Universidade do Minho
Escola de Economia e Gestão

Jonas da Silva Oliveira

Essays on Risk Reporting Disclosures by Portuguese Companies

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Trabalho realizado sob a orientação da
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Essays on Risk Reporting Disclosures by Portuguese Companies

Abstract

This thesis explores two subjects: risk-related disclosure [RRD] practices; and motivations for RRD. Its primary aim is to extend knowledge of RRD. Multi-theoretical frameworks are developed to explain RRD by non-finance companies (combining agency theory, legitimacy theory, and resources-based perspectives), and RRD by finance companies (combining legitimacy theory and resources-based perspectives). According to these theoretical frameworks the drivers of corporate RRD are related to corporate governance characteristics, corporate reputation, and public visibility.

This research into risk reporting in Portugal investigates RRD practices in the annual reports of 81 listed and unlisted Portuguese companies in the non-finance sector, and in the annual reports of 190 Portuguese credit-granting institutions [PCI]. Using a content analysis of annual reports, RRD by non-finance companies was classified into the following categories: financial risks; non-financial risks; and risk management framework. RRD by finance companies was classified into the following categories: risk management objectives and policies; credit risk; market risk, liquidity risk; operational risk; and capital structure and adequacy.

The main findings indicate that risk reporting is not satisfying the information needs of investors. RRD is basically qualitative, backward-looking, generic, and vague. RRD lacks transparency in the finance sector. The deficiencies identified most often involved a lack of comparability and understandability, even after the adoption of International Financial Reporting Standards [IFRS] 7 (*Financial Instruments: Disclosures*). These deficiencies undermine market discipline. They indicate the need for improved enforcement mechanisms. This thesis also provides an extensive literature review of the risk research developed in the decade from 2000 (that is, from before the Enron and Worldcom collapses until after the Global Financial Crisis [GFC] of 2008/09). The risk reporting literature has grown substantially in this decade. Nonetheless, risk reporting continues to be under-researched. Several avenues for future research are proposed.

Ensaios sobre Relato Financeiro do Risco pelas Empresas Portuguesas

Resumo

A presente tese explora as práticas e as motivações do relato financeiro do risco [RFR]. O seu principal objectivo é contribuir para o conhecimento das práticas do RFR em Portugal. Nela desenvolvem-se enquadramentos teóricos para explicar o RFR das empresas não financeiras (teoria da agência, teoria da legitimidade e a *resources-based perspectives*) e o RFR das empresas financeiras (teoria da legitimidade e a *resources-based perspectives*). De acordo com estes enquadramentos teóricos, o RFR pode ser explicado pelas características do governo das sociedades, pela reputação da empresa e pela sua visibilidade pública.

Este trabalho investiga as práticas do RFR nos relatórios e contas anuais de 81 empresas Portuguesas não financeiras cotadas e não cotadas e nos relatórios e contas anuais de 190 instituições de crédito Portuguesas. Através de uma análise de conteúdo da totalidade dos relatórios e contas anuais o RFR das empresas não financeiras foi classificado nas seguintes categorias: riscos financeiros; riscos não financeiros; e estrutura de gestão de riscos. O RFR das empresas financeiras foi classificado nas seguintes categorias: políticas e objectivos de gestão de risco; riscos de crédito; riscos de mercado; riscos de liquidez; riscos operacionais; e estrutura e adequabilidade de capital.

Os principais resultados indicam que o RFR não satisfaz as necessidades de informação dos investidores. O RFR é essencialmente qualitativo, histórico, genérico e vago. No sector financeiro, o RFR não é totalmente transparente. A falta de comparabilidade e compreensibilidade são as deficiências mais comuns, mesmo após a adopção da IFRS 7 (*Instrumentos Financeiros: Divulgações*). Estas deficiências enfraquecem a disciplina de mercado e são indicativas da necessidade de melhores mecanismos de *enforcement*.

Esta tese também fornece uma extensa revisão da literatura compreendendo os estudos sobre o RFR desenvolvidos na década de 2000 (antes dos colapsos financeiros das empresas Enron e Worldcom até após a crise financeira mundial de 2008/09). A literatura sobre o RFR aumentou substancialmente nesta década. Contudo, este campo de investigação continua a estar pouco desenvolvido. Através desta revisão da literatura são propostos vários caminhos para futuros estudos que poderão melhorar a investigação sobre o RFR nos próximos anos.

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List of acronyms

A	–	Agency theory
ABS	–	Asset-Baked Securities
AD	–	Accounting Directives
AMA	–	Advanced Measurement Approach
BIA	–	Basic Indicator Approach
BIS	–	Bank of International Settlements
C	–	Control variables
CEO	–	Chief-Executive Officier
CFI	–	Credit Financial Institutions
CMVM	–	Comissão do Mercado de Valores Mobiliários
COSO	–	Committee of Sponsoring Organizations
CR	–	Credit Risk
CRD	–	Capital Requirements Directive
CSA	–	Capital Adequacy and Structure
ERM	–	Entreprise Risk Management
EU	–	European Union
FR	–	Financial risk
FRC	–	Financial Reporting Council
FRR	–	Financial Reporting Release
FSB	–	Financial Stability Board
FSF	–	Financial Stability Forum
G20	–	The Group of Twenty
GAAP	–	Generally Accepted Accounting Principles
GAS	–	German Accounting Standards
GFC	–	Global Financial Crisis
IAS	–	International Accounting Standards
IASB	–	International Accounting Standards Board
ICAEW	–	Institute of Chartered Accountants of England and Wales
IFRS	–	International Financial Reporting Standards
IOSCO	–	International Organization of Securities Commissions

