined by the analysts. Despite this, it is according to Krippendorff (2004, xiii) "one of the most important research techniques in social sciences". The coding method and procedure to be used should however be reliable and valid, with valid meaning that "the variables generated from the classification procedure represent what the researcher intended it to represent" (Beattie et al., 2004, 214). Krippendorff (2004, 214-215) identifies the following types of reliability: stability, reproducibility, and accuracy. The weakest form of reliability is stability, which refers to consistently coding the data and performing *tests* and *retests* by the same coder. A stronger form is reproducibility, also known as *intercoder reliability*, with a *test-test* design and in which multiple coders are involved in coding the data (Weber, 1998). Reliability can however best be achieved by accuracy and a *test-standard* design. This involves "assessing coding performance against a predetermined standard set by a panel of experts, or known from previous experiments and studies"(Milne and Adler, 1999, 239).
Subjectivity in content analysis can be partially overcome. The validation procedures to overcome the subjectivity and to increase reliability in my research will be discussed in section 5.9.

4.3.3 Limitations of measuring the amount of text

As already mentioned when discussing content analysis in section 4.2, analyzing the content of for example annual reports can be performed by counting words, sentences, page proportions or pages that include risk disclosures. According to Unerman (2000) words can be counted with a high degree of accuracy, but cannot be coded with reference to the sentence and can only be interpreted within the context of a sentence or paragraph (Linsley and Shrives, 2006, 393). Therefore, *inter alia* Beretta and Bozzolan (2004), Linsley and Shrives (2006), Linsley et al. (2006), Amran et al. (2009) make use of counting sentences, with more recently Abrahamson and Cox (2007) counting words. Hackston and Milne (1996, 86) however also consider sentences to "provide more reliable measures of inter-rating coding than words" and a more reliable measurement unit than pages or paragraphs. A problem arises on the other hand when companies adapt their writing style to influence the disclosure measurement

outcome (Abraham and Cox, 2007, 236). At the sentence level of analysis it might be too piecemeal to pass for risk-related information (Beretta and Bozzolan, 2004), which is therefore a limitation of studies making use of counting sentences.

Studies by Zeghal and Ahmed (1990) and Lajili and Zeghal (2005) combine both words and sentences to partially overcome this limitation. Another way to overcome this limitation is however to examine paragraphs or annual reports as a whole, by not measuring the amount of text on a topic but by specifying items ex ante and examine the text on the presence of these items. This is called a disclosure index study as already discussed in section 4.2.3 This form of content analyses is applied in the new developed frameworks in this thesis to overcome the above mentioned limitations. The limitation of this type of content analysis is according to Marston and Shrives (1991) however that the construction of the disclosure index always involves subjective judgment.

4.3.4 Limitations of earlier research of content analyses

A limitation of content analysis research is that most of the studies based on it only focus on the quantity of information in relation to other variables (linsley and Shrives, 2006, Linsley et al., 2006). On the other hand, in other studies the quantity of information is also assumed to be a good proxy for quality, by using quantity indices to state something about the quality as well (Marston and Shrives, 1991; Zarzeski, 1996) or by weighed indices for each item (Botosan, 1997) or type of measure (quantitative versus qualitative) associated with the information disclosed (Guthrie et al., 1999, Robb, Single and Zarzeski, 2001). What the understandings of quantity and quality of these researchers are is not defined in text, neither research is available that supports this assumption.

Beretta and Bozzolan (2004, 285; 2008) disagree with using quantity as a proxy for quality "because the disclosure of risk is intrinsically narrative", and also Beattie et al. (2004) state that quality cannot just be based on quantity. Quality depends according to Beretta and Bozzolan (2004) on the quantity and richness of content, but no support for this is given (Botosan, 2004). The author of this thesis agree with Beretta and Bozzolan (2004, 2008) that quantity is not a good proxy for quality, but besides richness of content, as measured by the economic sign (positive/equal/negative) and type of measure (financial/non-financial, quantitative/qualitative), the quality of information can in my opinion also be examined in another way. According to myself, the qualitative characteristics of information as defined in the IASB framework and the Basel Committee (1998) are also important to take into account. Botosan (2004) shares the view about the qualitative characteristics of information, but only takes the IASB framework into account. According to Botosan (1997, 324) it is however difficult to assess the quality of information, but still very important. Therefore Beattie et al. (2001, 2004) and Core (2001) state that there should be developed improved and effective measures for disclosure quality.

In developing a risk disclosure framework to measure the quality of risk disclosures by banks, I not only take into account the IASB framework but also what the Basel Committee (1998) considers to contribute to transparency.

4.3.5 Limitation of the content that is analyzed

A last point to discuss here is whether the annual reports of banks are the most appropriate place to disclose information on risks, and consequently whether the disclosures in annual reports can best be studied to gather disclosure scores that reflect the complete risk disclosures of banks.

In an article about the transparency and risk disclosures in the banking sector, Linsley and Shrives (2005) doubt the appropriateness of annual reports due to the frequency of risk disclosures and the coherence of risk disclosures. With respect to the frequency The Basel Committee recognizes that "relevant risk information has a limited shelf life and can quickly become outdated" (Linsley and Shrives, 2005, 211). Therefore Basel II pillar 3 provision 818 requires to report about risks semi-annually, or on a quarterly basis when "information on risk exposure or other items is prone to rapid change". To achieve coherence of risk disclosures The Basel Committee considers the annual report to be the logical place, but provision 815 of Basel II makes clear that risk information can also be disclosed on publicly accessible websites or public regulatory filed reports with bank supervisors. The annual report is however preferred, because "this enables the reader to obtain a coherent risk picture without difficulty" (Linsley and Shrives, 2005, 211).

As far as this study is concerned, I will only focus on the annual reports of banks. Marston and Shrives (1991) and Lang and Lundholm (1993) also consider the annual report to be an influential source to communicate firm performance with investors and is therefore also examined in a study on forward-looking information by Beretta and Bozzolan (2008). Another reason is that, although the Basel Committee on Banking Supervision allows to disclose the information as required in Basel II outside the annual report, IFRS 7 still requires to disclose information in the annual report. Due to this and because of time reasons, this study only examines the annual reports of banks.

5 The development of a new disclosure index model

5.1 Introduction

A frequently used content analyses model, to which has been referred shortly in section 3.4, is created by Arthur Anderson (Appendix I) and is published by the ICAEW in 1998. According to Linsley and Shrives (2006), Kajüter (2001) was the first to use this model. This model will be described more in depth in section 5.2 because it is a frequently used model for content analyses and has been used for examining the risk disclosures in the banking industry. Another reason to pay more attention to this model is that the limitations of it have contributed to the development of new disclosure index frameworks. The specific limitations of this model will be discussed in section 5.3. In section 5.4 an introduction to the development of the new frameworks is given. In section 5.5 and 5.6 the rationale behind the development of the new models are discussed. Section 5.7 will elaborate the limitations of these frameworks, in section 5.7 the difference between quality/quantity and qualitative/quantitative information will be explained and in section 5.9 the validation of the models is discussed.

5.2 The model more in depth

The frequently used model that was created by Arthur Anderson and published by the ICAEW in 1998 has also been used for more specific risk disclosure studies. For instance Linsley and Shrives (2006) and Linsley et al. (2006) made use of it, because the use of it by Kajüter (2001) "lends some credence to its adoption" (Linsley and Shrives, 2006, 393).

One of these more specific risk disclosure studies, the study of Linsley et al. (2006), is a study on the risk disclosures of UK and Canadian banks. They made use of content analysis and the disclosure coding grid as disclosed in table 3 *Disclosure coding grid.* The risk categories as defined in this model are based on Basel II, and include next to credit risk, market risk, interest rate risk and operational risk also the categories capital structure and adequacy risk, and risk management framework and policies. An amount of 13 sentence characteristics are defined, as partially adopted from Hackston and Milne (1996), and focus on quantitative/qualitative information, good/bad/neutral news, information on the future or past, and definitions. For doing research with this model, risk disclosures in annual reports need to be coded[1] and sentences have to be counted. Although most of the time, words are counted because these can be counted with a high degree of accuracy, Linsley and Shrives (2006) count sentences because "words cannot be coded to different risk categories without reference to the sentence" (393). As described in appendix II, which provides a summary of this empirical research, Linsley et al. (2006) calculated not only the total number and percentages of certain disclosures, but also the Pearson's correlation coefficient for the variables.

[1] For efficiently coding the sentences, the numbers assigned to the risk and the letters assigned to the sentence characteristics can be used. These numbers and letters are included in the model as used by Linsley et al. (2006)

Although the model described here is also used for a risk disclosure study in the banking industry, this model will not be used for my study due to its specific limitations next to the general limitations of content analyses.

Table 3 - Disclosure coding grid

Text disclosures sentence characteristics		*Credit risk* **1**	*Mark et risk* **2**	*Interest rate risk* **3**	*Operational risk* **4**	*Capital structure and adequacy risk* **5**	*Risk management frameworks and policies* **6**
Quantitative/good news/future	**A**						
Quantitative/bad news/future	**B**						
Quantitative/neutral/future	**C**						
Qualitative/good news/future	**D**						
Qualitative/bad news/future	**E**						
Qualitative/neutral/future	**F**						
Quantitative/good news/past	**G**						
Quantitative/bad news/past	**H**						
Quantitative/neutral/past	**I**						
Qualitative/good news/past	**J**						
Qualitative/bad news/past	**K**						
Qualitative/neutral/past	**L**						
Definitions	**M**						

5.3 Limitations of model Linsley et al. (2006)

The model as used by Linsley et al. (2006) and described in section 5.2 is a good model to measure the quantity of risk disclosures and to use the outcomes to test hypotheses. For this study there are however certain limitations, next to the limitations of content analysis as outlined in section 4.3.

A major limitation for this study is time. The model as depicted in table 3 requires the coding of every sentence in the annual reports. Coding all sentences of the risk disclosures of multiple annual reports takes a lot of time and is too time-consuming to perform with one coder in a couple of months. Coding less annual reports will however results in less strong evidence and is therefore not a good option.

A second limitation of the model of Linsley et al. (2006) is that it only takes Basel II pillar 3 into account and not the mandatory disclosures of IFRS 7. At the time this model was developed, IFRS 7 was however not drawn up yet. I will take the disclosure requirements of IFRS 7 into account for this study, because with respect to financial reporting this became very important regulation for banks in the past two years. Basel II is not taken into account because this regulation corresponds with the requirements of IFRS 7 with respect to the risk disclosures of financial instruments required. The difference between Basel II and IFRS 7 is that Basel II has

not to be disclosed in the financial statements in contrast with IFRS 7. Because only the financial statements of companies are examined IFRS 7 is better to include in the framework.

The next section will explain the rationale behind the developed disclosure index frameworks for both measuring the quantity and quality of risk disclosures in the annual reports of banks in depth. These both models do not pretend to be the best research methods and frameworks. In the context of this research they however help to overcome certain limitations of other content analyses approaches and frameworks as used in previous research.

5.4 An introduction to the development of the Risk disclosure index frameworks

As mentioned throughout this thesis, content analysis will be applied to measure the risk disclosures by Dutch banks because this can be used to examine large amounts of qualitative data (Holsti, 1969). Due to the limitations as described according to content analyses approaches, frameworks as used in previous research and the lack of better models, new frameworks have been developed. These frameworks make use of the disclosure index approach and measure both the quantity and quality of risk disclosures. The critique on this method is according to Marston and Shrives (1991) that the construction of the disclosure indices involve subjective judgement, however they also mention that "it has provided to be a valuable research tool that will continue to be used as long as company disclosure is a focus of research".

Section 4.2.3 and 4.3.3 already described that disclosure index models specify items to be studied ex ante and make use of a coding scheme, for instance a binary or ordinal coding scheme (Beattie et al., 2004). In some studies the amount of disclosures is then also assumed to be a proxy for the quality of disclosures (Beattie et al., 2004, 210), but whether quality is really measured by this is doubted by me. Models to measure the disclosure quality effectively should however be developed and improved (Beattie et al., 2001, 2004; Core, 2001).

By developing two frameworks to measure the quantity and quality of disclosures dexterous, I try to contribute to the already existing literature. Although the use of the terms quantity and quality suggest that the quantity framework measures no quality of risk disclosures at all, this framework, which is based on IFRS 7, also measures quality of risk disclosures to some extent because IFRS 7 contains risk items that are also relevant for the users of the financial statements. The "quality" framework measures the quality of risk disclosures with regard to the qualitative characteristics; relevance, comparability, reliability and understandability and contains non mandatory items according to IFRS 7.

Applying these frameworks to the annual reports of Dutch banks will be the next step. The frameworks as developed and the rationale behind it will be explained in the next two sections.

5.5 Disclosure framework quantity

5.5.1 Introduction

An objective of this study is to examine the risk disclosures of banks over a 4 year time period and to analyze the possible differences in disclosures. For the researcher it is important to find out how you can measure what you want to measure. One should thereby ask them self what one want to examine, how this can be examined and how this will be examined. The following sections will elaborate on this.

5.5.2 Selection of content analysis approach

In section 4 on content analysis and its limitations it is discussed that in the case of narratives in annual reports content analysis can be applied to words, sentences, paragraphs or pages. One way of measuring the quantity of risk disclosures is for instance by counting the sentences and classifying them into different categories based on type of risk and sentence characteristics (see Linsley et al., 2006). There are however certain limitations to this approach. Since every sentence in the annual report has to be coded manually, this method is very time-consuming. Next to that it is possible for companies to adapt their writing style to influence the disclosures scores (Abraham and Cox, 2007, 236). In order to overcome these limitations a new framework has been developed that does not literally count the quantity of risk information in annual reports but specifies items ex ante and can be used to screen the annual reports on the presence of these items. The framework as developed is presented in appendix V and consist of specific risks and items on the Y-axis and the disclosure scores for every item on the X-axis. In order to give an understanding of this framework, the rationale behind the construction of it, including the components, will be discussed.

5.5.3 Selection of risks

In section 2.2 is determined what is defined by risk but not what different types of risk a organization is dealing with. It is however important to determine which types of risks you want to examine and measure. The Business Risk Model as developed by Arthur Anderson, and is now sometimes called the Deloitte model, summarizes the different risks that a company can face. For this study on financial institutions, and more specifically banks, the category financial risk is selected since this is the main risk a bank has to deal with.

As discussed in the institutional setting in section 2.4 different types of financial risks are defined by the Dutch law, IFRS and the Basel Committee. In developing this model a selection of risks is based on what the IASB, the Basel Committee and Linsley et al. (2006) consider to be the most important financial risks and for which since January 1, 2007 mandatory disclosures are required. Appendix IV *Overview risks and description* provides a summary and comparison of these risk and the definitions as defined in IFRS 7.

As mentioned of one the demarcations of this research is however that only the risk disclosures of financial instruments will be examined, since banks earn an important part of their income by financial instruments and the attention on these types of risks is nowadays due to the

developments on the financial markets larger than ever. The risks of financial instruments can according to IFRS 7.32 be divided into credit, liquidity, and market risk, with a subdivision of the latter into interest rate, currency and other price risk. All other types of risk, including the other specific banking risk called operational risk, are not included in the disclosure framework and not taken into account in this research as a whole.

5.5.4 Selection of risk items

After selecting the types of risk and the research method, the disclosure index has to be constructed. Since no specific disclosure indexes for the risks of financial instruments of banks are available, a new index is constructed based on the since 2007 mandatory disclosure requirements of IFRS 7. Although Basel II corresponds with IFRS 7 the disclosure index model is not based on Basel II because the requirements of Basel II have not to be disclosed in the annual report in contrast with IFRS 7.

A workgroup of "auditors, preparers and regulators, drawing on their expertise in banks, finance companies and insurance companies" (IASB press release, 2004) helped the IASB in developing this IFRS 7 that will according to the chairman of the IASB, sir David Tweedie, "improve financial reporting by helping users to understand the significance of financial instruments in financial statements, by giving information about companies' capital and by revealing more clearly the risks attached to holding financial instruments". The items included in the framework are based on IFRS 7.31-42, which correspond to the requirements of Basel II pillar 3.

Although the requirements of IFRS 7 were not mandatory before 2007, the framework can also be applied to the annual reports of other years since the risks of financial instruments have not changed over time. Next to that the framework will be applicable to banks in different countries, whether or not they report in conformity with IFRS. The framework can therefore be used for future research as well. A noticeable reader will however conclude that banks will obtain a score close to 100% in 2007 and 2008 simply because the items in the framework are largely mandatory to disclose since 2007. However, full compliance with IFRS 7 is not guaranteed. According to auditors in the Financial Institutions (FS) sector of Ernst & Young and KPMG banks did not always fully comply with IFRS 7 in 2007, but perhaps only due to the fact that this was the first adoption year.

Since the risk items are included in appendix V these will not be explained more in depth in this section.

5.5.5 Allocation of points

In order to give a disclosure index framework the possibility to measure disclosures that can be compared between banks and years, scores have to be allocated to the different items. In this research equal scores are allocated to each item; one point for disclosure and zero for non-disclosure. In this way the quantitative framework acts a kind of checklist for the researcher and makes the measurement of disclosures more easily and faster than by counting words or sentences. Section 6.3 will elaborate on the calculation of the disclosure scores.

5.5.6 Applying the framework

After construction the quantity framework is cross-country applicable since it is based on worldwide adopted accounting standards and is not primarily intended to be used as a compliance measurement method. Since IFRS 7 applies to all companies with financial instruments the framework might even be applied to different industries as well, although for banks the disclosures are much more important and therefore expected to be more comprehensive as well. In this study the framework will only be applied to a single industry and a single country. More research is therefore necessary to examine the differences between industries and countries.

5.6 Disclosure framework quality

5.6.1 Introduction

The same research method, a disclosure index study, for measuring the quantity of information can be used to measure the quality of information as well. It is however the question what is understood by the quality of credit, market and liquidity risk information. Section 5.6.2 will discuss this before an explanation of the included items in the framework is provided in section 5.6.3 The same as for the quantity framework, the quality framework can hereafter be applied to the annual reports of banks and acts as a checklist for the researcher.

5.6.2 Quality of information

Before developing a framework to measure the quality of information, it has to be clear what 'quality' is. In literature there is however no unambiguous definition given for this. Even the researches that use quantity as a good proxy for quality (Marston and Shrives, 1991; Zarzeski, 1996; Botosan, 1997; Guthrie et al., 1999,;Robb, Single and Zarzeski, 2001) state no definition about quality.