IPO – Initial Public Offerings

IRB – Internal Ratings approach

IT – Information Tecnhology

LR – Liquidity Risk

LRb – Legitimacy theory and resources-based perspective

MACB – Mutual Agricultural Credit Banks

MCV – Minority controlling votes

MD&A – Management Discussion & Analysis

NE – Number of employes

NFR – Non-financial risk

OBS – Off-balance sheet

OR – Operational Risk

PAP – Portuguese Accounting Plan

PAPBS – Portuguese Accounting Plan for the Banking Sector

PCI – Portuguese Credit-granting Institutions

RFR – Relato financeiro do risco

RMFW – Risk management framework

RMOP – Risk Management Objectives and Policies

RRD – Risk-related disclosures

SA – Standard Approach

SC – Spatial competition index

SEC – Securities and Exchange Commission

SOX – Sarbannes-Oxley Act

TA – Total assets

TOP10 – Shareholdings greater than 10 per cent

TS – Total sales

UK – United Kingdom

US – United States of America

VaR – Value-at-Risk

Introduction

Background

The history of human society is a chronology of exposures to risk of all kinds and of human efforts to deal with those risks. However, only with the Industrial Revolution, in the eighteenth century, did the topic of risk start to earn a greater importance. New sources of risks arose with the technological advances generated. Subsequently, risk began to have a presence in management literature. Fayol (1949) recognized its importance when he structured industrial activities into six functions. One of these functions was called *security*. It sought to mitigate potential risks and safeguard property and persons against threats, hazards and the endangerment of business progress.

Risk has been defined in many different ways. The concept has evolved throughout the years. First, the concept of risk initially only included the negative dimension of risk or downside risk. But the concept of risk has been extended to also incorporate the positive dimension (upside risk). That is, the risk of embracing any potential opportunities that may arise in the future. Moreover, risk should be measurable. Otherwise, assessment of its impact on business performance will be impossible. Second, initially risk was restricted to real world events and was connected to companies' external environments. However, there is now a broader view, in partial recognition of the fact that many financial collapses have happened largely because of deficiencies in internal controls (for example Barings, Enron, Worldcom, Parmalat).

History has taught the importance of implementing appropriate risk management and internal control systems within organizations. Such systems are important because the business world is evolving continually – as are potential threats. Risk management and internal control systems need to foresee these threats and provide alerts to help prevent damage and bankruptcy. Because of their inherent systemic risk, regulated financial institutions and all companies listed on stock exchanges are highly scrutinized by supervisory and regulatory authorities. To control systemic risk and reduce social costs, these authorities have forced listed entities to develop their culture, infrastructure, and organizational processes and structures to help ensure adequate risk management.

Gallagher (1956) proposed that organizations should have an employee responsible for managing risk. He contended that risk "must be conceived, even to the extent of putting it under one executive, who in a large company might be a full-time risk manager" (Gallagher, 1956, p. 75). However, only since the 1990's have there been

concerted endeavours to either regulate risk reporting or develop frameworks to implement risk management systems. These endeavours have stipulated norms of best practice about how to implement corporate risk management in firms – usually in the area of corporate governance. These norms vary from binding requirements (such as the Sarbannes-Oxley Act [SOX], and the Basel II Accord); to non-binding requirements (such as the Committee of Sponsoring Organizations [COSO] Report, Turnbull Report) issued by regulatory and supervisory entities (e.g., Financial Reporting Council [FRC]) or professional and national standards setters (e.g., Institute of Chartered Accountants of England and Wales [ICAEW]).

In the United States of America [US] the COSO report of 1992 (*Internal Control: integrated framework*) established guidelines on the design of internal control systems. These guidelines were intended to help identify the causes of fraudulent financial reporting. They present a common definition of internal control and provide a framework for the assessment and improvement of internal control systems. The COSO report saw internal controls as processes that embrace five elements: control environment, risk assessment, control activities, information and communication, and monitoring. These elements are designed to provide reasonable assurance about achievement of the following three objectives: effectiveness and efficiency of operations, reliability of financial reporting, and compliance with laws and regulations (Woods, 2008).

Gupta (2006) found evidence that there was limited adoption of the COSO *Integrated Framework* by US companies. Therefore, SOX recommended the application of COSO 1992 guidelines (especially in compliance with its section 404) as an answer to the financial scandals of Worldcom and Enron. This recommendation was motivated by a desire to improve the reliability of financial reporting based on the idea that good internal controls would assure that reliability. Section 404 of SOX required each annual report to contain an internal control report. This report should state management's responsibility for estabilishing and maintaining an adequate internal control structure and procedures for financial reporting; and assess the effectiveness of the internal control system. However, in 2006, due to the increased cost of compliance with section 404, (which shifted most Initial Public Offerings [IPO] away from the US to the United Kingdom [UK]), the US Securities and Exchange Commission [SEC] changed its position in relation to COSO.

In 2004, COSO published a revised version of its internal control framework (*Enterprise Risk Management – integrated framework*). This added three more elements to the initial five: objective setting, event identification, and risk response. Enterprise risk management encompasses the internal control concept, broadens the definition of risk, and sees risk management as serving a strategic function. Recently, COSO released two additional documents on Enterprise Risk Management [ERM]. The first of these documents (*Embracing Enterprise Risk Management: practical approaches for getting started*) provides an action plan that can be used in ERM implementation. The second document (*Developing Key Indicators to Strengthen Enterprise Risk Management*) discusses the importance of developing key indicators for monitoring the risks that might emerge to affect the strategic success of a company.

In the UK, risk management issues were given prominence in about 1992 with the publication of the *Cadbury Report and Code*. This report focused on accountability and risk management aspects of corporate governance (Demirag *et al.*, 2000). However, it neglected aspects related to disclosure of internal controls and risk management. Problems with internal controls have serious consequences that are associated with corporate governance incompetence and malpractice. The *Turnbull Report* recommendations for implementing the *Combined Code* on corporate governance requirements (issued by the Hampel Committee) demanded an annual review of the effectiveness of a company's system of internal controls, accompanied by an appropriate report to shareholders about the evaluation conducted (Linsley & Shrives, 2000). However, this report did not require any explanation of specific risks. As such, it did not allow readers to properly assess the risk position of a company (Linsley & Shrives, 2005a). The last revision of the *Combined Code* on corporate governance (*The UK Corporate Governance Code*) added a new principle: "the board is responsible for determining the nature and the extent of the significant risks it is willing to take in achieving its strategic objectives" (FRC, 2010, p. 7). In the near future the FRC will hold a series of meetings to explore how companies are responding to this new principle. They will then consider whether the *Turnbull Report* guidance on risk and internal control needs to be amended.

In 1998, an ICAEW report (*Financial Reporting of Risk: proposals for a statement of business risk*) proposed that listed companies should report information voluntarily about business risk in a specific statement within the annual report. Some of the benefits associated with risk reporting were claimed to be a reduction in the cost of

capital, the possibility of signalling best risk management abilities to the market, encouraging better risk management, and improving accountability. The *Combined Code* and the *Turnbull Report* did not require any explanation of specific risks. The ICAEW report's main focus was to overcome this gap by proposing the publication of a risk statement within annual reports. In this statement companies could discuss (using a full disclosure perspective) their significant risk exposures and how they were dealing with them (Linsley & Shrives, 2005a).

One disadvantage of the full disclosure model arises from the peculiar characteristics of the risk concept. Inherently, risk information is commercially sensitive. It is information with competitive advantages that, if perceived by competitors, could impair future economic benefits of a company. According to Verrechia's (1983) proprietary costs perspective, voluntary risk reporting has a threshold of an optimal level of disclosure. Consequently, in 1999 and in 2002, respectively, the ICAEW issued two documents (*No Surprises: the case for better risk reporting*) and (*No Surprises: working for better risk reporting*). Both incorporated an opt-out clause that permitted the disclosure of risk information to be excluded in the presence of proprietary costs.

In the finance sector, in 1988 the Bank of International Settlements [BIS] sought to reduce systemic risk of companies, enhance market discipline and assure the stability of the financial system, by issuing the Basel I Accord (*International Convergence of Capital Measurement and Capital Standards*). This established standards to calculate the capital adequacy of a finance company. In 1998, in its document (*Enhancing Bank Transparency*) the BIS proposed that banks should disclose information about their financial performance, financial position, risk management strategies and risk exposures of all kinds (credit risk, market risk, liquidity risk, operational risk and legal risk). In 2005, the BIS published a revised framework (*International Convergence of Capital Measurement and Capital Standards: a revised framework*), known as the Basel II Accord. This reinforced minimal capital requirements, supervision arrangements, and market discipline.

Recently, in the aftermath of the GFC of 2008/09, one of The Group of Twenty [G20] endeavours to accomplish the objectives stated in the *Report of the Financial Stability Forum on Enchancing Market and Institutional Resilience* (Financial Stability Forum, 2008) culminated in several refinements of the Basel II requirements. From 2009 onwards, several documents have been issued to review the 2005 framework

(renamed the Basel III Accord). These documents introduce higher capital requirements to capture the credit risks of complex trading activities, stress Value-at-Risk [VaR] requirements to reduce procyclicality, and reinforce Pillar 2 and 3 in terms of securitizations and off-balance sheet [OBS] exposures and trading activities.

Pillar 3 also includes an opt-out disclosure clause for information considered confidential. Opt-out clauses can have some perverse effects. Acher (1998, p. 88) states that "to have an opt-out clause to exclude reporting on risk regarded as too commercially sensitive or prejudicial, in terms of publishing the risks and how companies are responding to them, would give a potentially misleading view of a company's risks." This could lead to one of two behaviors: the inclusion of worthless boiler plate statements; or full withholding of information through the use of the "commercially sensitive" argument (Linsley & Shrives, 2000).

In the field of accounting regulations, the International Accounting Standards Board [IASB] issued IFRS 7 (*Financial Instruments: Disclosures*). This accounting standard demands several disclosures about the risk associated with financial instruments. The most problematic issue is that the mandatory disclosure requirements of IFRS 7 are focused only on financial risks (basically, credit risk, market risk, and liquidity risk). But from a management perspective, companies are subject to *financial* and *non-financial* risks. This can open the opportunity for companies to increase discretionary risk reporting behaviour, leading to a false sense of transparency. Managers can disclose only selected non-binding information and withhold some news to enhance their standing or hide managerial deficiencies.

Purposes

As the previous discussion reveals the concepts of risk and risk management have received substantial attention lately. The need for effective risk management, internal control and transparent RRD is an important corporate governance principle. Despite the growing attention to risk issues that was highlighted in the aftermath of some financial scandals (e.g. Enron, Worldcom) and by the GFC, there is still little academic analysis of RRD. The main purpose of the present thesis is to extend the analysis by evaluating the diffusion of RRD practices in Portugal.