According to Van der Pijl (1994, 35) the quality of information is "the extent to which the features of data meets the requirements that result from the utility goal of information". In relation to financial reporting quality depends on the information needs and usefulness of the financial information to its users (Hoogendoorn and Mertens, 2001; McDaniel et al., 2002). It is however unclear what these needs in the area of risk disclosures are; for instance surveys among users of annual reports are necessary to examine this in practice.

Over the years several reports by different committees and institutions have been issued that discuss the quality of financial reporting. Internationally there has been developed a conceptual framework that includes qualitative characteristics of information, and this framework is adopted by among others the FASB and IASB. Previous research on the quality of risk disclosures by Beretta and Bozzolan (2004, 2008) was however not based on this framework, but measured the quality by the quantity and richness of disclosures[2]. According to

[2] Quality = f(Quantity, Richness of content)

them width, as influenced by coverage and dispersion, and depth, as influenced by the outlook profile[3], type of measure[4], and economic sign[5], determine the richness of disclosures. Botosan (2004, 289) however states that they do not provide any support for this and introduces the new premise in which quality is a function of the qualitative characteristics as defined by conceptual frameworks of for instance the IASB[6]. This framework, which was issued in 1989 and adopted by the IASB in 2001, describes some qualitative characteristics of information that determine the usefulness of information in financial statements for the (economic) decision making process of stakeholders[7]. These characteristics are understandability, relevance, reliability, and comparability and will be explained more in depth in section 5.6.3 The Basel Committee (1998) adds to this the characteristic of comprehensiveness, which "often implies the aggregation, consolidation and assessment of information across a number of activities and legal entities" (5.54). Appendix VII *Qualitative characteristics* includes these qualitative characteristics as defined by the IASB and Basel Committee.

In developing a framework to measure the quality of information it is assumed that quality depends on the usefulness of information and that this usefulness is determined by the qualitative characteristics of information as defined by accounting standards boards. The next section will elaborate on these characteristics and explain how the framework as developed for this study is based on this.

5.6.3 Quality items

The developed framework to measure the quality of risk information in the annual reports of banks is based on the qualitative characteristics of information as described by among others the IASB. This section will describe these characteristics more in depth and points out how these are captured in the framework. An important note to make here is however the framework has the limitation that the quality items included in it are based on theory that explains what kind of information is useful in the decision making process of mainly the investors. No research on what investors truly demand has been performed until now, at least not with respect to the risk information of financial instruments. Due to this, the list of quality items is not limited. Further research is necessary to find out what information with regard to financial instruments is truly demanded and used in decision making processes.

The quality disclosure index framework is included in appendix VI.

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[3] Historical, forward-looking or non-time specific

[4] Financial or non-financial; quantitative or qualitative

[5] Positive, negative or not disclosed

[6] Quality = f(Understandability, Relevance, Reliability, Comparability)

[7] The conceptual frameworks of the FASB and ASB on the other hand focus only on investors and creditors

5.6.3.1 Relevance

According to the IASB framework relevant information is defined as "information that has the ability to influence economic decisions" (F26-28). In contrast to the other qualitative characteristics, as described below, this study takes for relevance only the shareholders as a user of financial statements into account due to the lack of research with respect to the risk information needs of stakeholders.
Not only relevant information will influence the (economic) decision making of a shareholder, also the perceptions of the shareholders influence behaviour (Slovic et al., 1980; Viscusi et al. 1986). The perception of influence can however lead to unintended interpretations and can adversely affect the shareholders decision making. In this study this is not taken into account.

In order to determine what information items might be relevant for shareholders it is important to get to know how shareholders make decisions.
A shareholder has three decisions he can make concerning the ownership of shares of a bank or any other company: holding, buying or selling the shares. To understand the decision making it is necessary to know what the interest of a shareholder is. According to Van den Assem et al. (2004) this is creating the higher return on the shares. In the literature there is consensus about how to determine which investment creates the highest return (Van den Assem et al., 2004). The method for this is known as the Net Present Value method and calculates the present value of all the present and future cash flows, whereby the invested amount is treated as a negative cash flow. The future cash flows are however not known in the present and need to be estimated. Barron, Kile and O'Keefe (1999) show that forward-looking information has a substantial effect on earnings forecasts and this kind of information will therefore influence the outcomes of the Net Present Value and a shareholders decision making. In accordance with this cash flow theory and other research forward-looking information is therefore assumed to be relevant for shareholders.

The following list of items is included in the framework due to its forward looking character:

- Disclosure of information on stress scenarios
- Disclosure of the expected future impact of the financial crisis on the bank and its results (in the 2007 and 2008 annual reports)
- Disclosure of information on risk management of credit, liquidity and market risk
- Disclosure of whether VaR estimates and limits have been exceeded in the year

5.6.3.2 Comparability

According to the IASB framework comparability means that users must be able to compare information over time and between enterprises, which might lead to better decision making (IASB, 2001, F.39-42). Not only the comparability of information of the financial position and performance of a company is meant by this, also the information about for instance accounting policies adopted and risks. This does however not mean that changes in accounting policies are not allowed or are unfavourable. In this specific study on financial instrument risk

disclosures by banks the mandatory adoption of IFRS 7 is an example of a change in accounting policies that is intended to increase the quality of financial reporting.

Examples that will increase the comparability of information are given by among others the Basel Committee and the IASB. In a thesis on enhancing bank transparency the Basel Committee (1998) points out that the comparability of annual reports can be improved by "providing comparative figures in respect of one or more previous periods for numerical information" (5.60). These comparative figures can be presented in different ways, for instance by showing absolute and relative numbers of risk and exposure in different years in tables/graphs or in the text. An explanation of whether the measurements of risks possibly deviate from previous years will also increase the consistency and comparability of these figures over time and between banks.

In the disclosure framework the following items are included that are related to comparability:

- Comparability of the presentation of information of a specific bank over the years
- Comparable figures of previous years disclosed by a specific bank over the years
- Comparable measurement methods used or explanation for changes given
- Accounting standards for (risk) disclosures mentioned

5.6.3.3 Reliability

According to the Basel Committee (1998) information is reliable when it "reflects the economic substance of events and transactions and not merely their legal form, is verifiable, neutral (i.e. free from material error or bias), prudent, and complete in all material aspects" (5.58). The IASB speaks about a faithful representation of information (F.36-37). If information is not reliable the users of this information are not able to use this information to make the best decisions.

Uncertainties and the use of estimates affect the reliability of information negatively. Information about risks, and especially forward-looking information, is however based on a lot of estimates and uncertainties, which would make the information less reliable and therefore unusable. A way to increase the reliability of information is by letting an auditor express an opinion on it. According to the IASB risk disclosures about financial instruments should be part of the financial statement, but incorporated in other statements that are available at the same terms and time is also allowed when cross-references are made (IFRS 7 BC45-46). For readers it might however be difficult to distinguish which information is audited and which is not. Therefore disclosing this will increase the reliability of information.

In the disclosure framework the following item is included that is related to reliability:

- The risk information in the management report is audited and this is mentioned

5.6.3.4 Understandability

The annual report should be prepared in a way that it is understandable. The question is however for whom the disclosed information should be understandable. According to the conceptual framework of the IASB this should be for "users who have a reasonable knowledge of business and economic activities and accounting and who are willing to study the information diligently" (F.25).

Research by Linsley and Lawrence (2007) shows that risk disclosures are (very) difficult to read and that disclosing more information will not *per se* result in improved communication, "unless directors write with greater clarity when discussing risks" (2007, 625). Derived from the explanation of understandability by the IASB, a way of making difficult risk information more understandable is by explaining the reader what the bank understands by a specific type of risk and by giving an explanation of the methods that a bank uses to measure risks. In order to provide even a better understanding of the measurement methods an explanation of the limitations can be given. This provides the reader with more knowledge about how information should be interpreted and how banks interpret the information. Next to that, information might become more understandable for many users when not only qualitative information on a topic is given, but also quantitative information in the format of a table or graph to support the text. In the context of risk disclosures the use of graphics could in according to Ibrekk and Morgan (1987) increase the understandability of the information.

In the disclosure framework the following list of items related to understandability is included:

- Use of tables and graphs to support the text
- Definitions of types of risk
- Definitions of measurement methods used
- Explanation of limitations of measurement methods used

5.7 Limitations of the frameworks

The developed frameworks that can be used to measure the quantity and quality of risk disclosures do not pretend to be the best research methods and frameworks. In the context of this research they however help to overcome certain limitations of other content analysis approaches and frameworks as used in previous research.

A limitation of the quantity framework is that only a limited amount of selected items are included that are based on IFRS 7 and three types of risks of financial instruments. Other types of risk and possible other disclosures are thereby ignored. Concerning the quality framework a major limitation is the lack of scientific evidence that can support the items that are theoretically expected to contribute to qualitative better risk disclosures, as valued by the users of the annual reports of banks (and more specifically the users of risk information). Both frameworks however provide a basis for future research.

5.8 Difference quality/quantity and qualitative/quantitative information

In order to avoid confusion between the quantity/quality of information and quantitative/qualitative information, a brief explanation of what is exactly meant by this is desirable.

The quantity of information can be measured in several ways, but in fact it is about '*how much*' is disclosed. In this study it is measured by counting on how many items included in the disclosure framework a bank has scored. It is assumed that the higher the score, the higher the quantity of information. Another possibility is to count the number of words, sentences, paragraphs or pages that includes risk information. The quality of information is a different and more difficult story. Considering the fact that section 5.5 already explained what is meant by quality this will not be repeated in this section.

According to Babbie (2007, 23) the "difference between quantitative and qualitative data is the distinction between numerical and non-numerical data". Qualitative risk information can be a statement like '*our market risk exposure has increased this year',* while quantitative risk information is in numerical form and "makes it easier to aggregate, compare and summarize data" (Babbie, 2007, 23). An example of a quantitative disclosure is table 4, in which credit risk exposures of Deutsche Bank are broken down into several categories and sectors.

Table 4 - Example quantitative risk disclosure of credit risk

Credit risk profile by industry sector		Loans[1]	Irrevocable lending commitments[2]		Contingent liabilities		OTC derivatives[3]		Total	
in € m.	Dec 31, 2008	Dec 31, 2007	Dec 31, 2008	Dec 31, 2007	Dec 31, 2008	Dec 31, 2007	Dec 31, 2008	Dec 31, 2007	Dec 31, 2008	Dec 31, 2007
Banks and insurance	26,998	12,850	24,970	28,286	11,568	11,005	68,641	36,048	132,177	88,189
Manufacturing	19,043	16,067	24,889	24,271	13,669	11,508	4,550	3,537	62,151	55,383
Households	83,376	70,863	3,862	3,784	1,768	1,724	791	1,497	89,797	77,867
Public sector	9,972	5,086	819	1,023	628	888	7,125	5,493	18,544	12,490
Wholesale and retail trade	11,761	8,916	6,377	5,840	3,423	3,496	1,264	839	22,825	19,090
Commercial real estate activities	27,083	16,476	2,239	3,144	2,403	1,902	3,213	455	34,938	21,977
Other[4, 5]	92,986	70,339	40,921	62,162	15,356	19,383	38,006	24,134	187,269	176,018
Total	**271,219**	**200,597**	**104,077**	**128,511**	**48,815**	**49,905**	**123,590**	**72,002**	**547,701**	**451,015**

1 Includes impaired loans amounting to € 3.7 billion as of December 31, 2008 and € 2.6 billion as of December 31, 2007.
2 Includes irrevocable lending commitments related to consumer credit exposure of € 2.8 billion as of December 31, 2008 and € 2.7 billion as of December 31, 2007.
3 Includes the effect of master agreement netting and cash collateral received where applicable.
4 Loan exposures for Other include lease financing.
5 Included in the category "Other" is investment counseling and administration exposure of € 67.9 billion and € 54.8 billion as of December 31, 2008 and December 31, 2007, respectively.

Source: Annual report Deutsche Bank (2008, 76)

5.9 validation of the frameworks

5.9.1 Introduction

According to Botosan (1997), and as described in previous sections, disclosure indexes are subject to a certain degree of subjectivity. To overcome the subjectivity of the framework to be used in this study as much as possible, I need to provide evidence to verify the reliability and validity.

5.9.2 Reliability

As mentioned in section 4.2.1 Krippendorff (2004) distinguishes stability, reproducibility and accuracy as types of reliability. Even though a single-coder approach is adopted in this study

the reliability of the results can be increased. Stability of coding refers to a consistent coding process over time by the same coder (Jones and Shoemaker, 1994). In this study the same person coded every annual report and verified them after coding all the annual reports, which will according to Guthrie et al. (2004) enhance the consistency of analysis. In order to increase the reliability even more a different coder, which is also involved in examining risk disclosures of financial instruments, has coded one annual report of the sample. The results are compared and show that both coders have applied the framework consistently. Discussing how to code the annual reports before the actual coding has contributed to this. The reliability of the results is hereby increased, although some uncertainty always remains. This is therefore one of the major limitations of this research.

5.9.3 Validity

Validation of the framework items is based on the literature and IFRS 7 for the quantitative framework, and is based on the literature, the IASB framework and the Basel Committee (1998) for the qualitative framework. However I doubt to improve and validate the model by arranging discussions with professionals, for example auditors and analysts. I did not do this because it is to time expensive and it is questionable if their opinions are representative for the whole group of users of the financial statements. It can also be questioned if it is possible to come to a certain consensus among these groups about what quality improving is.

6 Applying the frameworks

6.1 Introduction

After the descriptive research in the first part of this thesis the second part outlined the new developed frameworks. In this third part of the thesis the developed frameworks are applied to a sample of Dutch Banks that are selected in section 6.2. Section 6.3 describes how the disclosure scores of the Dutch banks are calculated and section 6.4 presents the results of applying the frameworks.

6.2 Sample size and the selection of years

As mentioned throughout this thesis, this study will examine certain risk disclosures by Dutch banks. Although The Netherlands is a small country, the Bankscope database lists a total number of 113 banks based on the selection criteria '*The Netherlands'* and '*living banks'*. However, the list shows that multiple banks are included more than once in the list because they can be classified as for instance commercial banks but also as saving banks. Because I cannot do research to all banks I have to refine my search. Including the variable '*large banks'* generates a list of only 64 banks and results in not listing the same bank multiple times anymore. It is not defined what is meant by '*large banks'*, it only turns out that the same bank is not mentioned multiple times after the selection of this item. I want to research large consumer banks because that are well known banks delivering a broad range of products and which are also seen as 'banks' by the average people, so I refine my search strategy. A new list of 29 banks, that are delivering a broad range of products is retrieved based on the following search strategy:

- *Country:* The Netherlands
- Large banks
- *Specialisation:* All purpose commercial banks; central cooperative banks; cooperative banks; institutions in Bankscope not listed in the O.J
- *Number of available years:* 4

The list of search strategies and the total list of banks is included in appendix VIII *Bankscope database*.

Based on what is considered to be a consumer bank, the availability of annual reports, and what can be examined by a single researcher in a relative short period of time, I selected a total number of 8 banks. I excluded banks that after the selection are still no consumer banks like clearing institutions, micro financing institutions, central banks, Islamic banks, multi governmental banks, finance companies (leasing, Credit Card), group finance banks, Investment and Trust corporations, private banks, governmental credit institutions and other non banking credit institution. The reason for selecting the well known consumer banks and excluding the kind of institutions as mentioned above is that I prefer to do research to the risk disclosures of banks that can be found in the newspapers due to the credit crunch.

The shortlist, as also included in table 5, includes ABN Amro Holding NV, DSB Bank NV, F. van Lanschot Bankiers NV, Fortis Bank/Holding NV, ING Bank/Group NV, Kas Bank NV, Rabobank Group – Rabobank International, and SNS Bank NV. It should however be noted that DSB Bank NV was not listed in Bankscope, which is due to the fact that this database does not include the 2008 annual report of this bank. In order to validate the selected sample I compared my shortlist with a list of banks[8] for which De Nederlandse Bank (DNB) guarantees the deposits. All the banks selected in my sample are also included in this list.

Table 5 - Banks included in sample

Bank	
ABN Amro Holding NV	Kas Bank NV
DSB Bank NV *	Rabobank Group – Rabobank International
F. van Lanschot Bankiers NV	SNS Bank NV
Fortis Bank/Holding NV	
ING Bank/Group NV	

Source: Bankscope

** Not included in list Bankscope*

The rationale behind selecting the years 2005-2008 is due to the fact that from January 1, 2005 stock-listed companies in the European Union have to report in conformity with IFRS and from January 1, 2006 banks in general as well. Mandatory risk disclosures are required from January 1, 2007 due to IFRS 7 and from January 1, 2008 as well due to Basel II. By selecting the years 2005-2008 I study two years before IFRS 7 and 2 years after IFRS 7, although for instance DSB Bank NV still reported under Dutch GAAP in 2005. Since I am not examining the introduction of IFRS and the effect on risk disclosures, this will not distort my results.

The annual report of DSB Bank NV 2008 is not included in the sample due to the fact that this annual report is not available when this research has been done.

6.3 Calculating the disclosure scores

Before calculating the disclosure scores the disclosure framework for quantity as well as the disclosure framework for measuring the quality should be 'filled in' by examining the annual reports on the presence of specific items and the characteristics of those items. The frameworks as explained in section 5.5 and 5.6 show that for every disclosed item in an annual report a bank can score one point for that particular year. Based on the number of items in the framework a maximum amount of points can be scored.

The maximum amount of points a bank can score in a particular year is based on the items that apply to that particular year for that particular bank. Only when it is stated in the annual

[8] *http://www.dnb.nl/binaries/Banken%20onder%20het%20Nederlandse%20garantiestelsel%20nieuw_tcm46-189143.pdf*

report that a bank does not have a particular risk that risk is no part of the maximum amount of points the bank can score. Also when an specific item cannot be applied to a year because it is for instance about the future impact of the credit crisis it is not taken into account for the calculation of the maximum amount of points.

The following items have not been applied to all banks to all years:

Quantity framework:

- The items concerning market risk / currency risk and market risk / other price risk have not been applied for the years 2005, 2006 and 2007 of the DSB Bank N.V. because in the annual report it is stated that they do not have financial instruments that are confronted with currency and other price risks.

Quality framework:

- The second item of relevance about the disclosure of the expected future impact of the financial crisis on the bank and its results has not been taken into account for the calculation of the maximum amount of points on the quality framework in the years 2005 and 2006 of all banks, because the financial crisis had yet to begin.