To achieve this objective the thesis provides a series of empirical studies about RRD in Portugal. More precisely, the thesis performs an extensive literature review to

reveal potential research gaps. Such a literature review was crucial in order to guide the empirical studies included here. The literature review should also be helpful to future researchers who want to start research projects in the RRD field.

The literature review revealed that most existing studies were focused on RRD practices in Anglo-Saxon countries and that there was a scantiness of RRD studies in European Latin countries, in particular Portugal. Portugal is one of the least developed countries in the euro-area. It has some unique features regarding capital markets, company financing structure and corporate governance systems (Lopes & Rodrigues, 2007). Thus, it provides a different institutional setting – one that could be helpful in determining whether companies in less developed countries adopt different RRD practices than those in more developed countries.

The empirical studies included in this thesis draw upon two different kinds of industry-based samples: one from the non-finance sector; and the other from the finance sector. The option to study non-finance and finance companies separately draws strength from the argument that the distinction between non-finance and finance companies is crucial in the context of RRD. Such distinction recognizes that banks possess unique qualities: they have opaque assets, are highly leveraged, and rely on short-term liabilities (Flannery *et al.*, 2004). They "are risk management entities and can be expected to make significantly different types of risk disclosures, and therefore need to be studied independently" (Linsley & Shrives, 2006, p. 392). The inclusion of finance and non-finance sector enlarges the scope of the thesis. Thereby, it helps to develop a comprehensive knowledge of the RRD practices of Portuguese companies and a sounder knowledge of the motivations companies have to disclose information about their risk exposures, risk management activities and internal controls.

Given the research purposes, the first set of key research questions is:

1. What are the RRD practices of Portuguese finance and non-finance companies?
    - 1.1. What kind of RRD do Portuguese companies disclose than others?
    - 1.2. What kind of companies disclose more risk information than others?
    - 1.3. When companies disclose risk information do they quantify the amounts of risk they are facing?
    - 1.4. Are the RRD made with a backward-looking perspective or with a forward-looking perspective?
    - 1.5. Are the RRD of finance companies transparent?

1.6. Do finance companies use a compliance-driven approach or are they proactive in disclosing risks?

Among the several theoretical frameworks capable of explaining the motivations for RRD, agency theory is used most often. In terms of this theory, risk information is crucial in reducing information asymmetries between shareholders and managers. One way to foster the provision of risk information is through the implementation of monitoring systems that are able to induce higher levels of information, thereby reducing agency costs (Jensen & Meckling, 1976). Some of these monitoring mechanisms are intertwined with corporate governance characteristics, such as ownership structure, board independence, audit committee independence, leadership duality, and the quality of external auditors (Linsley & Shrives, 2005a).

Many factors affect company decisions to make RRD. Thus, it is reasonable to understand that a single theory is not sufficient to provide a complete explanation. This has been acknowledged in prior research that has advocated the benefits of adopting multi-theoretical approaches to obtain a wide understanding of factors that drive RRD (Linsley *et al.*, 2006; Linsley & Shrives, 2006).

Thus the second set of key research questions is:

2. What are the motivations for RRD by Portuguese finance companies and Portuguese non-finance companies?
    2.1. Are the incentives for RRD explained by a multi-theoretical framework that combines economic theories with social and political theories such as agency theory, legitimacy theory and resources-based perspective?
    2.2. How can this theoretical framework be used in this thesis and in future research?

3. How do the findings help to improve risk-based regulations?

Contributions

This thesis contributes to RRD research in several ways. The first essay reveals a comprehensive literature review on RRD divided into three fields of research: RRD practices; the value relevance of RRD; and the motivations for RRD. It covers the

decade from 2000 – a period in which the volume of literature grew substantially. In each of these fields the essay shows several future avenues of research. The findings have important potential to assist practice and guide future research initiatives that could add additional insights to RRD practices. The thesis also contributes by highlighting the usefulness of multi-theoretical frameworks that combine economic theory with social and political theory to understand the incentives for RRD.

Additionally, each of the empirical studies has the potential to make other related contributions. The second essay, following Roberts *et al.* (2005), Aguilera (2005), and Linsley and Shrives (2006), proposes a theoretical framework that combines agency theory, legitimacy theory and resources-based perspectives to explain the motivations for RRD of Portuguese non-finance companies. The essay explores the usefulness of RRD practices in terms of their quality. The specific setting studied helps to demonstrate the impact of the adoption of International Accounting Standards [IAS/IFRS], and EU Modernisation Directive on the quantity and quality of RRD.

The third essay reveals the level of transparency of RRD made by PCIs. The essay assesses the quality of RRD, explores how further reforms of RRD practices have addressed the inadequacies and informs future attempts to improve accounting regulation.

The fourth essay considers that some particular characteristics of the banking sector (e.g. consumer-oriented entities, high levels of public visibility, multiple set of stakeholders, and intensive regulation) can determine the motivations for mandatory and voluntary RRD. It contends that shareholder theory is insufficient to explain RRD. Bebbington *et al.*'s (2008) framework is explored to test the suitability of legitimacy theory and resources-based perspectives to explain the influence of reputation risk management processes on RRD, and in examining whether RRD are made to satisfy stakeholders interests.

The fifth essay uses Bebbington *et al.*'s (2008) framework complemented by Sanchéz-Ballesta and Bernal-Llórens' (2010, p. 403) argument that disclosure is "a market mechanism to create and sustain banks' reputations" to explain the determinants for the voluntary RRD (e.g. operational risk, and capital structure and adequacy) made by Portuguese commercial banks in a period that pre-dated the first-time adoption of the Basel II Accord. This essay also explores the importance of stakeholder monitoring to ensure the effectiveness of market discipline.

At the empirical level, this thesis addresses some deficiencies and oversights in the RRD literature. It adds to prior literature by extending research on RRD in an under-researched sector, banking. Moreover, through the use of a multi-theoretical framework the thesis explains the importance of corporate governance characteristics, public visibility, and corporate reputation, in influencing the levels and patterns of RRD.

Structure

The thesis is based on five essays, organized in two parts. Part I includes one essay, a literature review. Part II is devoted to empirical contributions. It includes four essays on RRD practices of Portuguese companies.

In Part I, the first essay offers an extensive literature review of RRD studies in three main research fields: RRD practices; value relevance of RRD; and motivations for RRD. It provides a foundational knowledge resource to inform practice and research initiatives and is intended to improve and guide RRD research in the future.

Part II contains four empirical studies on RRD practices in Portugal. The second essay assesses the RRD practices in annual reports for 2005 of Portuguese companies in the non-finance sector. It explores whether the implementation of IAS/IFRS and the EU's Modernisation Directive in 2005 affected the quantity and quality of RRD, and the determinants for RRD made by Portuguese non-finance companies.

The third essay assesses the RRD practices of 190 PCIs.[1] This is based on a content analysis of their individual annual reports for 2006. The essay seeks to: a) assess the usefulness of RRD based on the four desirable characteristics of financial statements enunciated in the IASB's conceptual framework for accounting: *relevance*, *reliability*, *understandability* and *comparability*; b) assess the extent to which reforms of RRD practices in 2007 in IFRS and the Basel II Accord address each of the deficiencies identified; and c) make recommendations to Portuguese supervisory authorities.

The fourth essay analyses individual annual reports for 2006 to assess factors affecting the RRD of 190 PCIs. It examines the suitability of a multi-theoretical framework based on legitimacy theory and resources-based perspectives to explain the motivations for RRD by finance companies.

[1] Portuguese credit-granting institutions are part of the Portuguese finance sector whose business "is to receive deposits or other repayable funds from the public and to grant credits for its own accounts" (Decree Law 298/92, Article 2).

The fifth essay explores the factors that affected the voluntary RRD in the individual annual reports for 2006 of Portuguese banks. It explores the extent to which the annual reports conformed to Basel II requirements in terms of the voluntary disclosure of operational risk and capital structure and adequacy matters. Results suggest that the voluntary RRD observed are explained by legitimacy theory and resources-based perspectives.

The conclusions section provides a reflective overview of the essays and discusses the main findings.

Part I

Risk-related disclosures: literature review and avenues for future research

Essay 1

Risk reporting: literature review and avenues for future research

1.1 Introduction

Inadequate reporting has been implicated in many episodes of financial distress and unexpected corporate failures in the past decade: for example, in the collapses of Enron and Worldcom in the USA, and HIH Insurance in Australia; in the financial plight of Northern Rock in the UK; and the operational risk management failure of Société Générale in France (Ball, 2009). The importance of monitoring the risk exposures and risk management practices of business entities have been highlighted in the post-mortems following the financial implosion of several major investments banks (Bear Stearns, Lehman Brothers, Merrill Lynch), the ensuing effects on other firms (such as American Insurance Group) and on the global economy.

The present essay reviews the literature on RRD. It aims to provide a foundational knowledge resource to inform practice and research initiatives that are directed to improve RRD. The literature we review principally covers the decade from 2000 ─ a decade in which the risk reporting literature grew substantially (Linsley & Shrives, 2006; Woods *et al.*, 2008a). We divide this review into four fields, as follows:

(a) RRD practices (Tables 1.1 – 1.3);

(b) impact of the adoption of risk-based regulation (Table 1.4);

(c) value relevance of RRD (Table 1.5); and

(d) motivations for RRD (Tables 1.6 – 1.8).

Consistently, the existing literature has acknowledged serious inadequacies in RRD. Risk information has been found to be difficult to read and comprehend (Table 1.1). Voluntary RRD practices are vague, qualitative, backward-looking, and ineffective in communicating risks to users (Table 1.2). Regulatory endeavours have failed to remedy the lack of transparency of RRD, particularly in terms of comparability and understandability (Table 1.3). Regulation has not resulted in more extensive levels of disclosure. Nor has it improved the quality of RRD (Table 1.4).

Generally, RRD are value-relevant to investors. But results need further empirical evidence to corroborate theoretical assumptions related to the ability of RRD to reduce the cost of capital (Table 1.5). Commonly, the motivations for RRD are explained by agency theory. Basically, they are related to the ability of RRD to reduce information asymmetries. Corporate governance structures play a crucial role as a monitoring mechanism encouraging RRD (Table 1.6). Other economic theories (such as signalling theories, political costs theory, and proprietary costs theory) can explain the

motivations for RRD too. But, further empirical evidence is needed. Studies of the motivations for RRD based only on social and political theories have reported conflicting results (Table 1.7). Finally, studies combining these two theoretical approaches seem to be able to explain RRD (Table 1.8). These two theoretical dimensions are crucial in obtaining insight, and wider knowledge, about what drives RRD.