The quantity and quality of disclosures can be measured by calculating a score for every annual report. The following formula is applied for this:

$$DSCORE_{BY} = \frac{1}{MAX_{BY}} \sum_{i=1}^{n} SCORE_{iBY} \qquad (1)$$

$DSCORE_{BY}$ = the disclosure score for bank *B* in year *Y*
MAX_{BY} = the maximum possible score for bank *B* in year *Y*
i = the item in the framework
$SCORE_{iBY}$ = the score for item *I,* bank *B* in year *Y*

The disclosure score can then be calculated by dividing the sum of the scores of all items of bank *B* by the maximum score bank *B* could score. The result will be a score between 0 and 1. If for example the number of items in the framework is 30, and therefore the maximum score as well, and in the annual report of bank *B* 25 items are disclosed the disclosure score for bank *B* in year *Y* is 25/30 = 0,833. After calculating all the scores these can be compared with each other since the scores are scaled.

6.4 Results of applying the frameworks

After analyzing the annual reports of the selected Dutch banks and filling in the frameworks I calculated the disclosure scores for quantity and quality by using the formula of section 6.3. In table 6 and Table 7 below a summary of the scores is presented. Tables including the complete disclosure scores can be found in appendix IX**.**

Table 6 - ***Disclosure scores Quantity***

Disclosure scores quantity	2005	2006	2007	2008
Max	0,73	0,75	0,91	0,91
Min	0,14	0,06	0,61	0,71
Average	0,46	0,49	0,74	0,80

Table 7 - ***Disclosure scores Quality***

Disclosure scores quality	2005	2006	2007	2008
Max	0,92	0,92	1	1
Min	0,17	0,17	0,46	0,85
Average	0,59	0,64	0,77	0,89

According to Table 6 and Table 7 it becomes clear that there are differences in disclosure scores between the years and within the years. For this reason there are developed some hypothesis in the next section that will be tested to come to explanations for the differences found.

7 Providing evidence for differences between disclosure scores

7.1 Introduction

After applying the frameworks and calculating the disclosure scores it became clear that there are differences in disclosure scores between banks and over the years. In this forth part of the paper the results of applying the frameworks will be analyzed and the differences between the disclosure scores will tried to be explained by testing hypothesis that are drawn up in section 7.2. In section 7.3 the variables that are selected and the rationale behind them are discussed. In section 7.4 the statistical methods used to test the hypothesis are outlined and in section 7.5 the results and analyze of testing the hypotheses are presented.

7.2 Hypothesis:

7.2.1 Introduction

In this thesis a limited amount of hypotheses are developed to test (1) Whether banks with high quantity scores do not have high scores on the quality framework, (2) the relationship between the level of risk disclosures and banks size, (3) the relationship between the level risk disclosures and the profitability level of the bank, and (4) if the risk disclosures are significant higher in 2007 and 2008 compared to 2005 and 2006. The logical basis for the development of the hypotheses are explained below.

7.2.2 Quantity versus quality

Most of the risk disclosure studies assume quantity, defined as the extent of information (Beretta and Bozzolan, 2008), to be a good proxy for quality, not defined in these studies. They use quantity indices to state something about the quality as well (Marston and Shrives, 1991; Zarzeski, 1996) or use weighed indices for each item (Botosan, 1997) or type of measure (quantitative versus qualitative) associated with the information disclosed (Guthrie et al., 1999, Robb, Single and Zarzeski, 2001). Beretta and Bozzolan (2004, 285; 2008) disagree with this "because the disclosure of risk is intrinsically narrative", and also Beattie et al. (2004) state that quality cannot just be based on quantity.

One of the conclusions of a in 2008 conducted study of Beretta and Bozzolan is that the level of the quality of disclosures is not related to the quantity of disclosures.

Although Beretta and Bozzolan (2008) examined the relation between the quantity and quality of disclosures not in the same way as I do, I also expect that quantity is not a good proxy for quality when it comes to risk disclosures. In this thesis quantity is represented by the quantity items of the quantity framework and quality is represented by the quality items of the quality framework, which can be divided in relevance, reliability, comparability and understandability. The fact that many researchers assume quantity to be a good proxy for quality without defining what is meant by the term quality and examining this relation gives no reason for me to assume that quantity is a good proxy for quality. If quantity is a good proxy for quality is measured by testing the following hypothesis:

Hypothesis 1: *Banks with high quantity scores do not have high scores on the quality framework*

For the following hypothesis and expectations I do not examine the quality of the risk disclosures when it turns out that quantity is a good proxy for quality.

7.2.3 Risk disclosures and bank size

Usually large banks attract more attention than small companies, due to this larger banks will have higher political costs than small banks according to the Political Cost Theory of Watts and Zimmerman. Disclose more risk information is one opportunity to reduce the political costs. Also the costs as a consequence of the information asymmetry will be higher for larger companies. In accordance with Diamond and Verrechia (1991, 1325) also for this reason large banks are expected to disclose more risk information.

Also previous studies have found, in accordance with the theory, a positive relationship between the level of risk disclosures and the size of non-financial companies in *inter alia* the UK, Italy and Malaysia (Beretta and Bozzolan, 2004; Linsley and Shrives, 2006; Amran et al., 2009). Linsley et al., (2006) also found this positive relationship for UK and Canadian banks when examining a total amount of 18 annual reports in 2002.

Due to the introduction of IFRS 7 from January 2007 I expect that the relationship between bank size and risk disclosures differs before and after the introduction of IFRS 7. I expect to find a positive relationship between bank size and disclosures over the years 2005 and 2006, when risk disclosure were still voluntary. The Political Cost Theory, information asymmetry and the previously mentioned studies of non-financial companies and banks (linsley et al., 2006) already provide evidence for this relationship, although these studies only focus on the quantity of disclosures. Due to the introduction of IFRS 7 from January 2007 and Basel II from January 2008 I expect to find no relationship between bank size and quantity disclosure scores over the years 2007 and 2008, because as a consequence of these obligations bank size should have no influence on the disclosures.

In case that hypotheses 1 shows that quantity is not a good proxy for quality also the relationship between the quality of risk disclosures and bank size will be examined. In accordance with the text above the following hypothesis can be drawn up:

H2a: *There is a positive relationship in 2005 and 2006 between the quantity of risk disclosures in the annual report of Dutch banks and bank size*

H2b: *There is a positive relationship in 2005 and 2006 between the quality of risk disclosures in the annual report of Dutch banks and bank size*

H2c: There is a no relationship in 2007 and 2008 between the quantity of risk disclosures in the annual report of Dutch banks and bank size

H2d: *There is a positive relationship in 2007 and 2008 between the quality of risk disclosures in the annual report of Dutch banks and bank size*

7.2.4 Risk disclosures and profitability

Hypothesis 2 is about the relation between risk disclosures and bank size, this hypothesis is about the relation between profitability and risk disclosures. Bank size and profitability are not always the same because the largest bank has not to be the most profitable one.

According to the signalling perspective and Helbok and Wagner (2006, 11), as already mentioned in section 3.2, banks that are performing well will be early adopters of risk disclosures and as a consequence of that disclose more. Also based on the signalling perspective Linsley et al. (2006) argue that "those banks that are better at risk management will have higher levels of relative profitability and that they will then want to signal their superior risk management abilities to the market place via disclosures in the annual report." Also in accordance with the Political Cost Theory of Watts and Zimmerman more profitable banks are expected to disclose more risks to reduce their political costs.

Earlier conducted research by Linsley et al. (2006) did not find a positive relationship between risk disclosures by banks and profitability. In contrast Helbok and Wagner (2006) come to the conclusion that there consists a negative relationship between operational risk disclosures by banks and their profitability. In general mixed results are found according to Ahmed and Courtis (1999).

Due to the introduction of IFRS 7 from January 2007 I expect that the relationship between profitability and risk disclosures differs before and after the introduction of IFRS 7. In accordance with the signaling perspective and Political Cost Theory I expect to find a positive relationship between profitability and disclosures over the years 2005 and 2006, when risk disclosures were still voluntary. Due to the introduction of IFRS 7 from January 2007 and Basel II from January 2008 I expect to find no relationship between profitability and the quantity disclosure scores over the years 2007 and 2008, because as a consequence of these obligations profitability should have no influence on the disclosures.

In case that hypotheses 1 shows that quantity is not a good proxy for quality also the relationship between the quality of risk disclosures and profitability will be examined. In accordance with the text above the following hypothesis can be drawn up:

H3a: *There is a positive relationship in 2005 and 2006 between the quantity of risk disclosures in the annual report of Dutch banks and the relative profitability level of a bank*

H3b: *There is a positive relationship in 2007 and 2008 between the quality of risk disclosures in the annual report of Dutch banks and the relative profitability level of a bank*

H3c: *There is no relationship in 2005 and 2006 between the quantity of risk disclosures in the annual report of Dutch banks and the relative profitability level of a bank*

H3d: *There is a positive relationship in 2007 and 2008 between the quality of risk disclosures in the annual report of Dutch banks and the relative profitability level of a bank*

7.2.5 Risk disclosures and time

The implementation of IFRS 7 from January 1, 2007, Pillar 3 of Basel II from January 1, 2008 and the credit crunch give rise to my expectation that banks have disclosed more and better information over the past four years. Other literature also suggest that the amount of bad news disclosures will increase when the financial position is threatened (Darrough and Stoughton, 1999; Suijs, 2005). However, according to Linsley et al. (2006, 279) banks rather do not discuss their risk levels publicly.

In my opinion, too much has happened in the past two years that banks are almost forced to disclose more. This is also based on the statement of Deegan and Gordon (1996) that companies should disclose more about bad news to "avoid the suspicion that they are hiding problems". An advantage of more disclosures is according to Linsley and Shrives (2005, 206) that it will reduce the cost of finance due to the fact that providers of funds are better able to judge the banks risk level and therefore incorporate a lower risk premium within the cost of capital. The past year have shown us that attracting capital was very important and therefore I might also expect that the disclosures in 2008 have increased. Also in accordance with the introduction of IFRS 7, Basel II and the credit crunch I come to the following hypothesis:

H4a: *The quantity of risk disclosures in the annual reports of Dutch banks are in 2007 and 2008 significant higher than in 2005 and 2006.*

In case that H1 shows that quantity is not a good proxy for quality also the following hypothesis will be tested:

H4b: *The quality of risk disclosures in the annual reports of Dutch banks are in 2007 and 2008 significant higher than in 2005 and 2006.*

7.3 Measurement of variables

Before the hypothesis 1 and 2 can be tested the variables for respectively bank size and profitability should be determined.

7.3.1 Bank size

Previous studies on disclosures by non-financial companies, for example by Botosan (1997) consider the market value of equity at year end to be a good measure of company size. However, other measurements as turnover, total assets, and the number of employees can also be used to measure company size. Hackston and Mile (1996, 87) state that "no theoretical

reasons exists for a particular measure of size", and therefore they measure size in their study by market capitalization, sales and total assets. Whether these measures are also appropriate to measure the bank size is the question. Linsley et al. (2006, 275) do not consider turnover to be an appropriate measure, since banks "do not derive profit from sales in the same way that the profits of say, a manufacturing company derive from sales". Also the number of employees is not considered to be a good proxy for size in the case of banks. Total assets and market capitalization are used in the study by Linsley et al. (2006) and the relationship with the disclosure level is calculated by taking the natural logarithm of the two size measurements.

The variable that is used in this study to measure bank size is the natural logarithm of the total assets. The natural logarithm will be used in order to prevent heteroscedasticity. Market capitalization will not be used in this study due to the extremely changing market values of banks in 2008 and the fact that not all banks in the sample are stock listed. A table with the total assets and natural logarithm of the banks can be found in appendix X.

7.3.2 Profitability

For measuring the profitability the variable net income can be used but has the limitation that it will lead to much differences between banks as a consequence of there size which results in less comparable figures. To make it possible to compare the profitability of different banks the variable net income should be scaled. To measure profitability in this study the variable net income is scaled on total assets and total equity. So the return on average assets (ROAA) and the return on average equity (ROAE) will be used. In this way the relative profitability is measured. Tables with the ROAA and ROAE of the banks can be found in appendix X.

7.4 Statistical methods

The hypothesis drawn up in section 7.1 are tested by using statistics. In this section the statistics used are outlined.

7.4.1 Hypothesis 1, 2 and 3

To test hypothesis one, two and three (the levels of association between quantity and quality, quantity and total assets, quantity and ROAA, quantity and ROAE, quality and total assets, quality and ROAA and quality and ROAE) the Pearson product moment correlation coefficients has been calculated by using SPSS. A condition for applying the Pearson correlation coefficient is that the data are normally distributed, this is determined by analyzing normal Q-Q plots. In accordance with the Q-Q plots in appendix XI and XII the variables QuantityTotal, QualityTotal, LNTATotal, ROAAT and ROAET are normally distributed for as well the years 2005/2006 as 2007/2008, because the data are situated around the normal distribution line. The ROAA and ROAE of the Fortis Bank Nederland Holding N.V., ABN Amro Holding N.V. and Kas Bank N.V. are outliers for the year 2008 and are therefore excluded from the analyses. See appendix XIII for the Q-Q plots of ROAA and ROAE of 2007-2008 including the outliers.

In accordance with the section 7.2 with respect to hypothesis one the correlation is calculated based on the four years data. For hypothesis two as well for the years 2005-2006 as 2007-

2008 the correlation coefficients are calculated. For hypothesis three the correlations are also calculated for as well the years 2005-2006 as 2007-2008 but without the earlier mentioned outliers in 2007-2008.

The Pearson correlation coefficients range from +1 to -1. A correlation of +1 or -1 means that there is a perfect positive or negative linear relationship between the variables tested.

7.4.2 Hypothesis 4

To test whether the quantity of disclosures in the annual reports of Dutch banks in 2007 and 2008 are significant higher than in 2005 and 2006 a Paired - Samples T- test in SPSS has been applied, because this technique is used for testing differences between dependent variables. To make it possible to use this test the average disclosure scores of the banks over the first two and last two years have been calculated. See appendix XIV for the average disclosure scores. In this way the average disclosure score of a particular bank over 2005-2006 are paired with the average disclosure score over 2007-2008 of the same bank.

7.5 Testing the hypotheses

The hypothesis drawn up in section 7.2 are tested by using the variables and statistics outlined in section 7.3 and 7.4. In this section the results will be presented and the results that are not in line with the expectations will be as far as possible explained.

7.5.1 Hypothesis 1

From table 8 it can be seen that the quantity and quality disclosure scores are highly positively correlated with each other, which is not in line with the first hypothesis and earlier research of Beretta and Bozzolan (2008).

A possible explanation for this can be that banks that take care of there risk disclosures also take care of the quality of these disclosures, they pay overall attention to there risk disclosures. In this way banks that scored high on the quantity framework also voluntary paid attention to the quality of there risk disclosures. In the same way the banks that scored low on both frameworks paid less attention to there risk disclosures. Another explanation can be that the quantity framework that is based on IFRS 7 contains many quality improving disclosure items as a result of which the scores between both frameworks correspond with each other. This can also explain why, in contrast to Beretta and Bozzolan (2008), I found a significant relation between quantity and quality of risk disclosures.

Based on the results it turns out that quantity is a good proxy for quality, as already has been assumed by many researchers (Marston and Shrives, 1991; Zarzeski, 1996; Botosan, 1997; Guthrie et al., 1999,; Robb, Single and Zarzeski, 2001). Because quantity is a good proxy for quality the same analyses as given for the hypotheses 2a, 2c, 3a, 3c and 4a can be applied to the hypothesis 2b, 2d, 3b, 3d and 4b. For the completeness in appendix XV the disclosure scores of the hypothesis in relation with the quality disclosure scores can be found.

Table 8 - *Pearson correlation coefficient hypothesis 1*

Variable	N	Pearson correlation 2005-2008 with quantity disclosure scores	Significance (2 tailed) for Pearson 2005-2008 with quantity disclosure scores
Quality disclosure scores	31	0,887**	0,000

** Correlation is significant at the 0.01 level (2-tailed)

7.5.2 Hypothesis 2a and 3a

From table 9 it can be seen that the measure of size is highly positively correlated with the disclosure scores in 2005 and 2006, this is consistent with hypothesis 2a. In accordance with the Political Cost Theory big banks disclose more as a consequence of their higher political costs. Other studies on risk reporting, not in the banking sector, come to the same conclusion (Beretta and Bozzolan, 2004; Linsley and Shrives, 2006; Amran, Bin and Hassan, 2009). The risk disclosure study in the banking sector of Linsley et al. (2006) found this relationship at another sample of banks.

With respect to hypothesis 3a, Pearson correlation coefficients of -0,210 and -0,108 indicate, in contrast to the hypotheses, no significant relation between the two measures of profitability and the disclosure scores.

In section 7.2.4 it has been mentioned that relative more profitable banks, as a consequence of their better risk management, might want to show their risk management to the market via risk disclosures. An explanation can be that more profitable banks do not want to signal their risk management, because the advantages of lower cost of capital as a consequence of the risk disclosures (Healy and Palepu, 2001; Hutton, 2004; Botosan, 2006) do not compensate the negative costs as a consequence of the possibility that other banks use the information to improve also their risk management. More profitable banks disclose even less risks to hold their superior risk management secret for the others, which can be an explanation for the negative correlation coefficients.

Table 9 - *Pearson correlation coefficient hypothesis 2a and 3a*

Variable	N	Pearson correlation 2005-2006 with quantity disclosure scores	Significance (2 tailed) for Pearson 2005-2006 with quantity disclosure scores
Natural logarithm of total assets	16	0,818**	0,000
Return on average assets	16	-0,210	0,435
Return on average equity	16	-0,108	0,690

** Correlation is significant at the 0.01 level (2-tailed)

7.5.3 Hypothesis 2c and 3c

From table 10 it can be seen that the measure of size is highly correlated with the risk disclosure scores in 2007 and 2008. This is not in line with the hypothesis drawn up, because no relation between bank size and the disclosure scores was expected due to the introduction of mandatory risk disclosures from January 1, 2007. The explanation for the significant association between bank size and the risk disclosures in 2007 and 2008 is that despite the disclosures are mandatory firms do not fully comply to IFRS 7. Based on this result it can be concluded that the small banks comply less to IFRS 7 then big banks.

Also from table 10 can be seen that both measures of profitability are not significantly correlated with the disclosure scores, so hypothesis 3c holds. It must be noted that scores of -0,55 do not indicate that there is absolutely no relation between profitability and risk disclosure scores in 2007 and 2008. The lack of full compliance of the banks to IFRS 7 can be the explanation for this. Another reason for this unexpected high correlation can be the impact of the credit crisis on the returns of the banks. Due to more extreme returns one must be careful with taking conclusions based on the results in 2007 and 2008 with respect to the ROAA and ROAE.