Economic theories give a perspective on what managers are trying to avoid (such as agency costs, litigation costs, reputation costs). Social and political theories highlight the relationships between a company and society that are needed to manage strategic resources crucial to the viability of a firm. Thus, study of the holistic interactions between economic and social/political perspectives related to the incentives for RRD is a promising but unexplored field for future research.

The following sections present a reflective and critical discussion of the major findings of existing literature on RRD practices, the relevance of RRD to investors, and the motivations for RRD. At the end of each section some avenues for future research are proposed.

1.2 Inadequacies of Risk Reporting Disclosures Practices

The lack of transparency of risk information is one of the main deficiencies of accounting and accountability reports that have been documented in RRD literature (Cabedo & Tirado, 2004). Solomon *et al.* (2000) concluded that RRD were inadequate; that managers should provide detailed risk information; that information about risk exposure and risk mitigation strategies should be disclosed; and that all types of risks should be disclosed equally. Solomon *et al.* (2000) argued that investors want a clearer identification of the principal risks and uncertainties faced by companies. In similar vein, Linsley and Lawrence (2007) found that RRD were difficult to read (Table 1.1).

These findings seem to be at odds with the presumption that RRD should be disclosed because they are highly relevant; and that they will lower the cost of capital and thereby help a business to prosper (Abraham & Cox, 2007; Dobler, 2008). The deficiencies in RRD have been acknowledged. Regulatory efforts to improve transparency in RRD have been made through Financial Reporting Release [FRR] 48

Table 1.1 – Overall inadequacies of risk reporting disclosures

Study	Sample	Method	Dependent Variable	Main Independent Variables	Main Findings
Solomon *et al*. (2000)	552 institutional investors (97 valid responses)	Questionnaire	Attitudes of UK institutional investors towards risk disclosure	NA	Conceptualization of a framework to report risk information. Risk disclosures were inadequate. Managers should provide detailed information about risk exposures and strategies to mitigate them. All types of risk should be disclosed equally.
Linsley & Lawrence (2007)	25 largest non-financial UK listed companies Period: 2001 Annual reports	Archival	Risk-related disclosures	NA	The level of readability of risk disclosures is difficult or very difficult. No evidence is found to suggest that directors deliberately obfuscate or conceal bad risk news through their writing style.
Magnan & Markarian (2011)	NA	Review	NA	NA	Accounting exhibits shortcomings in its application. It fails to account for uncertainty and to adequately capture, measure and disclose the impact of risk-taking on the financial statements. This undermines the reliability and relevance of financial information.

(*Disclosure of Accounting Policies for Derivatives Financial Instruments and Derivative Commodity Instruments and Disclosure of Quantitative and Qualitative Information about Market Risk Inherent in Derivatives Financial Instruments, Other Financial Instruments and Derivative Commodity Instruments*) issued by US SEC, German Accounting Standard [GAS] 5 (*Risk Reporting*), IFRS 7 and the Basel II Accord. However, these regulatory efforts have been short sighted (at least in terms of RRD) because they are based on a disclosure model that only regards *financial risk* as constituting relevant information (Cabedo & Tirado, 2004). *Non-financial risk* can also have a substantial impact on the future cash flows of a company (see, for example, the operational failures detected at Barings or at Société Generale). Regulatory initiatives have failed to remedy the lack of RRD transparency. The GFC highligted some accounting shortcomings, including failure to account for uncertainty and to adequately communicate the impact of risk-taking, undermining the reliability and relevance of disclosures (Magnan & Markarian, 2011). This suggests that efforts to improve transparency must be supplemented by other means, including voluntary disclosures.

The existing literature on RRD practices can be divided into studies of *voluntary* RRD practices and studies of *mandatory* RRD practices. Empirical evidence shows that under a voluntary regime, if a company discloses risk information it is more likely to have a higher share price than a company that does not disclose. Under a mandatory regime, a company's value is likely to fall because of the disclosure costs incurred (Jorgensen & Kirschenheiter, 2003). Because risk is inherently proprietary in nature, both mandatory and voluntary regimes (and especially the voluntary regime) have the potential to lead to meaningless "boiler plate" RRD (Woods, 2008a).

1.2.1 Voluntary risk-related disclosure practices

The major findings of studies regarding the voluntary RRD practices of companies in the non-finance sector are shown in Table 1.2. In general, a large variation in content and level of detail has been found. Disclosures are often vague, qualitative, backward-looking and of doubtful decision usefulness. There are too few disclosures about the potential impact of exposure to risk, or about risk assessment and risk forecasts. Frequently, the annual report is assessed to be an ineffective medium for communicating risks to readers (Beretta & Bozzolan, 2004; Carlon *et al.*, 2003; Groenland *et al.*, 2006; Konishi & Ali, 2007; Lajili & Zéghal, 2005; Linsley & Shrives, 2003, 2005a, 2006; Mohobbot, 2005; Papa, 2007; Rajab & Handley-Schachler, 2009).