Table 10 - *Pearson correlation coefficient hypothesis 2c and 3c*

Variable	N	Pearson correlation 2007-2008 with quantity disclosure scores	Significance (2 tailed) for Pearson 2007-2008 with quantity disclosure scores
Natural logarithm of total assets	15	0,903**	0,000
Return on average assets	12	-0,554	0,062
Return on average equity	12	-0,550	0,062

** Correlation is significant at the 0.01 level (2-tailed)

7.5.4 Hypothesis 4

From table 11 it can be seen that the risk disclosures in 2007 and 2008 are significant higher than in 2005 and 2006. The difference between the mean disclosure scores of the years is 0,29 and is significant at 0,001. This is in accordance with the hypothesis but also consistent with the increase in demand of risk disclosures and the general trend that is observed in the disclosures of banks (Linsley and Shrives, 2005, 210).

Also other researchers found a positive relationship between risk disclosures and time. In the period 1998-2001 Helbok and Wagner (2006) found an increase in the extent and contend of operational risk disclosures in the annual reports of banks in North-America, Asia and Europe. Also Kajüter and Winkler (2003) found a positive relationship between the quantity of risk disclosures in German annual reports of non-financial stock listed companies and time over the years 1999-2001.

The increase in risk disclosures can also be explained by the financial crisis, because according to Darrough and Stroughton (1999) and Suijs (2005) when companies their financial position is threatened companies will disclose more bad news. Another reason why the financial crisis possibly influences the amount of risk disclosures is that more risk disclosures reduce the cost of finance which make it easier to attract capital.

Although the financial crisis and the general trend in risk disclosure are explanations for the increase in disclosure scores, in my opinion the increase has been caused by the introduction of IFRS 7 due to the very large increase (0,29) which took almost place in the first mandatory adoption year of IFRS 7. Another reason for this opinion is that the annual reports in the field of risk disclosures are the same in 2005-2006 and 2007-2008 but that they are totally different between these two couple of years. In my opinion the annual reports and the risk disclosures have been changed due to the introduction of IFRS 7.

Table 11 - *Paired Samples T-test hypothesis 4*

	Mean	Std. Deviation	Std. Error Mean	T	Df	Significance (2-tailed)
Quantity 0708- Quantity 0506	0,29	0,15	0,05	5,49	7	0,001

7.5.5 Other findings

Due to the demand of regulators to enable banks to record financial instruments, for which is no market value because they are no longer traded in an active market, at amortized costs instead of fair value through profit and loss the IASB approved on 13 October 2008 amendments to IAS 39 and IFRS 7. These amendments allows reclassifications of certain financial instruments held for trading to either the held to maturity, loans and receivables or available for sale categories. The amendment also allows to transfer certain instruments from available for sale to loans and receivables (Ernst & Young, 2008, 1). Due to this amendment it became possible for banks to make less impairments on their financial instruments by reclassifying them from fair value through profit and loss to amortized costs. In this way they could present better figures although the assets were probably less worth as presented. Five of the seven banks I analyzed in 2008 made use of this opportunity.

Although reporting in conformity with IFRS became mandatory for banks ever since January 1, 2006 seven of the eight banks already reported in conformity with IFRS in 2005 and before IFRS 7 became mandatory two of the eight banks early adopted it in their annual reports of 2006.

It also turns out that banks that are not stock listed disclosed less risk disclosures in the years that these disclosures were voluntary then the other stock listed banks of almost equal size. After the introduction of IFRS 7 the non stock listed firms reported in conformity with their size. An explanation for this can be that non stock listed firms have lower political costs due to less

public attention to their performances and therefore have less incentive to disclose risks voluntary.

The risk figures between different banks are not much comparable with each other due to different methods used to calculate for instance the sensitivity analyses. Even when the method is the same the figures of the sensitivity analyses are not comparable with each other because every bank uses other confidence intervals and holding periods.

8 Summary and conclusion

8.1 Summary

A bank is a risk taking enterprise and therefore, as a part of good corporate governance, is expected to release relevant risk information to the market place according to Linsley and Shrives (2005). Now the world got confronted with the credit crisis people are asking themselves why nobody knew about the risks of the financial instruments of the banks. Not only the credit crisis is a reason for the increased focus on risk disclosures in the banking sector also the introduction of IFRS 7 *Financial instruments disclosures* from January 1, 2007 and Basel II pillar 3 from January 1, 2008 are reasons for this increased focus. Therefore in this theses research has been done to risk disclosures in the Dutch banking sector over the years 2005-2008.

Risk is defined as "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" This general definition of risk as defined by Linsley and Shrives (2006) is used because it includes both `good' and `bad' risks and opportunities and is according to Lupton (1999) the most widely understood definition of risk.

In general the demand for risk disclosures increased over the last thirty years due to major corporate scandals, the increasing complexity of business structures, a changing environment and technology. This resulted in the Cadbury Report in 1992, the AICPA report in 1995 which recommended to provide more forward-looking information including information about uncertainties, the ICAEW published the important discussion thesis 'Financial Reporting of Risk - Proposal for a statement of Business Risk' in 1997, the Turnbull Report 1999, ICAEW 1999 and ICAEW 2002. These reports contributed to a more sophisticated opinion of risk reporting. Now the ICAEW considers "*risk reporting to be a cornerstone of accounting and investment practice*" (Abraham and Cox, 2007, 227). Despite all of these reports risk disclosure were until 2005 still voluntary in the Netherlands. Ever since July 2005 risk disclosure became less voluntary in The Netherlands due the incorporation of risk reporting in the Dutch Law, article 2:391 from July 2005, the introduction of IFRS 7 from January 1, 2007 and the introduction of Basel II pillar 3 from January 1, 2008.

Although regulators and standard setters mainly focus on the information needs of users of financial statements and therefore claim that risk disclosures are necessary, the company itself can also benefit from it. Lower cost of capital and lower political costs are mentioned as advantages of risk disclosures for the company. Risk reporting will also reduce the information asymmetry and agency problem between the principal (shareholder) and the agent (bank), this are benefits for the shareholders. According to the signaling perspective well performing banks

do also want to distinguish themselves by disclosing more information about risks to show the market their superior risk management.

Due to the increased demand for risk disclosures the last 30 years also the empirical research on disclosures has increased (Amran et al. 2009, 39). Many researchers have examined voluntary disclosures in annual reports from different perspectives, including the capital market (e.g. Healy et al., 1999; Botosan and Plumlee, 2002) and positive accounting perspective (e.g. Ahmed and Courtis, 1999; Watson, Shrives, Marston, 2002). Recent studies focus more specifically on risk reporting in annual reports (e.g. Kajüter and Winkler, 2003; Beretta and Bozzolan, 2004; Linsley and Shrives, 2006; Abraham and Cox, 2007; Amran et al., 2009). Risk disclosures about risk reporting by banks are most relevant for my study but are still rare. The Basel Committee (2001) was the first to study this specific topic. Only a few studies did research to the relationship between the level of risk disclosures and firm specific characteristics like for instance profitability and bank size (Linsley et al., 2006; Helbok and Wagner, 2006). And these researches only measure the quantity of risk disclosures.

Almost all the studies that focus on risk reporting used content analyses to measure the disclosures because according to Holsti (1969) content analyses can be used for examining large amounts of quantitative data. Therefore also in this study content analyses is applied. According to (Beattie et al., 2004) five different content analyses approaches can be distinguished; subjective ratings, disclosure index studies, thematic content analyses, readability studies and linguistic analyses. Despite that content analyses is frequently used in science to examine disclosures there are some limitations. The first limitation of content analyses in general is that it is inevitably subjective. This subjectivity is a consequence of for instance the way of analyzing the content. Another limitation of content analyses arises when the way of measuring is counting words because, although they can be counted with a high degree of accuracy (Unerman, 2000) they cannot be coded with reference to the sentence and can only be interpreted within the context of a sentence or paragraph. Also a problem arises when companies are adapting their writing style to influence the disclosure measurement outcome (Abraham and Cox, 2007). The third limitation of content analyses research is that most of the studies based on it only focus on the quantity of information in relation to other variables, or assume quantity to be a good proxy for quality. The fourth limitation is the content that is analyzed because are annual reports the most appropriate place to disclose risk information? In this thesis this is not a big problem because IFRS 7 requires to disclose information in the annual report.

A frequently used content analyses model is created by Arthur Anderson (appendix I) and is published by the ICAEW in 1998. For instance Linsley and Shrives (2006) and Linsley et al. (2006) made use of it. The latter one is a more specific study on the risk disclosures of UK and Canadian banks. For this study they made use of a disclosure coding grid which is for instance based on Basel II. They measured the disclosures by counting sentences. Although this content analyses model is used for a risk disclosure study in the banking sector I did not use it due to

its specific limitations next to the general limitations of content analyses. The first limitation is time because all sentences in the annual reports have to be coded. This is to time consuming in a couple of months. The second limitation is that it only takes Basel II pillar 3 into account and not the mandatory disclosures of IFRS 7.

To overcome certain limitations as described according to content analyses approaches, frameworks as used in previous research and the lack of better models, new frameworks have been developed in this thesis. These frameworks make use of the disclosure index approach and measure both the quantity and quality of risk disclosures. Although the use of the terms quantity and quality suggest that the quantity framework measures no quality of risk disclosures at all, this framework, which is based on IFRS 7, also measures quality of risk disclosures to some extent because IFRS 7 contains risk items that are also relevant for the users of the financial statements. The "quality" framework measures the quality of risk disclosures with regard to the qualitative characteristics as defined by the IASB and the Basel Committee; relevance, comparability, reliability and understandability and contains non mandatory items according to IFRS 7. I tested the reliability and validated the frameworks as much as possible to overcome the subjectivity.

For a sample of eight Dutch banks the quantity and quality disclosures scores over a period of four years have been calculated. The results show differences in the disclosure scores between years and within the years. These differences have been tried to be explained by testing some hypothesis; (1) Whether banks with high quantity scores do not have high scores on the quality framework, (2) the relationship between the level of risk disclosures and banks size, (3) the relationship between the level risk disclosures and the profitability level of the bank, and (4) if the risk disclosures are significant higher in 2007 and 2008 compared to 2005 and 2006. The variable bank size has been measured by the natural logarithm of total assets and the relative profitability has been measured by the return on average assets and the return on average equity. For the first three hypothesis Pearson Correlation coefficients have been calculated by using SPSS in order to test the hypotheses. To test hypothesis four a Paired-Sample T test has been used.

8.2 Conclusions

This study examines risk disclosures within a sample of Dutch banks over the years 2005-2008. Based on my theoretical and empirical research answers to the research question can be given.

> *"What are the risk disclosures over the years 2005-2008 in the Dutch banking sector based on the results of new developed disclosure index models and can possible differences be explained?"*

In contrast to earlier research of Beretta and Bozzolan (2008) and the drawn up first hypotheses, the calculated Pearson correlation coefficient shows a strong positive relation between the quantity and quality disclosure scores. An explanation can be that banks that take care of their risk disclosures also take care of the quality of these disclosures.
In accordance with earlier research and the hypotheses a positive relation between bank size and disclosure scores has been found over the years 2005-2006, for instance the Political Cost Theory provides an explanation for this. Due to the fact that all the banks do not full comply to IFRS 7 also a positive relation has been found between bank size and quantity disclosure scores over the years 2007-2008, which is in contrast with the hypotheses.
No relation has been found between disclosure scores and the relative profitability level of a bank over the years. An explanation for 2005-2006 can be that more profitable banks do not want to signal their risk disclosures to the market because the advantages of lower cost of capital do not compensate the negative costs as a consequence of the possibility that other banks use the information to improve their risk management. It must be noted that the credit crisis has an impact on the returns and therefore on the results of 2007-2008 with regard to the relative profitability due to more extreme returns. Therefore its possibly difficult to base conclusions on these results.
In accordance with the last hypotheses the risk disclosures in 2007 and 2008 are significant higher than in 2005 and 2006. Possible explanations can be the introduction of IFRS 7 and Basel II. But also an explanation can be that due to the credit crisis more risks are disclosed because in accordance with Darrough and Stoughton (1999) and Suijs (2005) bad news disclosures will increase when the financial position is threatened. In my opinion the significant increase in risk disclosures I found between the years is caused by the introduction of IFRS 7, because the increase is very large and as can be seen in the table of quantity scores in appendix IX, almost the whole increase took place between the years 2006 and 2007, which is the first mandatory adoption year of IFRS 7.

8.3 Future research

Because this study has not been conducted in order to provide evidence that the introduction of IFRS 7 or the financial crisis has caused an increase in risk disclosures between 2005-2006 and 2007-2008. An event study can be done based on my research and results in order to examine the relationship between the introduction of IFRS 7 and an increase of risk disclosures. In this way further research can also provide empirical evidence for my results. Also other studies are possible based on my results for instance whether the capital market becomes more efficient and the cost of capital declines due to increased risk disclosures. Also a behavioral study can be done to examine whether increased risk disclosures will lead to better decisions and judgments of users of the annual reports. In this way my study is relevant for future research by providing evidence about the development of risk disclosures in the banking sector.

References

Abraham, S. and P. Cox. 2007. Analysing the determinants of narrative risk information in UK FTSE 100 annual reports, *The British Accounting Review* 39: 227-248.

Abraham, S., Solomon, A. and J. Stevenson. 2007. A ranking of risk disclosure in UK annual reports, *Working paper,* European Risk Conference (retrieved January 10, 2009, from http://www.nottingham.ac.uk/business/rmgic/Risk&FinancialAccounting_Abraham_Solomon_Stevenson.pdf)

Adams, C.A. 2002. Internal organizational factors influencing social and ethical reporting: Beyond current theorizing, *Accounting, Auditing and Accountability Journal* 15 (2): 223-250.

Adedeji, A. and C.R. Baker. 1999. Financial reporting of derivatives before FRS 13, *Derivatives Use, Trading and Regulation,* 5 (1): 51-62.

Ahmed, K. and J.K. Courtis. 1999. Associations between corporate disclosure characteristics and disclosure levels in annual reports: A meta analysis, *British Accounting Review* 31: 35-61.

Akerlof, G. 1970. The market for Lemons: Quality uncertainty and the Market mechanism, *The Quarterly Journal of Economics* 84 (3): 488-500.

American Institute of Certified Public Accountants. 1995. Improving business reporting – A customer focus, meeting the information needs of investors and creditors, *Comprehensive report of the Special Committee on Financial Reporting*, New York (retrieved January 12, 2008 from http://www.aicpa.org/Professional+Resources/Accounting+and+Auditing/Accounting+Standards/ibr)

Amran, A., Bin, A.M.R. and B.C.H.M. Hassan. 2009. Risk reporting: An exploratory study on risk management disclosure in Malaysian annual reports, *Managerial Auditing Journal* 24 (1): 39-57.

Babbie, E.R. 2007. The practice of social research, *Thomson Wadsworth*, Belmont.

Barron, O.E., Kile, C.O. and T. B. O'Keefe. 1999. MD&A Quality as a Measure by the SEC and Analysts' Earnings Forecasts, *Contemporary Accounting Research 16*: 75–109.

Basel Committee on Banking Supervision. 1998. Enhancing Bank Transparency, *BIS*.

Basel Committee on Banking Supervision. 2001. Pillar 3 (Market Discipline) supporting document to the new Basel Capital Accord, *BIS*.

Basel Committee on Banking Supervision. 2004. International Convergence of Capital Measurement and Capital Standards – A Revised Framework, comprehensive version*, Bank for International Settlements.*

Beattie, V.A., McInness, B. and S. Fearnley. 2001. The analysis of narratives in annual reports: A multidimensional framework, Working Paper Series, University of Stirling.

Beattie, V.A. , McInnes, B. and S. Fearnley. 2004. A methodology for analysing and evaluating narratives in annual reports: a comprehensive descriptive profile and metrics for disclosure quality attributes, *Accounting Forum* 28: 205-236.

Beretta, S. and S. Bozzolan. 2004. A framework for the analysis of firm risk communication, *The International Journal of Accounting* 39: 265-288.

Bernstein, P.L. 1996. *Against the Gods: The Remarkable Story of Risk*, USA: John Wiley & Sons Inc.

Bessis, J. 2002. Risk Management in Banking. Wiley, Chichester.

Borch, K.H. 1968. The economics of uncertainty. Princeton: Princeton University Press.

Botosan, C.A. 1997. Disclosure level and the cost of equity capital, *The Accounting Review* 72: 323-349.

Botosan, C.A. and M.A. Plumlee. 2002. A re-examination of disclosure level and the expected cost of equity capital, *Journal of Accounting Research* 40: 21-40.

Botosan, C.A. 2006. Disclosure and the cost of capital: what do we know?, *Accounting and Business Research,* International Accounting Policy Forum: 31-40.

Burgerlijk Wetboek

Bushee, B.J. and C.F. Noe. 2000. Corporate disclosures practices, institutional investors and stock return volatility, *Journal of Accounting Research* 38: 171-202.

Byard, D. and K.W. Shaw. 2003. Corporate disclosure quality and properties of analysts' information environment, *Journal of Accounting Auditing and Finance* 18: 355-378.

Cadbury Committee. 1992. Report of the Committee on the Financial Aspects of Corporate Governance, *London,* HMSO.

Camfferman, K. and T.E. Cooke. 2002. An analysis of disclosure in annual reports of UK and Dutch companies, *Journal of International Accounting Research* 1 (1): 3-30.

Cole, C.J. and C.L. Jones. 2005. Management discussion and analysis: A review and implications for future research, *Journal of Accounting Literature* 24: 361-388.

Cooke, T.E. 1992. The impact of size, stock market listing and industry type on disclosure in the annual report of Japanse listed companies, *Accounting and Business Research* 22 (summer): 229-237.

Cooke, T.E. and R.S.O. Wallace. 1990. Financial disclosure regulation and its environment: A review and further analysis, *Journal of Accounting and Public Policy* (summer): 79-110.

Core, J.E. 2001. A review of the empirical disclosure literature: discussion, *Journal of Accounting and Economics* 31: 441-456.

Darrough, M. en N. Stoughton. 1990. Financial Disclosure Policy in an Entry Game, *Journal of Accounting and Economics* 12: 219 – 243.

Deegan, C. and J. Unerman. 2006. Financial Accounting Theory, *McGraw-Hill Education*, New York.

Dekker, G. 2009. Banken ontsnappen aan fair value, *De Accountant* 116 (1): 14-19.

Deumes, R. 2008. Corporate risk reporting: A content analysis of narrative risk disclosures in prospectuses, *Journal of Business Communication* 45 (2): 120-157.