Table 1.2 – Voluntary risk-related disclosure practices

Study	Sample	Method	Dependent Variable	Main Independent Variables	Main Findings
Carlon *et al.* (2003)	54 Australian mining companies Period: 1998 Annual reports	Archival	Risk-related disclosures	NA	Diverse application of risk reporting requirements related to financial instruments. Large variation in content and level of detail of voluntary risk reporting.
Linsley & Shrives (2003)	11 UK and German listed companies Period: 2000 Annual reports	Archival	Risk-related disclosures	Size Leverage Book-to-market value of equity	German and UK companies disclose similar levels of risk information. Positive correlation between risk disclosures and company size. No correlation between risk disclosures and book-to-market values of equity and leverage. There are few quantitative disclosures. The most disclosed category is "non-monetary/future" explanations of the company's general risk management and internal control systems.
Beretta & Bozzolan (2004)	85 Italian listed companies Period: 2001 MD&A sections	Archival and Modelling	Risk-related disclosures	Size Industry	Voluntary risk reporting is mainly qualitative, with few disclosures of interrelations between risk factors and their potential impact. The quantity of risk disclosures depends on size but not on industry.
Lajili & Zéghal (2005)	300 Canadian listed companies Period: 2005 Annual reports	Archival	Risk-related disclosures	NA	Large variation, particularly in voluntary risk reporting. Risk reporting mainly qualitative; few disclosures of risk assessment; few risk forecasts.
Linsley & Shrives (2005a)	79 UK listed companies Period: 2000 Annual reports	Archival	Risk-related disclosures	Size Gearing ratio Beta factor Book-to-market value of equity Quiscore Asset cover ratio Leverage	Most disclosed risk categories were strategic, financial, and integrity risk. Risk reporting was mainly qualitative and forward-looking without explicit details of relevant risks. Forward-looking disclosures were related to descriptions of internal controls. Positive correlation between risk disclosures and size.
Mohobbot (2005)	90 Japanese listed companies Period: 2003 Annual reports	Archival	Risk-related disclosures	Size Profitability Leverage Ownership structure	Large variation in voluntary risk reporting. Risk reporting was mainly qualitative, with few forecasts. Positive correlation between risk reporting and size.

Study	Sample	Method	Dependent Variable	Main Independent Variables	Main Findings
Linsley & Shrives (2006)	79 UK listed companies Period: 2000 Annual reports	Archival	Risk-related disclosures	Size Gearing ratio Beta factor Book-to-market value of equity Quiscore Asset cover ratio Leverage Environmental risk	Risk reporting was mainly qualitative and forward-looking. Positive correlation between size and risk disclosures, financial risk disclosures, and non-financial risk disclosures. Positive correlation between the level of environmental risk and total risk disclosures, total financial risk disclosures, and total non-financial risk disclosures.
Groenland *et al.* (2006)	125 Dutch listed companies Period: 2004 Risk sections	Archival	Risk-related disclosures	NA	Seventy six per cent of sampled companies have a risk section in their annual report. The majority of companies describe risk management and control systems. Risk paragraph consists, on average, of 3 per cent of the annual report. Positive association between mentions of risk management system and return.
Konishi & Ali (2007)	100 Japanese listed companies Period: 2003 Annual reports	Archival	Risk-related disclosures	Size Level of risk Profitability Cross corporate shareholding pattern Ownership structure	Risk reporting varies across industry. Companies are reluctant to quantify risk. They disclose more good news than bad/neutral news. Positive correlation between risk reporting and size.
Papa (2007)	12 Italian listed companies Period: 2000-2005 IPOs prospectuses	Archival	Risk-related disclosures	NA	Manufacturing and Information Technology [IT] companies disclosed similar types of information. Competitor, industry and shareholder risk were the largest proportion of disclosures. High amounts of qualitative information. IT industries disclose more forward-looking information. External risk information was rather vague. Internal risk disclosures concerning human resources were statements of doubtful decision usefulness.
Rajab & Handley-Schachler (2009)	52 UK listed companies Period: 1998/2001/2004 Annual reports	Archival	Non-financial risk disclosures	Size Leverage Industry Listing status	There is an increasing risk disclosure trend in the annual report over the six-year period. Qualitative, non-time and good news risk disclosures dominate. US dual-listing and industry are key drivers of risk disclosure. Size and leverage were not correlated with risk disclosure.

Encouragingly, some studies have found that RRD were basically forward-looking instead of backward-looking (Linsley & Shrives, 2005a, 2006). Although forward-looking disclosures mainly described internal controls, they did not provide explicit details regarding relevant risks. Groenland *et al.* (2006) examined risk sections of annual reports and found that a large amount of narrative content described risk management and control systems. However, in prospectuses for IPOs these risk disclosure statements were inadequate, and had doubtful decision usefulness (Papa, 2007). From a legitimacy perspective, the importance of risk mitigation disclosures should be acknowledged in signalling the adequacy of internal management control mechanisms (Bhimani, 2009). However, such disclosures were assessed to lack decision usefulness and to be "insipid general policy statements" (Linsley & Shrives, 2005a, p. 301) because they only tended to inform readers about the internal control system in place and not about risk management mitigation activities.

1.2.2 Mandatory risk-related disclosure practices

1.2.2.1 An overall assessment

Generally, the major findings of research on mandatory RRD practices (Table 1.3, Panel A) indicate a lack of substantial compliance with regulatory requirements. RRD were usually qualitative and backward-looking. The presentation of risk in annual reports was not standardized and descriptions of RRD were vague and elusive (Combés-Thuélin *et al.*, 2006; Korosec & Horvat, 2005; Linsley *et al.*, 2006; Oliveira *et al.*, 2011a). Disclosures regarding internal risk in non-finance companies lacked transparency with respect to how risk management was organized. In finance companies this type of disclosure was more detailed, despite a tendency to hide information about operational risks (Avram & Skully, 2007; Korosec & Horvat, 2005).