Diamond, D.W. and R.E. Verrecchia. 1991. Disclosure, liquidity, and the cost of capital, The Journal of Finance 46: 1325 – 1359.

DiMaggio, P. and W. Powell. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields, *American Sociological Review* 48: 147-160.

Dobler, M. 2005. How informative is risk reporting?: A review of disclosure models**,** *Munich Business Research* (retrieved January 9, 2009 from http://www.en.bwl.uni-muenchen.de/research/diskus_beitraege/workingpaper/3593.pdf)

Dobler, M. 2008. Incentives for risk reporting – A discretionary disclosure and cheap talk approach, *The International Journal of Accounting* 43: 184-206.

Dunne, T. and C. Helliar 2003. Financial reporting: FRS 13 derivatives disclosures, *Accountancy* 131 (1318): 95.

Dunne, T. et al. 2004. The introduction of derivatives reporting in the UK: A content analysis of FRS13 disclosures, *Journal of Derivatives Accounting* 1 (2): 205-219.

Ernst and Young. 2008. *IFRS 7 in the banking industry* (retrieved January 17, 2009 from http://www.ey.nl/?pag=808&publicatie_id=3155)

Ernst and Young. 2008. *Supplement to IFRS outlook* (retrieved June 4, 2009 from http://www.ey.com/ifrs)

Fama, E.F. 1980. Agency Problems and the Theory of the Firm, *Journal of Political Economy* 88: 288-307.

Fischer, T.M. and U. Vielmeyer. 2004. Analyse von Risk Disclosure Scores: Risikoorientierte Unternehmenpublizität der DAX 100-Unternehmen, *Zeitschrift für international und kapitalmarktorientierte Rechnungslegung* 4 (11): 459 – 474.

Fuller, J. and M.C. 2002. Just say no to Wall Street, *Journal of Applied Corporate Finance* 4 (4): 41-46.

Francis, J. and K. Schipper. 1999. Have financial statements lost their relevance?, *Journal of Accounting Research* 37 (autumn): 319-339.

Guthrie, J., Petty, R., Ferrier, F. and R. Wells. 1999. There is no accounting for intellectual capital in Austrialia: A review of annual reporting practices and internal measurement of intangibles, OECD symposium on measuring and reporting intellectual capital, Amsterdam.

Groenland, J., R. Daals and H. von Eije. 2006. De tabaksblat risicoparagraaf in Nederlandse jaarverslagen: een eerste analyse van inhoud en effect. *Maandblad voor accountancy en Bedrijfseconomie* (maart): 93-99.

Hackston, D. and M.J. Milne. 1996. Some determinants of social and environmental disclosures in New-Zealand companies, *Accounting, Auditing and Accountability Journal* 9 (1): 77-108.

Healy, P.M. , Hutton, A.P. and K.G. Palepu. 1999. Stock performance and intermediation changes surrounding sustained increases in disclosure, *Contemporary Accounting Research* 16: 485-524.

Healy, P.M. and K.G. Palepu. 2001. Information asymmetry, corporate disclosure, and the cost of capital markets: A review of the empirical disclosure literature, *Journal of Accounting and Economics* 31 (1-3): 405-440.

Helbok, G. and C. Wagner. 2006a. Determinants of operational risk reporting in the banking industry, Paper SSRN (retrieved May 6, 2009 from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=425720).

Helbok, G. and C. Wagner. 2006b. Determinants of operational risk reporting in the banking industry,Journal of Risk 9 (1): 49-74.

Holsti, O.R. 1969. Content analysis for the social sciences and humanities, Reading, MA: Addison-Wesley Publishing Company.

Homölle, S. 2003. Risk reporting and bank runs, *Paper SSRN* (retrieved January 14, 2008 from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=812664).

Hutton, A. 2004. Beyond financial reporting: An integrated approach to disclosure, *Journal of Applied Corporate Finance* 16 (4): 8-16.

Ibrekk, H. and M.G. Morgan. 1987. Graphical communication of uncertain quantities to nontechnical people, *Risk analysis* 7 (4): 519 – 529.

Institute of Chartered Accountants in England and Wales. 1998. Financial reporting of risk – Proposals for a Statement of Business Risk, ICAEW, London.

Institute of Chartered Accountants in England and Wales. 1999. No Surprises: The Case for Better Risk Reporting, ICAEW, London.

Institute of Chartered Accountants in England and Wales. 2002. No Surprises: Working for Better Risk Reporting, ICAEW, London.

International Accounting Standards Board. 2001. Framework for the preparation and presentation of financial statements.

International Accounting Standards Board. 2004. IASB publishes Exposure Draft on Financial Instrument Disclosures, *press release July 22.*

International Accounting Standards Board. 2007. International Financial Reporting Standards

Jensen, M.C. and W.H. Meckling. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure, *Journal of Financial Economics* 3: 305-360.

Jorion, P. 2002. How informative are value-at-risk disclosures?, *The Accounting Review* 77 (4): 911-931.

Kajüter, P. 2001. Risikoberichterstattung: Empirische Befunde und der Entwurf des DRS 5, *Der Betrieb* 3: 105-111.

Kajüter, P. and C. Winkler. 2003. Die Risikoberichterstattung der DAX100-Unternehmen im Zeitvergleich, *Kapitalmarktorientierte Rechnungslegung* 5: 217-228.

Kajüter, P. and S. Esser. 2007. Risiko- und Chancenberichterstattung im Lagebericht, *IRZ* 2 (6): 381-390.

Knight, F.H. 1921. Risk, uncertainty and profit, Chicago, University of Chicago Press.

KPMG, 2008. Financial Institution Risk Disclosure Best Practice Survey 2008: Cost-efficient ways to improve transparency exist, KPMG Finland (retrieved from http://kpmg.fi/Binary.aspx?Section=1667&Item=4834 on May 6, 2009)

Krippendorff, K. 1980. Content analysis: An introduction to its methodology, Newbury Park, CA: Sage.

Krippendorff, K. 2004. Content analysis: An introduction to its methodology, Newbury Park, CA: Sage.

Lajili, K. and D. Zeghal. 2005. A content analysis of risk management disclosures in Canadian annual reports, *Canadian Journal of Administrative Sciences* 22 (2): 125-142.

Lang, M. and R. Lundholm. 1993. Cross-sectional determinants of analyst ratings of corporate disclosures, *Journal of Accounting Research* 31: 246-271.

Leuz, C. and R.E. Verrecchia. 2000. The economics consequences of increased disclosure, *Journal of Accounting Research* 38 (supplement): 205-214.

Linsley, P.M. and P.J. Shrives. 2005. Transparency and the disclosure of risk information in the banking sector, *Journal of Financial Regulation and Compliance* 13 (3): 205-214.

Linsley, P.M. and P.J. Shrives. 2006. Risk reporting: A study of risk disclosures in the annual reports of UK companies, *The British Accounting Review* 38: 387-404.

Linsley, P.M., Shrives, P.J. and M. Crumpton. 2006. Risk disclosure: An exploratory study of UK and Canadian banks, *Journal of Banking Regulation* 7 (3/4): 268-282.

Linsley, P.M. and M.J. Lawrence. 2007. Risk reporting by the largest UK companies: readability and lack of obfuscation, *Accounting, Auditing and Accountability Journal* 20 (4): 620 – 627.

Lupton, D. 1999. Risk, Routledge, London.

Markowitz, H.M. 1991. Foundations of Portfolio Theory, *Journal of Finance* 46 (2): 469-477.

Marston, C.L. , and P.J. Shrives. 1991. The use of disclosure indices in accounting research: A review article, *British Accounting Review* 23: 195-210.

Milne, M.J. and R.W. Adler. 1999. Exploring the reliability of social and environmental disclosures content analysis, *Accounting, Auditing and Accountability Journal* 12 (2): 237-256.

O'Sullivan, N. 2000. The impact of board composition and ownership on audit quality: evidence from large UK companies, *British Accounting Review* 32: 397-414.

Pijl, G.J. van der. 1994. Kwaliteit van informatie in theorie en praktijk, *Limperg Instituut/Kluwer, Amsterdam*

PricewaterhouseCoopers. 2008. Accounting for change: transparency in the midst of turmoil. *A survey of banks' 2007 annual reports.*

Raffournier, B. 1995. The determinants of voluntary financial disclosure by Swiss Listed Companies, *European Accounting Review* 4 (2): 261-280.

Rajgopal, S. 1999. Early evidence on the informativeness of the SEC's market risk disclosure: The case of commodity price risk exposures of oil and gas producers, *The Accounting Review* 74 (3): 251-280.

Raad voor de Jaarverslaggeving. 2008. Richtlijnen voor de Jaarverslaggeving, *Kluwer.*

Robb, S.W.G. , Single, L.E. , and M.T. Zarzeski. 2001. Nonfinancial disclosures across Anglo-American countries, *Journal of International Accounting* 10: 71-83.

Rutherford, B.A. 2002. Half the story: Progress and prospects for the operating and financial review, *ACCA research report* 80, London: Certified Accountants Educational Trust.

Schrand, C.M. and J.A. Elliott. 1998. Risk and financial reporting: A summary of the discussion at the 1997 AAA/FASB conference, *Accounting Horizons* 12 (3): 271-282.

Slovic, p. 1987. Perception of risk, *Science* 236: 280-285.

Solomon, J.F., Solomon, A, Norton, S.D. and N.L. Joseph. 2000. A conceptual framework of corporate risk disclosure emerging from the agenda for corporate governance reform, *British Accounting Review* 32: 447-478.

Solomon, J.F. and A. Solomon. 2004). Corporate Governance and Accountability, John Wiley & Sons Ltd, Chichester.

Stanton, P. and J. Stanton. 2002. Corporate annual reports: research perspectives used, *Accounting, Auditing and Accountability* 15 (4): 478-500.

Suijs, J. 2005. Voluntary Disclosure of Bad News, *Journal of Business Finance & Accounting* 32 (7-8): 1423 – 1435.

Sydserff, R. and P. Weetman. 1999. A texture index for evaluating accounting narratives: An alternative to readability formulas, *Accounting and Accountability Journal* 13: 624-646.

Turnbull Report. 1999. Internal Control: Guidance for Directors on the Combined Code, ICAEW, London.

Uchid, H., G.F. Udell and W. Watanabe. 2008. Ban size and lending relationship in Japan, *Journal of the Japanese and International Economics* 22 (2): 242-267.

Unerman, J. 2000. Methodological issues: Reflections on the quantification in corporate social reporting content analysis, *Accounting, Auditing and Accountability* 13 (5): 667-680.

Van den Assem, M.J. et al. 2004. Financiering en Belegging deel 1.

Vanstraelen, A. , Zarzeski, M.T. and S.W.G. Robb. 2003. Corporate nonfinancial disclosure practices and financial analyst forecast ability across three European countries, *Journal of International Financial Management and Accounting* 14: 249-278.

Viscusi, W., Magat, W. and J. Huber. 1986. Informational regulation of consumer health risks: An empirical evaluation of hazard warnings, *Rand Journal of Economics* 17: 351-365.

Watson, A. , Shrives, P. and C. Marston. 2002. Voluntary disclosure of accounting ratio's in the UK, *British Accounting Review* 34: 289-313.

Weber, R.P. 1985. Basic content analysis, quantitative applications in social sciences, *Beverly Hills, CA: Sage Publications.*

Weber, R.P. 1988. Basic content analysis, Sage University Paper Series on Quantitative Applications in Social Sciences 07-049, Sage, Beverly Hills, CA, and London.

Zarzeski, M.T. 1996. Spontaneous harmonization effects of culture and market forces on accounting disclosure practice, *Accounting Horizons* 10 (1): 18-37.

Zeghal, D. and S.A. Ahmed. 1990. Comparison of social responsibility information disclosure media used by Canadian firms, *Accounting, Auditing and Accountability Journal* 3 (1): 38-53.

websites

http://www.bis.org/bcbs/history (January 13, 2009)

http://www.bis.org/bcbs/index.htm (January 13, 2009)

http://www.dnb.nl/openboek/extern/id/nl/pf/40-155125.html (January 13, 2009)

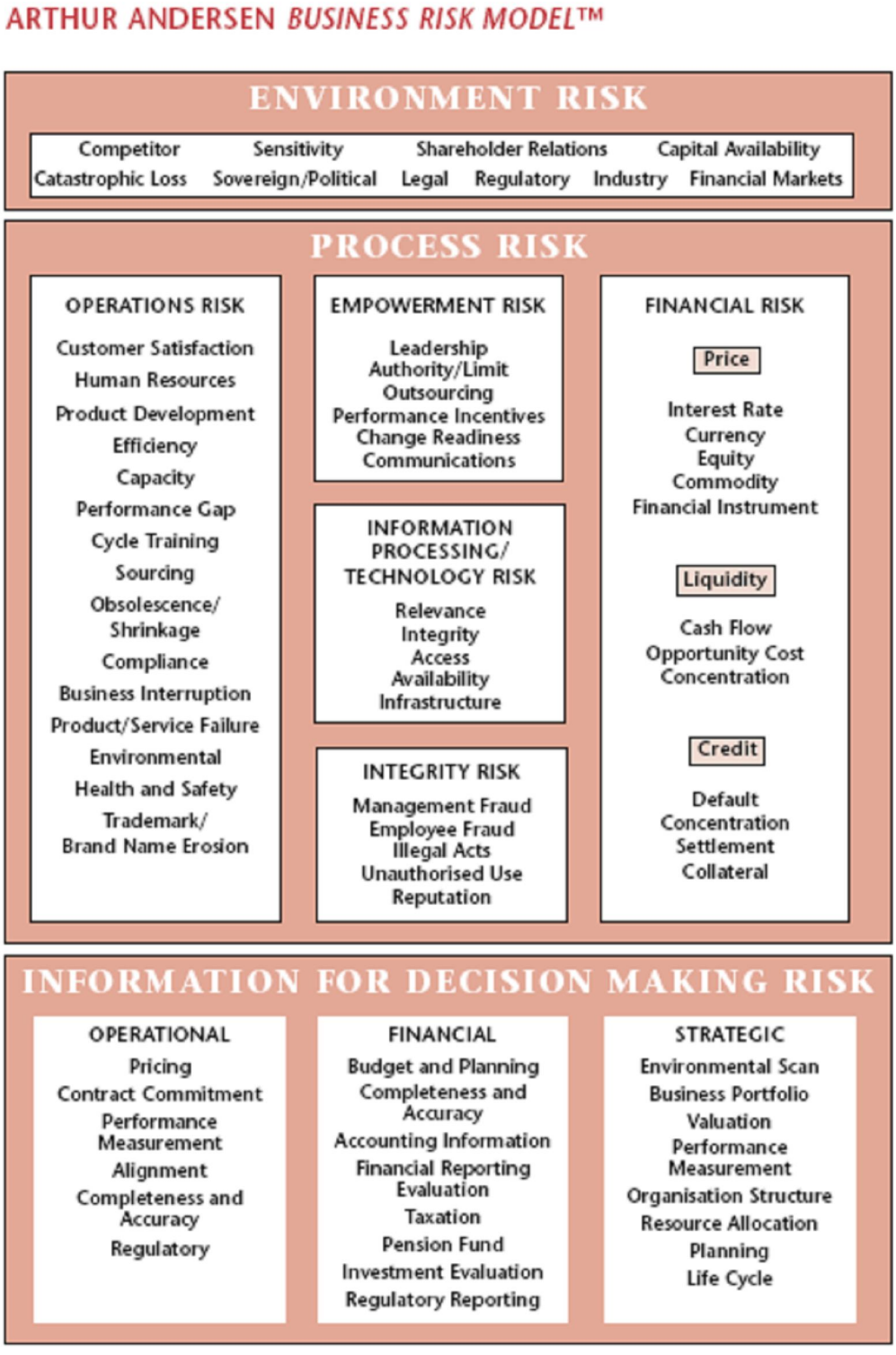
http://www.epfsf.org/meetings/2003/briefings/briefing_28may2003.pdf (January 14, 2009)

http://www.pwc.com/Extweb/industry.nsf/docid/E0EB4237B59EE6D880257138003D05E1 (January 15, 2009)

Databases

Bankscope

Appendix I Arthur Andersen Business Risk Model



Bron: ICAEW, 1998, 53

Appendix II Summary article Linsley et al. (2006)

Linsley et al. (2006). An exploratory study of UK and Canadian banks, *Journal of Banking Regulation*, vol. 7, no. 3/4, pp. 268-282.

Sample 9 UK and 9 Canadian banks, selected from the top 1,000 banks according to The Banker in 2002

Method Content analysis by counting risk and risk management sentences. Pearson's rank correlation used to test hypotheses 2-5.

Hypotheses

1. Canadian banks will disclose similar amounts of risk information as their UK counterparts as matched by size → no different level
2. There will be a positive association between the size of the bank and the total quantity of risk disclosures → positive association
3. There will be a positive association between the relative profitability of the bank and the total quantity of risk disclosures → no association
4. There is a positive association between level of risk and the total quantity of risk disclosures →no association
5. There will be a positive association between the quantity of risk definitions disclosed and the total quantity of risk disclosures → positive association

Table 4 Number of risk sentence disclosures for the sample of banks

Text disclosures sentence characteristics		*Credit risk* 1	*Market risk* 2	*Interest rate risk* 3	*Operational risk* 4	*Capital structure and adequacy risk* 5	*Risk management frameworks and Policies* 6	*Total*
Quantitative/good news/future	**A**	7	0	0	0	3	1	11
Quantitative/bad news/future	**B**	2	1	1	0	0	0	4
Quantitative/neutral/future	**C**	22	11	4	2	11	1	51
Qualitative/good news/future	**D**	191	77	20	60	95	100	543
Qualitative/bad news/future	**E**	6	5	6	1	6	2	26
Qualitative/neutral/future	**F**	275	294	84	134	141	228	1156
Quantitative/good news/past	**G**	101	20	15	7	119	3	265
Quantitative/bad news/past	**H**	229	16	5	1	15	1	267
Quantitative/neutral/past	**I**	214	60	38	4	108	0	424
Qualitative/good news/past	**J**	64	23	22	15	28	14	166
Qualitative/bad news/past	**K**	30	16	14	1	2	1	64
Qualitative/neutral/past	**L**	39	9	13	6	10	3	80
Definitions	**M**	56	79	34	31	59	7	266
Total		1236	611	256	262	597	361	

Table 5 Summary of characteristics of risk disclosures (excluding risk definitions disclosures)

Characteristic	*Total number of disclosures*	*Proportion (%)*
Quantitative disclosures	1,022	33.4
Qualitative disclosures	2,035	66.6
Past disclosures	1,266	41.4
Future disclosures	1,791	58.6
Good news disclosures	985	32.2
Bad news disclosures	361	11.8
Neutral disclosures	1,711	56.0

Table 7 Pearson correlation co-efficients for variables

Variable	*Pearson correlation*	*Sig. (2 tailed) for pearson*
Nat log of total assets	0.734*	0.001
Nat log of market cap.	0.615**	0.015
Return on assets	0.121	0.633
Book to market value of equity	−0.194	0.489
Number of risk definitions	0.683*	0.002

*Correlation is significant at the 0.01 level.
**Correlation is significant at the 0.05 level.

Appendix III Empirical studies

Table 1

Emperical studies on risk reporting by banks

Author	Sample	Methodology	Results
Basel Committee (2001)	Ànnual reports 57 banks in 12 countries (1999)	104 questions, 12 categories; Yes/no/NA	• Lack of disclosures in area credit risk modelling and internal and external rating; • Most banks disclose key elements capital structure
Basel Committee (2002)	Ànnual reports 55 banks in 13 countries (2000)	104 questions, 12 categories; Yes/no/NA	• Basic information well disclosed, particularly in quantitative form; • Disclosure rates generally decrease
Basel Committee (2003)	Ànnual reports 54 banks in 13 countries (2001)	104 questions, 12 categories; Yes/no/NA	• Highest disclosure levels on capital structure, accounting and presentation policies, and other risks; • Increase in disclosure on other risks (operational, legal, liquidity and interest rate risk)
Linsley, Shrives and Crumpton (2006)	Annual reports of 9 UK and 9 Canadian banks (2002)	Content analyses (sentences)	• No association between level of risk disclosures and bank profitability; • No association between level of disclosure and risk level of the bank; • Positive association between level of risk disclosure and bank size; • Positive association between level of risk disclosure and number of risk definitions; • No statistically different level of risk disclosure between UK and Canadian banks
Helbok and Wagner (2006)	Annual reports of 59 banks in Nord-America, Asia and Europe over the years 1998-2001	Content analyses (counting words, pages) and disclosure index study	• Significant increase in the extent and content of operational risk reporting; • Negative relationship between return on assets and disclosure level

Table 2

Empirical studies on risk reporting by non-financial companies

Author	Sample	Methodology	Results
Kajüter and Winkler (2003)	Management reports of 247 non-financial German DAX100 listed companies (1999-2001)	Content analysis	• Quantity risk disclosure increase in period 1999-2001, but non-compliance with GAS5; • Risk reports mainly qualitative
Beretta and Bozzolan (2004)	MD&A's of 85 non-financial Italian listed companies (2001)	Content analysis (sentences);	• Quantity disclosure not satisfactory proxy for quality; • Voluntary risk reporting mainly qualitative; • Size and industry do not affect the disclosure index; • Positive correlation between disclosures and company size
Linsley and Shrives (2006)	Annual reports of 79 non-financial UK FTSE 100 listed companies (2000)	Content analysis (sentences)	• Positive correlation between volume risk disclosure and company size; • Qualitative risk disclosures more prevalent than quantitative; • Statistically significant disclosure of forward-looking information
Abraham and Cox (2007)	Annual reports of 71 non-financial UK FTSE 100 listed companies (2002)	Content analysis (words)	• Corporate ownership by long-term institutions negatively related to risk reporting; • Executive and independent board directors both important in risk reporting; • US-listed UK firms disclose more risk information
Amran, Bin and Hassan (2009)	Risk reporting	Narrative section annual reports of 100 Malaysian listed companies (2005)	Content analysis (sentences)	• Majority risk disclosures in chairman's statement; • Positive relationship company size and risk disclosures; • Risk exposure of an industry influences extent of risk disclosures

Appendix IV Overview risks and description

IFRS 7	Basel II	Linsley et al. (2006)
Credit risk	Credit risk	Credit risk
Currency risk*		
	Equity risk	
Interest rate risk*	Interest rate risk	Interest rate risk
Liquidity risk		
Market risk	Market risk	Market risk
Other price risk*		
	Operational risk	Operational risk
	Capital structure and adequacy	Capital structure and adequacy
		Risk management framework and policies
* *Part of market risk*		

Type of risk	Definition in IFRS 7
Financial risk	The risk of a possible future change in one or more of a specified interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, credit rating or credit index or another variable, provided in the case of a non-financial variable that the variable is not specific to a party to the contract (IFRS 4, appendix A)
Credit risk	The risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation
Liquidity risk	The risk that an entity will encounter difficulty in meeting obligations associated with financial liabilities
Market risk	The risk that the fair value or cash flows of a financial instrument will fluctuate due to changes in market prices. Market risk reflects interest rate risk, currency risk, and other price risk
Interest rate risk	The risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in market interest rates
Currency risk	The risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates
Other price risk	The risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in market prices (other than those arising from interest rate risk or currency risk), whether those changes are caused by factors specific to the individual financial instrument or its issuer, or factors affecting all similar financial instruments traded in the market

Appendix V Disclosure index framework to measure quantity

	Market risk – Interest rate risk		
Item	*Disclosure requirement*	*Source*	*Disclosure score*
1	Exposure to risk and how they arise	IFRS 7.33a IFRS 7.IG15	
2	Objectives, policies and processes for managing the risk and the methods used to measure the risk	IFRS 7.33b IFRS 7.IG15	
3	Changes in exposure to risk, measurement of risk, and objectives, policies and processes to manage the risk from the previous period	IFRS 7.33c IFRS 7.IG17	
3a	• Disclosure of changes		
3b	• Explanation for changes		
4	Summary quantitative data about is exposure to risk at the reporting date	IFRS 7.34a	
5	Interest rate sensitivity analysis showing how profit or loss and equity would have been affected by changes in the relevant risk variable that were reasonably possible at that date	IFRS 7.40a	
6	Methods and assumptions used in preparing the sensitivity analysis	IFRS 7.40b	
6a	• Method sensitivity analysis		
6b	• Model used for analysis		
6c	• Assumptions used		
6d	• Explanation of on what the parameters are based		

	Market risk – Currency risk

Item	*Disclosure requirement*	*Source*
9	Exposure to risk and how they arise	IFRS 7.33a IFRS 7.IG15
10	Objectives, policies and processes for managing the risk and the methods used to measure the risk	IFRS 7.33b IFRS 7.IG15
11	Changes in exposure to risk, measurement of risk, and objectives, policies and processes to manage the risk from the previous period	IFRS 7.33c IFRS 7.IG17
11a	• Disclosure of changes	
11b	• Explanation for changes	
12	Summary quantitative data about is exposure to risk at the reporting date	IFRS 7.34a
13	Currency risk sensitivity analysis showing how profit or loss and equity would have been affected by changes in the relevant risk variable that were reasonably possible at that date	IFRS 7.40a
14	Methods and assumptions used in preparing the sensitivity analysis	IFRS 7.40b
14a	• Method sensitivity analysis	
14b	• Model used for analysis	
14c	• Assumptions used	
14d	• Explanation of on what the parameters are based	

Market risk – other price risk

Item	*Disclosure requirement*	*Source*
17	Exposure to risk and how they arise	IFRS 7.33a IFRS 7.IG15

18	Objectives, policies and processes for managing the risk and the methods used to measure the risk	IFRS 7.33b IFRS 7.IG15
19	Changes in exposure to risk, measurement of risk, and objectives, policies and processes to manage the risk from the previous period	IFRS 7.33c IFRS 7.IG17
19a	• Disclosure of changes	
19b	• Explanation for changes	
20	Summary quantitative data about is exposure to risk at the reporting date	IFRS 7.34a
21	Other price risk sensitivity analysis showing how profit or loss and equity would have been affected by changes in the relevant risk variable that were reasonably possible at that date	IFRS 7.40a
22	Methods and assumptions used in preparing the sensitivity analysis	IFRS 7.40b
22a	• Method sensitivity analysis	
22b	• Model used for analysis	
22c	• Assumptions used	
22d	• Explanation of on what the parameters are based	

Credit risk

Item	*Disclosure requirement*	*Source*
25	Exposure to risk and how they arise	IFRS 7.33a IFRS 7.IG15
26	Objectives, policies and processes for managing the risk and the methods used to measure the risk	IFRS 7.33b IFRS 7.IG15

26a	• Objectives, policies and processes for managing the risk	
26b	• Methods used to measure the risk	
27	Changes in exposure to risk, measurement of risk, and objectives, policies and processes to manage the risk from the previous period	IFRS 7.33c IFRS 7.IG17
27a	• Disclosure of changes	
27b	• Explanation for changes	
28	Summary quantitative data about is exposure to risk at the reporting date	IFRS 7.34a
29	Concentrations of credit risk if not apparent from summary quantitative date and sensitivity analysis	IFRS 7.34c
30	Amount of maximum exposure to credit risk (before deducting value collateral)	IFRS 7.36a
31	Description of collateral held as security and other credit enhancements	IFRS 7.36b
32	Information about the credit quality of financial assets with credit risk that are neither past due nor impaired	IFRS 7.36c IFRS 7.IG23
32a	• Information about credit quality	
32b	• Explanation rating system	IFRS 7.36c IFRS 7.IG24 IFRS 7.IG25
33	The carrying amount of financial assets that would otherwise be past due or impaired whose terms have been renegotiated	IFRS 7.36a

34	By class of financial assets an analysis of the age of financial assets that are past due as at the reporting date but not impaired	IFRS 7.37a
35	By class of financial assets an analysis of financial assets that are individually determined to be impaired at the reporting date, including the factors the entity considered in determining that they are impaired	IFRS 7.37b IFRS 7.IG29
35a	• Disclosure of factors the entity considered in the impairment	
35b	• Carrying amount of impaired financial assets	
35c	• Amount of impairment loss	
36	Description of collateral held by the entity as security and other credit enhancements for the amounts as disclosed in IFRS 7.37a and b and, unless impracticable, an estimate of their fair value	IFRS 7.37c
37	Nature and carrying amount of assets obtained by taking possession of collateral it holds as security or called on other credit enhancements, and such assets meet the recognition criteria on other standards	IFRS 7.38a
38	Policies for disposing assets or use of it in its operations when the assets are not readily convertible into cash	IFRS 7.38b

Liquidity risk

Item	*Disclosure requirement*	*Source*
39	Exposure to risk and how they arise	IFRS 7.33a IFRS 7.IG15
40	Objectives, policies and processes for managing the risk	IFRS 7.33b

	and the methods used to measure the risk	IFRS 7.IG15
40a	• Objectives, policies and processes for managing the risk	
40b	• Methods used to measure the risk	
41	Changes in exposure to risk, measurement of risk, and objectives, policies and processes to manage the risk from the previous period	IFRS 7.33c IFRS 7.IG17
41a	• Disclosure of changes	
41b	• Explanation for changes	
42	Maturity analysis for financial liabilities that show the remaining contractual maturities	IFRS 7.39a
	Other disclosures	
43	Information on subprime exposure and financial crisis	
44	Information on reclassification of financial instruments (amendment IFRS 7 in 2008)	

Appendix VI Disclosure index framework to measure quality

Qualitative characteristic	Quality item	Disclosure score
Relevance	Disclosure of information on stress scenarios	
	Disclosure of the expected future impact of the financial crisis on the bank and its results	
	Disclosure of information of risk management of credit, liquidity and market risk	
	Disclosure of whether VaR estimates and limits have been exceeded in the year	
Comparability	Comparability of the presentation of information of a specific bank over the years	
	Comparable figures of previous years disclosed	
	Comparable measurement methods used or explanation for changes given by a specific bank over the years	
	Accounting standards for (risk) disclosures mentioned	
Reliability	Mentioned whether or not the risk information in the management report is audited	
Understandability	Use of tables and graphs to support the text	
	Definitions of types of risk	
	Definition of measurement methods used	
	Explanation of limitations of measurement methods used	

Appendix VII Qualitative characteristics

Qualitative characteristics according to the IASB

Qualitative characteristics	IASB *'Framework for the Preparation and Presentation of Financial Statements'*
Understandability	Information should be presented in a way that is readily understandable by users who have a reasonable knowledge of business and economic activities and accounting and who are willing to study the information diligently (F.25)
Relevance	Information in financial statements is relevant when it influences the economic decisions of users. It can do that both by (a) helping them evaluate past, present, or future events relating to an enterprise and by (b) confirming or correcting past evaluations they have made (F.26-28) Materiality is a component of relevance. Information is material if its omission or misstatement could influence the economic decisions of users. (F.29) Timeliness is another component of relevance. To be useful, information must be provided to users within the time period in which it is most likely to bear on their decisions. (F.43)
Reliability	Information in financial statements is reliable if it is free from material error and bias and can be depended upon by users to represent events and transactions faithfully. Information is not reliable when it is purposely designed to influence users' decisions in a particular direction (F.31-32) There is sometimes a tradeoff between relevance and reliability - and judgment is required to provide the appropriate balance (F.45) Reliability is affected by the use of estimates and by uncertainties associated with items recognized and measured in financial statements. These uncertainties are dealt with, in part, by disclosure and, in part, by exercising prudence in preparing financial statements. Prudence is the inclusion of a degree of caution in the exercise of the judgments needed in making the estimates required under conditions of uncertainty, such that assets or income are not overstated and liabilities or expenses are not understated. However, prudence can only be exercised within the context of the other qualitative characteristics in the Framework, particularly relevance and the faithful representation of transactions in financial statements. Prudence does not justify deliberate overstatement of liabilities or expenses or deliberate understatement of assets or income, because the financial statements would not be neutral and, therefore, not have the quality of reliability (F.36-37)
Comparability	Users must be able to compare the financial statements of an enterprise over time so that they can identify trends in its financial position and performance. Users must also be able to compare the financial statements of different enterprises. Disclosure of accounting policies is essential for comparability (F.39-42)

Qualitative characteristics according to Basel (1998)

Qualitative characteristics	Basel (1998) '*Enhancing Bank Transparancy*'
Comprehensiveness	To enable market participants and other users of information to make meaningful evaluations of banks, information should be comprehensive. This often implies the aggregation, consolidation and assessment of information across a number of activities and legal entities (5.54) Where institutions undertake business activities that fall under the jurisdiction of different supervisors, or where certain affiliates are not supervised, supervisors should discuss with regulated firms how best to obtain information that provides a comprehensive, timely picture of the risks associated with their overall activities. Bank supervisors should attempt to obtain information about these activities on a consolidated basis, while recognizing the legal distinctions among subsidiaries and the need to receive summary information about major business activities and key entities within a consolidated banking group (5.55)7
Relevance and timeliness	To be useful, information must be relevant to the decision-making needs of users. Information is relevant to market participants when it helps them assess the expected risks and returns of investing in, lending to, or having other exposures to a bank and its future financial performance and position. Information is relevant to supervisors when it helps them assess the safety and soundness of a bank's operations (5.56) To be relevant, information also needs to be timely. Information should be provided with sufficient frequency and timeliness to give a meaningful picture of an institution, including its risk profile and risk management performance (5.57)
Reliability	Information must also be reliable. In particular, information should faithfully represent that which it purports to represent, or could reasonably be expected to represent. Further, to be reliable it must reflect the economic substance of events and transactions and not merely their legal form, be verifiable, neutral (i.e., free from material error or bias), prudent, and complete in all material respects. Completeness within the constraints of materiality and cost is of particular importance, since an omission can cause information to be false or misleading (5.58) In some instances, banks may have to balance the interests of relevance and reliability. For example, forward-looking information, such as earnings predictions, may score highly on relevance but lack reliability, while the reverse is more likely to apply to historical information. Moreover, given the fact that banks are now able to rapidly change their risk profiles, timeliness is critical for relevance. However, one of the main methods for ensuring reliability - external audit - tends to delay the release of information (5.59)
Comparability	Another essential characteristic of information is comparability. Supervisors, market participants and other users need information that can be compared across institutions and countries, and over time. This implies that a bank should use consistent accounting policies and procedures from period to period, and uniform measurement concepts and procedures for related items. Changes in accounting policies and procedures should not be made unless they can be justified as being more appropriate, e.g., because of a change in accounting standards. However, when accounting policies are changed, these changes, and their effects, should be disclosed. Comparability in information across banks and across countries enables users to assess the relative financial position and performance of banks against other banks. Comparability over time is necessary for the identification of trends in a bank's financial position and performance. To facilitate the identification of trends, financial reporting should provide

	comparative figures in respect of one or more previous periods for numerical information (5.60)
Materiality	Banks' financial reports should present or disclose each material item separately. Information is material if its omission or misstatement could change or influence the assessment or decision of a user relying on that information. Information that is not disclosed because it is immaterial may, nevertheless, be relevant for internal risk management purposes and in supervisory assessments. Information of this nature should be available within regulated firms and their material affiliates, and should be accessible to supervisors (5.61)

Appendix VIII Bankscope database

Update number	**223.1**
Date of export	9/02/2009
Search summary	

	Selected criteria	Specified values or options	Step result	Search result
1.	Country	NETHERLANDS	283	283
2.	Large Banks		8097	99
3.	Specialisation	All-purpose Commercial Banks ('Algemene banken'), Cooperative Banks, Central('Centrale kredietinstellingen'), Cooperative Banks ('Kredietinstellingen aangesloten bij een centrale kredietinstellingen'), Institutions in BankScope not listed in the O.J.	254	95
4.	# of Available Years	4 years	3250	29

Total # of banks selected:	29

Kolom1	Bank name	Cons. Code	Country Name	Last Accounting Date
1	ABN Amro Holding NV	C2	NETHERLANDS	06/2008*
2	Bank Mendes Gans NV	C2	NETHERLANDS	12/2007
3	Bank Nederlandse Gemeenten NV, BNG	C2	NETHERLANDS	06/2008*
4	BinckBank NV	C2	NETHERLANDS	06/2008*
5	CITCO Bank Nederland NV	C2	NETHERLANDS	12/2007
6	Delta Lloyd Bankengroep NV	C2	NETHERLANDS	12/2007
7	Delta Lloyd Group-Delta Lloyd NV	C2	NETHERLANDS	12/2007
8	Dresdner Finance BV	U1	NETHERLANDS	12/2007
9	F. van Lanschot Bankiers NV	U1	NETHERLANDS	12/1998
10	Fortis Bank Global Clearing N.V.	C2	NETHERLANDS	12/2007
11	Fortis Bank Nederland (Holding) N.V.	C2	NETHERLANDS	12/2007
12	Fortis Finance NV	U1	NETHERLANDS	12/2007
13	Friesland Bank N.V.	C1	NETHERLANDS	06/2008*
14	GE Artesia Bank	C2	NETHERLANDS	12/2007
15	ING Bank NV	C2	NETHERLANDS	09/2008*
16	ING Groep NV	C2	NETHERLANDS	06/2008*
17	Kas Bank NV	C2	NETHERLANDS	06/2008*
18	Kazkommerts International BV	U1	NETHERLANDS	12/2006
19	LeasePlan Corporation NV	C2	NETHERLANDS	12/2007
20	Nederlandse Waterschapsbank NV	U1	NETHERLANDS	06/2008*
21	NIBC Bank NV	C2	NETHERLANDS	06/2008*
22	NIBC Holding NV	C2	NETHERLANDS	06/2008*
23	Rabo Bouwfonds NV	C2	NETHERLANDS	12/2007
24	Rabobank Group-Rabobank Nederland	C2	NETHERLANDS	06/2008*
25	SNS Bank N.V.	C2	NETHERLANDS	06/2008*
26	Staalbankiers NV	C2	NETHERLANDS	12/2007

27	Van Lanschot NV	C2	NETHERLANDS	06/2008*
28	Volkswagen International Finance NV	U1	NETHERLANDS	12/2006
29	Yapi Kredi Bank Nederland N.V	U1	NETHERLANDS	12/2007

Appendix IX Disclosure scores

Quantity disclosure scores	2005	2006	2007	2008
ABN Amro Holding N.V.	0,73	0,75	0,91	0,91
DSB Bank N.V.	0,14	0,06	0,61	
Fortis Nederland Holding N.V.	0,55	0,57	0,73	0,79
ING Bank N.V.	0,70	0,73	0,88	0,89
Kasbank N.V.	0,29	0,29	0,64	0,73
Rabobank Group N.V.	0,41	0,38	0,86	0,86
SNS Bank N.V.	0,52	0,59	0,66	0,71
Van Lanschot N.V.	0,30	0,52	0,66	0,68

Quality disclosure scores	2005	2006	2007	2008
ABN Amro Holding N.V.	0,92	0,92	0,92	0,92
DSB Bank N.V.	0,17	0,17	0,46	
Fortis Nederland Holding N.V.	0,75	0,75	0,77	0,85
ING Bank N.V.	0,92	0,75	1,00	1,00
Kasbank N.V.	0,33	0,33	0,69	0,92
Rabobank Group N.V.	0,67	0,67	0,77	0,85
SNS Bank N.V.	0,75	0,85	0,85	0,85
Van Lanschot N.V.	0,17	0,67	0,69	0,85

Appendix X variables used

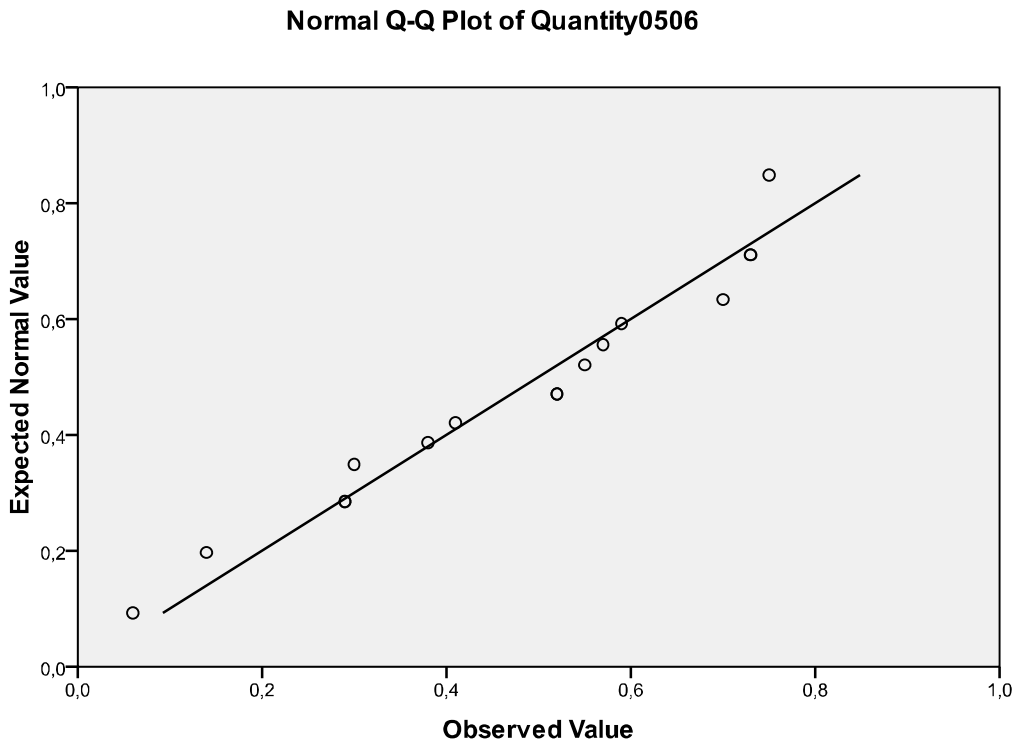
ROAA	2005	2006	2007	2008
ABN Amro Holding N.V.	0,53	0,45	0,18	-1,52
DSB Bank N.V.	0,90	0,58	0,82	
Fortis Nederland Holding N.V.	0,63	0,62	0,55	-8,09
ING Bank N.V.	0,55	0,44	0,39	0,04
Kasbank N.V.	0,28	0,37	0,69	-0,51
Rabobank Group N.V.	0,42	0,44	0,47	0,47
SNS Bank N.V.	0,41	0,36	0,40	0,20
Van Lanschot N.V.	0,88	1,00	0,94	0,14

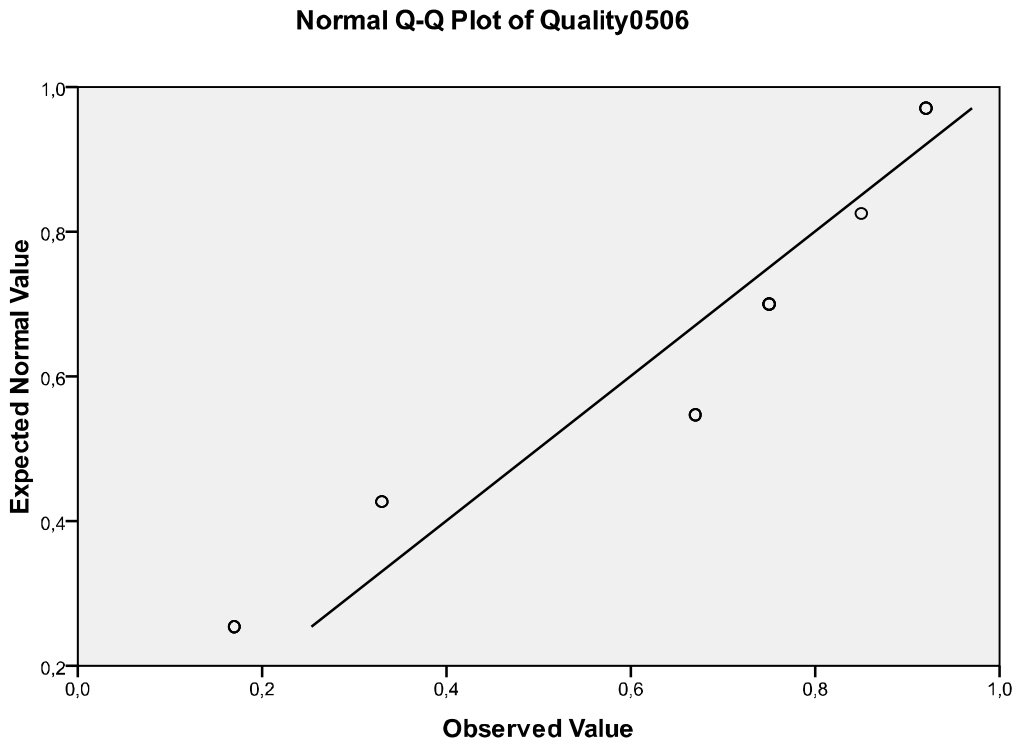
ROAE	2005	2006	2007	2008
ABN Amro Holding N.V.	20,91	16,67	6,35	-53,91
DSB Bank N.V.	30,81	24,15	32,91	
Fortis Nederland Holding N.V.	21,67	19,71	9,22	-145,22
ING Bank N.V.	21,5	17,21	14,89	1,50
Kasbank N.V.	9,41	12,51	21,55	-18,94
Rabobank Group N.V.	9,18	9,08	9,51	9,41
SNS Bank N.V.	14,82	12,10	12,63	6,75
Van Lanschot N.V.	16,82	18,25	15,56	2,30

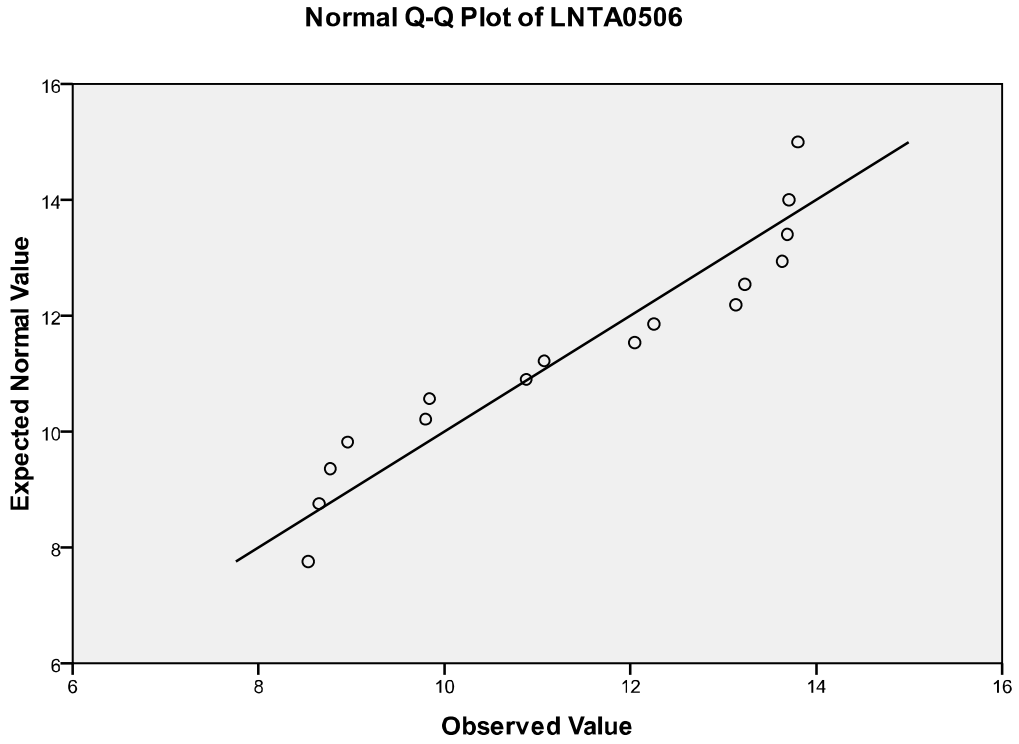
Total assets on 31/12 in million €	2005	2006	2007	2008
ABN Amro Holding N.V.	880804	987064	1025213	666817
DSB Bank N.V.	5092	5716,2	7752,3	
Fortis Nederland Holding N.V.	170870,5	209749	272378	184203
ING Bank N.V.	834035	894985	994113	1034689
Kasbank N.V.	7774	6448,5	8371,8	7360,2
Rabobank Group N.V.	506573	556455	570503	612120
SNS Bank N.V.	53098	64382	70584	76695
Van Lanschot N.V.	17971,6	18739,3	21718,8	20691,9

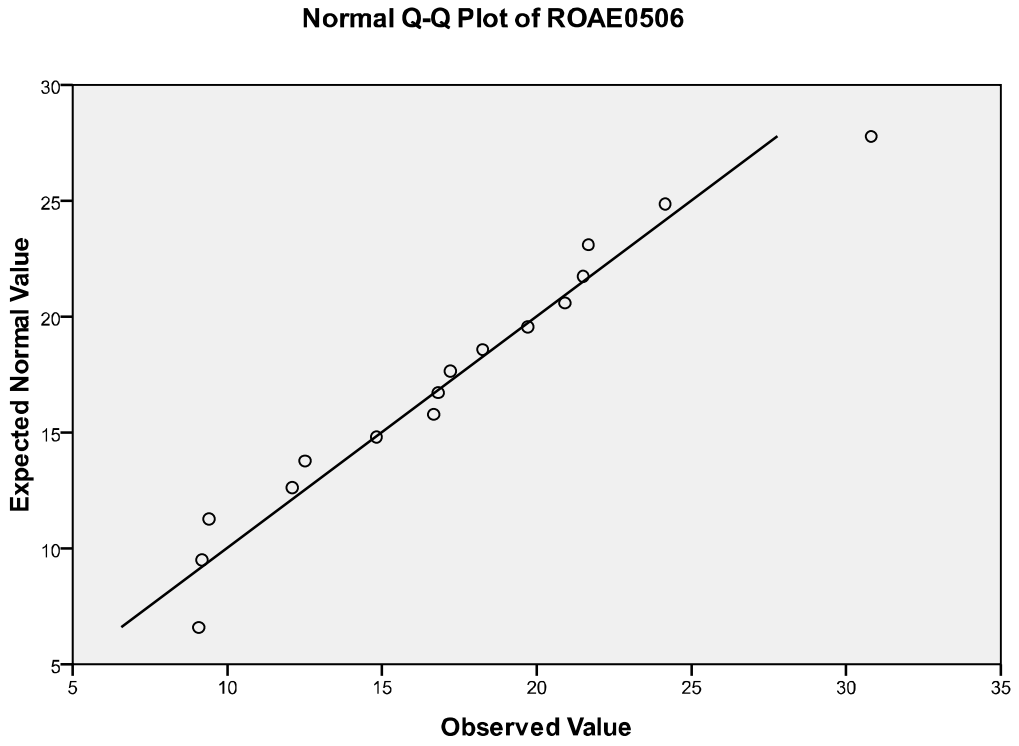
LN total assets	2005	2006	2007	2008
ABN Amro Holding N.V.	13,69	13,8	13,84	13,41
DSB Bank N.V.	8,54	8,65	8,96	-
Fortis Nederland Holding N.V.	12,05	12,25	12,51	12,12
ING Bank N.V.	13,63	13,7	13,81	13,85
Kasbank N.V.	8,96	8,77	9,03	8,90
Rabobank Group N.V.	13,14	13,23	13,25	13,32
SNS Bank N.V.	10,88	11,07	11,16	11,24
Van Lanschot N.V.	9,80	9,84	9,99	9,94

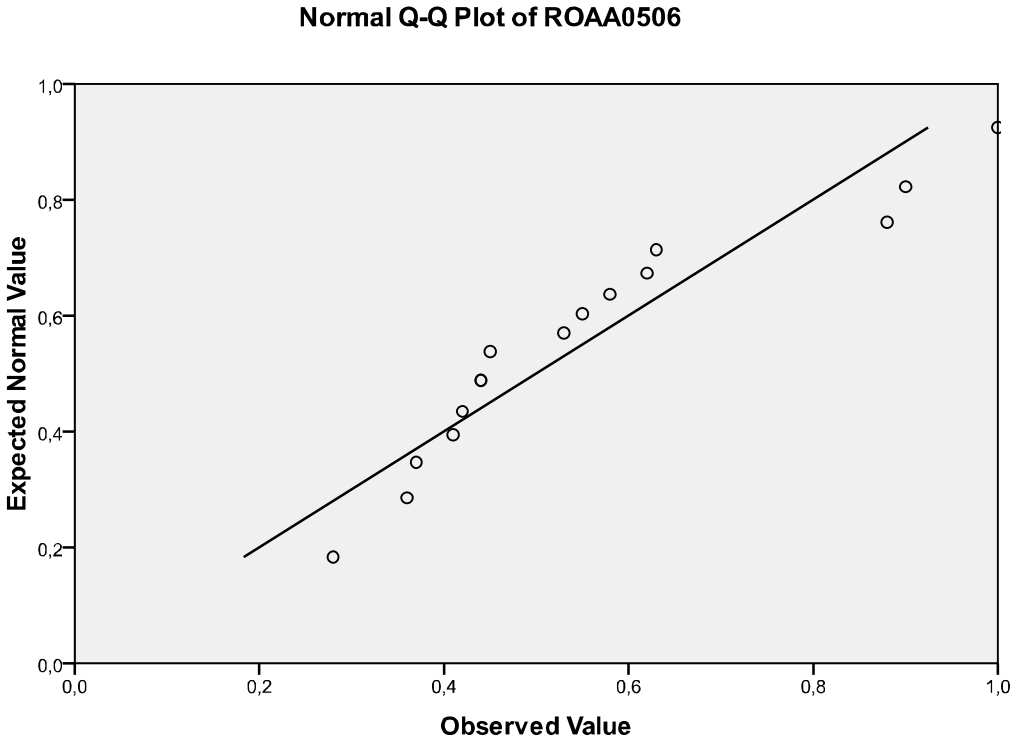
Appendix XI Q-Q plots 2005-2006



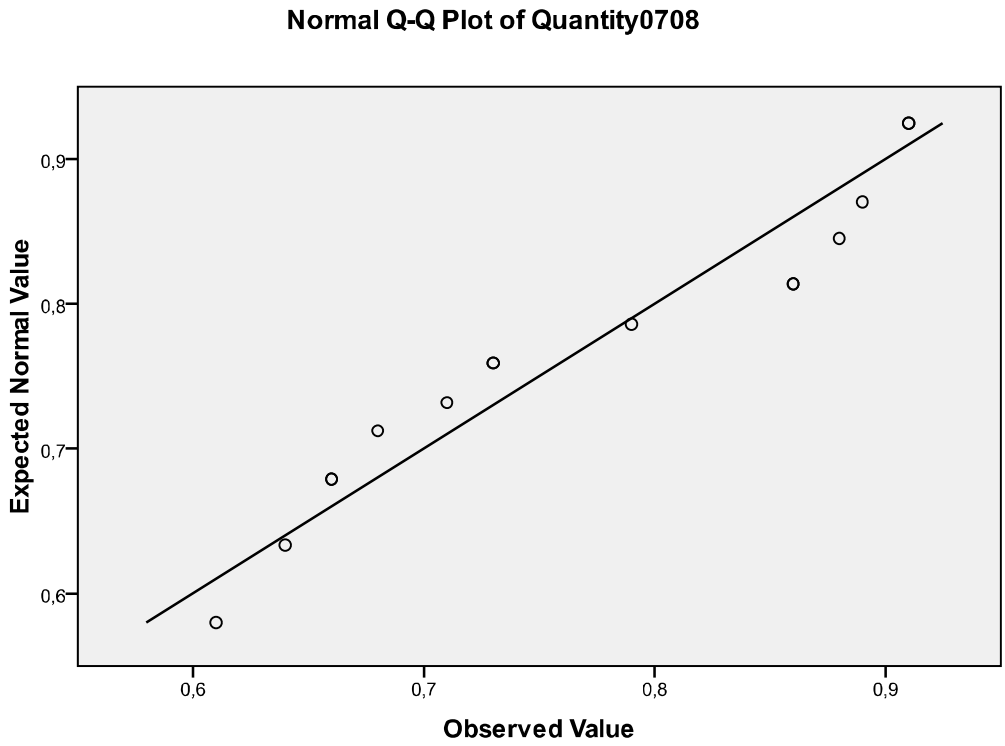


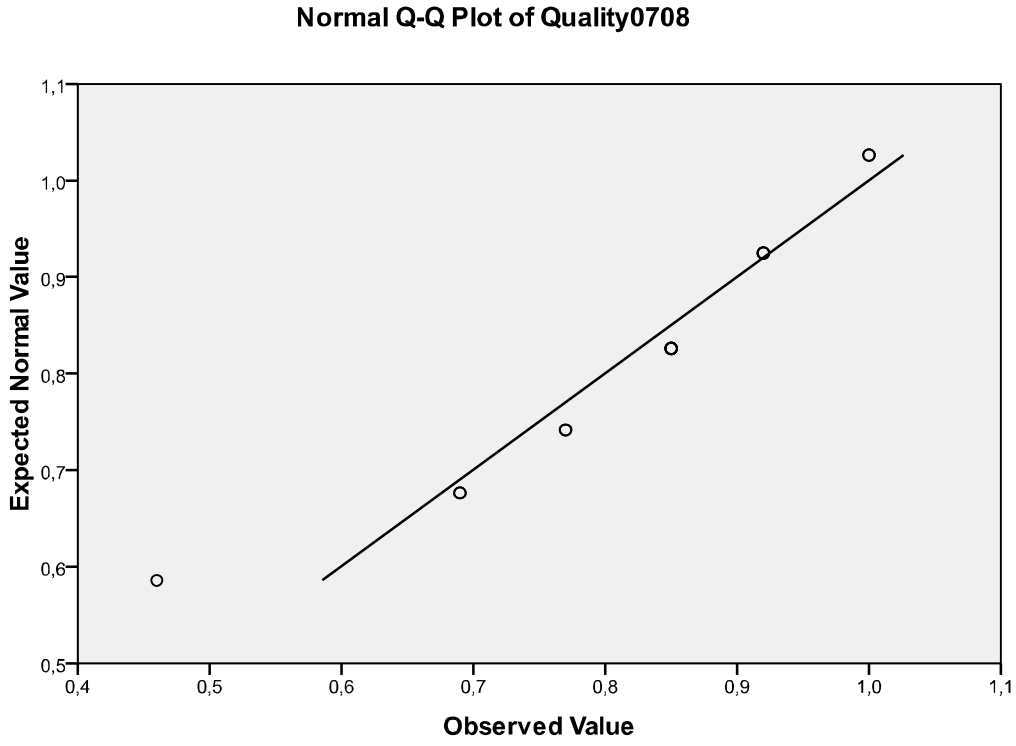

Normal Q-Q Plot of LNTA0506
Expected Normal Value
Observed Value
6
8
10
12
14
16

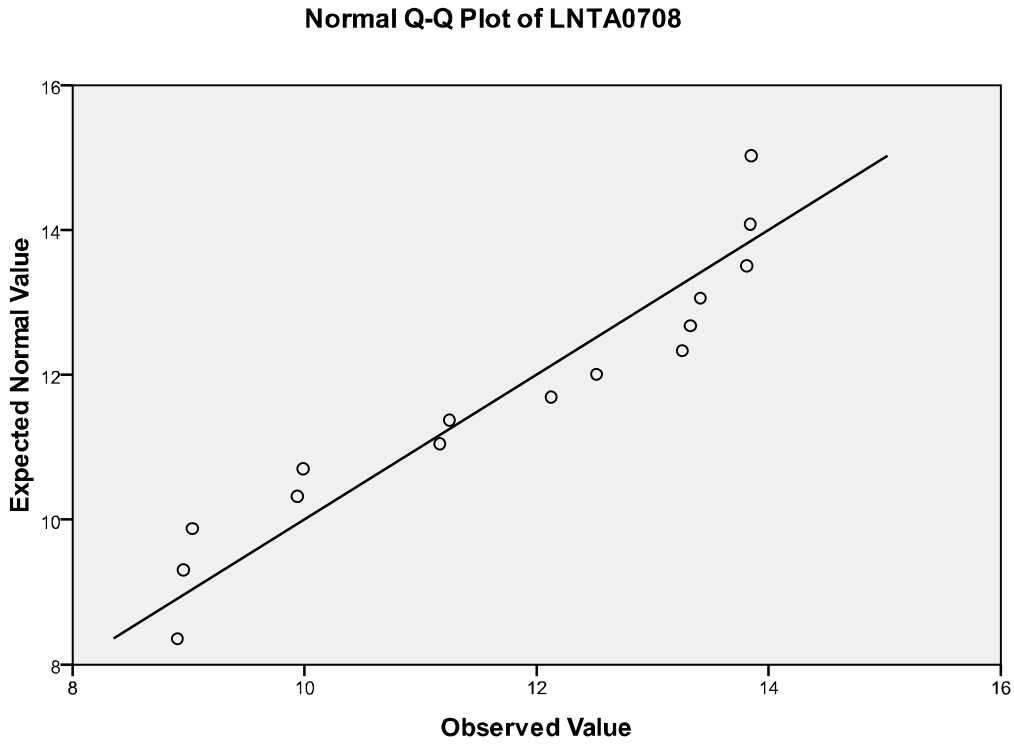

Normal Q-Q Plot of ROAE0506
Expected Normal Value
Observed Value
5
10
15
20
25
30
35

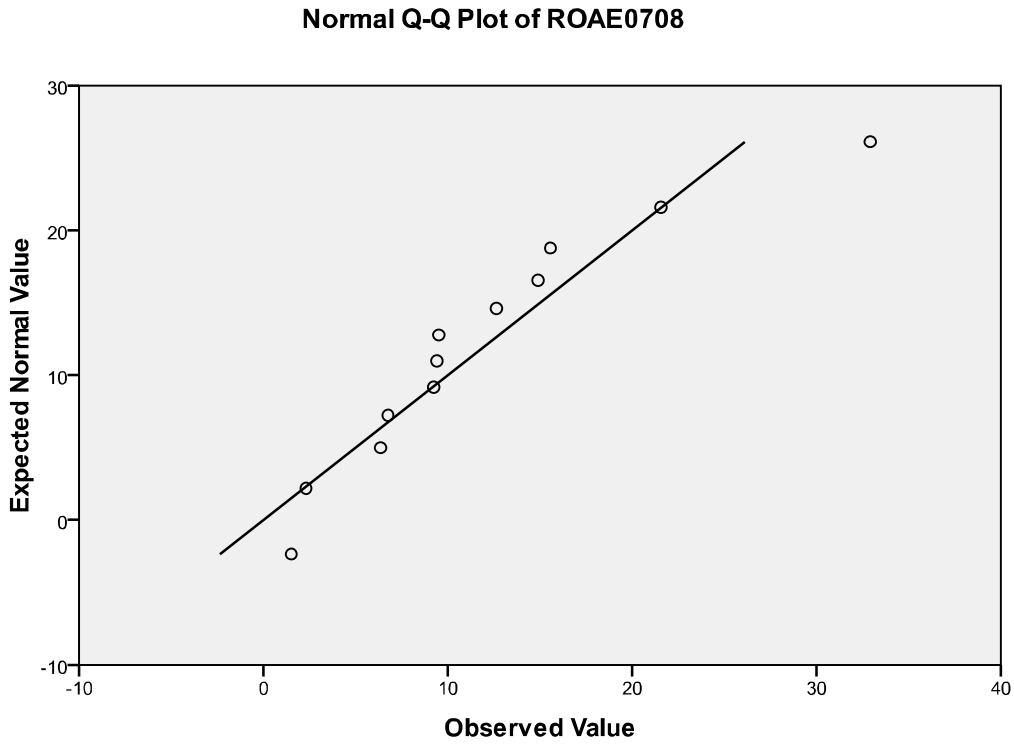

Normal Q-Q Plot of ROAA0506
Expected Normal Value
Observed Value
0,0
0,2
0,4
0,6
0,8
1,0

Appendix XII Q-Q plots 2007-2008






Normal Q-Q Plot of LNTA0708
Expected Normal Value
Observed Value
16
14
12
10
8
8
10
12
14
16


Normal Q-Q Plot of ROAE0708
Expected Normal Value
Observed Value
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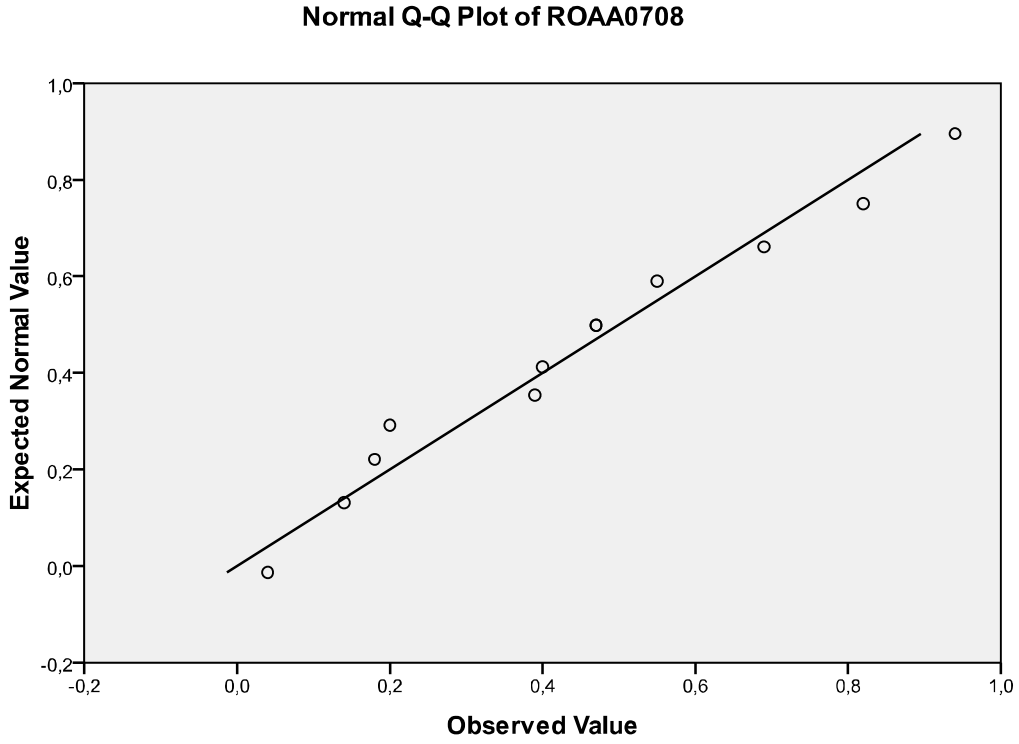
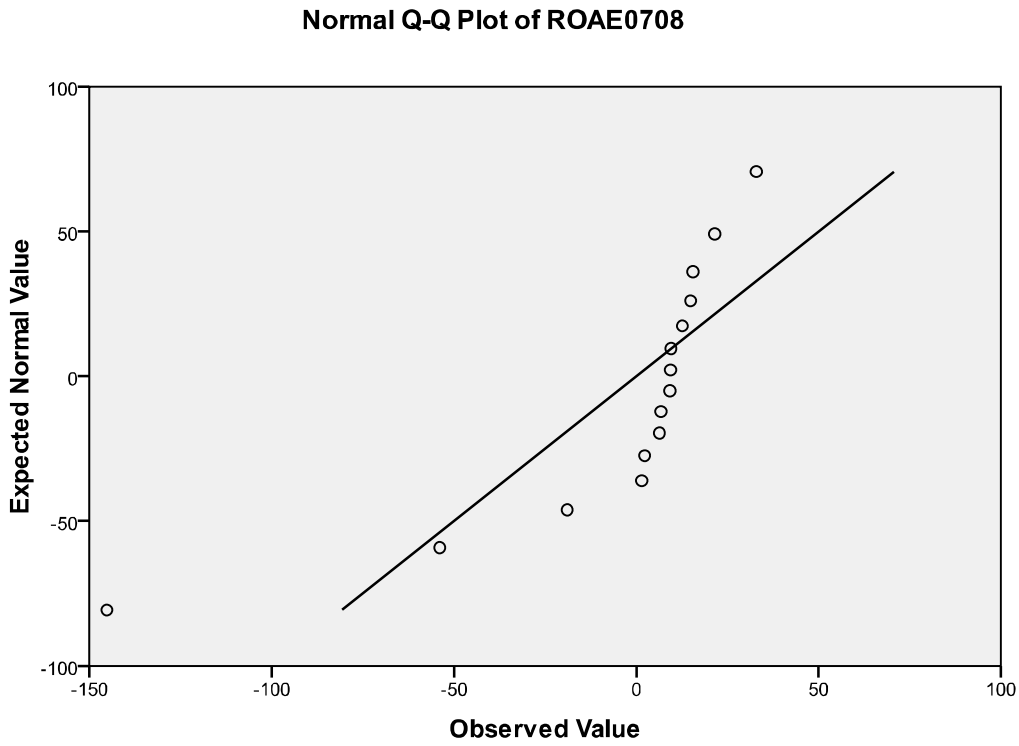
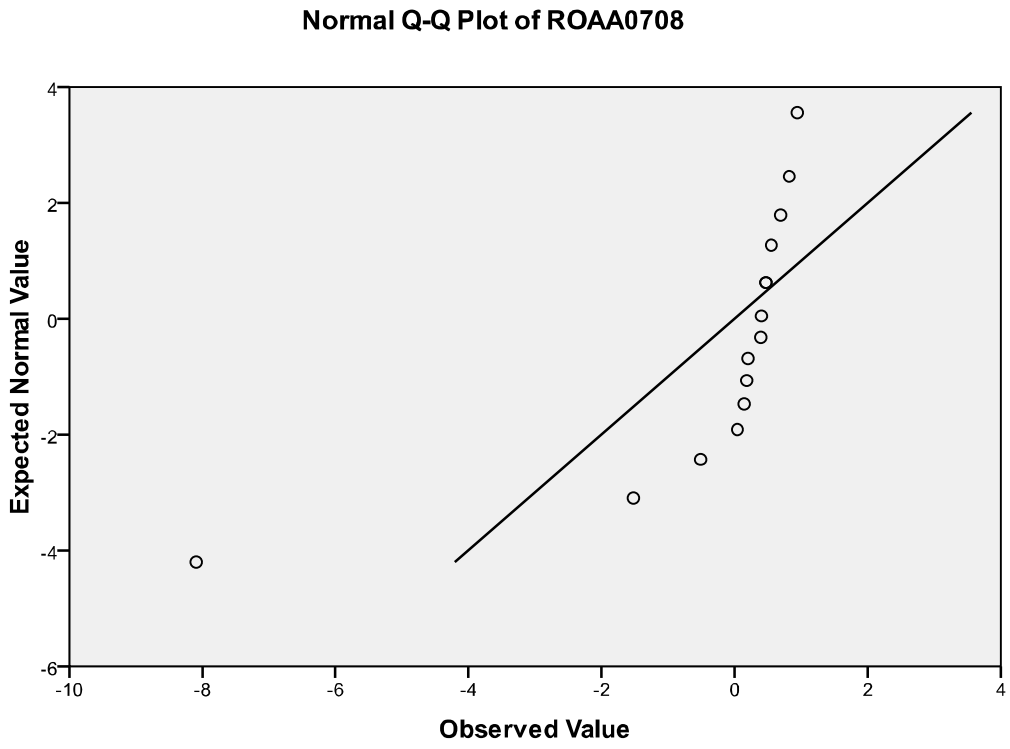
20
10
0
-10
-10
0
10
20
30
40


Normal Q-Q Plot of ROAA0708
Expected Normal Value
Observed Value
1,0
0,8
0,6
0,4
0,2
0,0
-0,2
-0,2
0,0
0,2
0,4
0,6
0,8
1,0

Appendix XIII Q-Q plots 2007-2008 ROAE and ROAA with outliers





Appendix XIV Average quantity and quality disclosure scores

Bank	Average quantity disclosure score 2005-2006	Average quantity disclosure score 2007-2008
ABN Amro Holding N.V.	0,74	0,91
DSB Bank N.V.	0,10	0,61
Fortis Nederland Holding N.V.	0,56	0,76
ING Bank N.V.	0,72	0,89
Kasbank N.V.	0,29	0,69
Rabobank Group N.V.	0,40	0,86
SNS Bank N.V.	0,56	0,69
Van Lanschot N.V.	0,41	0,67

Bank	Average quality disclosure score 2005-2006	Average quality disclosure score 2007-2008
ABN Amro Holding N.V.	0,92	0,92
DSB Bank N.V.	0,17	0,46
Fortis Nederland Holding N.V.	0,75	0,81
ING Bank N.V.	0,84	1,00
Kasbank N.V.	0,33	0,81
Rabobank Group N.V.	0,67	0,81
SNS Bank N.V.	0,80	0,85
Van Lanschot N.V.	0,42	0,77

Appendix XV SPSS outcomes with quality scores

Pearson Correlation coefficients

Variable	N	Pearson correlation 2005-2006 with quantity disclosure scores	Significance (2 tailed) for Pearson 2005-2006 with quantity disclosure scores	N	Pearson correlation 2007-2008 with quantity disclosure scores	Significance (2 tailed) for Pearson 2007-2008 with quantity disclosure scores
Natural logarithm of total assets	16	0,844**	0,000	15	0,618*	0,014*
Return on average assets	16	-0,308	0,246	12	-0,799**	0,002
Return on average equity	16	-0,181	0,502	12	-0,799**	0,002

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

** Correlation is significant at the 0.01 level (2-tailed)

Paired - Sample T test

	Mean	Std. Deviation	Std. Error Mean	T	Df	Significance (2-tailed)
Quality 0708- Quality 0506	0,19	0,17	0,06	3,26	7	0,014