1.2.2.2 Mandatory market risk disclosure practices

Research on RRD practices has tended to concentrate on specific categories of the overall risk construct, such as the market risk associated with financial instruments. These studies have one of two main focuses: either (a) market risk disclosures related to the use of derivatives or financial instruments (Othman & Ameer, 2009; Woods & Marginson, 2004; Yong *et al.*, 2005); or (b) VaR disclosure practices (Hirtle, 2007; Pérignon *et al.*, 2008; Pérignon & Smith, 2010; Woods *et al.*, 2008b).

Table 1.3 – Mandatory risk-related disclosure practices
Panel A – Overall assessment

Study	Sample	Method	Dependent Variable	Main Independent Variables	Main Findings
Korosec & Horvat (2005)	36 largest Slovenian finance/non-finance companies Period: 2003 Annual reports	Archival	Risk-related disclosures	NA	Partial compliance with institutionalised requirements. Disclosure of general definitions of risks were mainly financial ones; little information about how risk management is organised within a company; tendency to hide information about certain risks. The banking sector reports in more detail about risk management activities or about ensuring safety. Disclosure of credit ratings awarded by international rating agencies and reporting of operational risk is neglected.
Combes-Thuélin *et al.* (2006)	3 French listed companies. Period: 2002 Annual reports	Archival	Risk-related disclosures	NA	Lack of harmonization between different companies, between institutional context and company practice. The reporting of risk-related information favours risk management over risk description.
Linsley *et al.* (2006)	18 UK and Canadian banks Period: 2002 Annual reports	Archival	Risk- related disclosures	Size Risk definitions Profitability Leverage	Disclosures are forward-looking, qualitative and neutral. The most frequent risks disclosed are credit risk, capital structure and adequacy risk, and market risk. No statistical difference in the risk disclosure levels of Canadian banks when compared to UK banks. Risk disclosures are correlated positively with size and the number of risk definitions.
Avram & Skully (2007)	11 Australian banks Period: 1998-2003 Annual reports	Archival	Operational risk disclosures	NA	Stable levels of operational risk disclosures from 1998 to 2003. The quality of disclosures also has increased.
Oliveira *et al.* (2011a)	190 PCIs Period: 2006 Annual reports	Archival	Risk-related disclosures	NA	RRD lack comparability. The mis-alignment of quantitatively-based disclosures and related narratives led to problems of relevance, reliability and understandability.

Panel B – Mandatory market risk disclosure practices

Study	Sample	Method	Dependent Variable	Main Independent Variables	Main Findings
Woods & Marginson (2004)	9 UK banks Period: 1999 Annual reports	Archival	Disclosures on derivatives	NA	Significant variation in the scale, content and format of disclosures across UK banks. The reporting practices do not help users to get any sense of the entity's appetite for risk, and level of risk exposure. Information about risk is incomplete, lacks comparability, has limited reliability, and needs to link different disclosures and manipulate numerical data to enhance meaningfulness.
Yong *et al.* (2005)	146 Asian Pacific banks Period: 2002 Annual reports	Archival	Disclosures on derivatives	NA	Quantitative information is considerably lower. Disclosures of liquidity, operational, legal and reputation risks are generic. Fourteen per cent of banks disclose VaR information. Few banks report results of scenario analysis or the impact of rate shocks for traded portfolios. Insufficient information is provided to users to assist their decision making. Detailed information related to internal models is disclosed only by large dealer banks. Most banks disclose the methods used to measure and manage risk, the structure of the credit risk control function, and how performance in managing credit risk is assessed.
Othman & Ameer (2009)	429 Malaysian listed companies Period: 2007 Annual reports	Archival	Market risk disclosures	NA	A large number of firms show compliance with Financial Reporting Standard 132. There are systemic differences in disclosure across firms in terms of levels of details.

Panel C – Mandatory VaR disclosure practices

Study	Sample	Method	Dependent Variable	Main Independent Variables	Main Findings
Hirtle (2007)	24 US holding banks Period: 1994-2004 Federal Reserve's Y-9C reports of balance sheet and income statement	Archival	Market risk disclosures	NA	The most commonly reported data are the holding period and confidence interval of VaR. About 40% of observations included some information about VaR by risk type. Information about backtesting and distribution of returns is reported in 10%-30% of observations. Nearly half the observations indicate that the holding banks does some kind of stress testing, but only less than 5% report the results. Risk reporting increased over time. Increased disclosures are associated with lower future risk. The impact of disclosure on future risks appears to be related to the importance of trading activity within the holding banks, not merely the size of the bank. Increased disclosure is positively related to future events.
Woods *et al.* (2008b)	6 of the world's top 25 banks Period: 2000-2002 Annual reports	Archival	VaR disclosures	NA	VaR information is not comparable across banks because the holding periods and confidence levels differ. Banks also vary in the type of portfolio for which they report VaR information. This information is very difficult to audit.
Pérignon *et al.* (2008)	6 Canadian banks Period: 1999-2005 Annual reports	Archival	VaR disclosures	NA	Commercial banks exhibit a systematic excess of conservatism when setting their VaR. VaR overestimation arises when banks aggregate VaR estimates across business lines and/or risk categories without properly accounting for diversification effects.
Pérignon & Smith (2010)	60 US, Canadian and international banks Period: 2005 Annual reports	Archival	VaR disclosures	NA	Historical simulation is the most popular VaR method in the world. There is a pervasive and persistent overstatement of the VaR. Backtesting results suggest that the quality of VaR disclosures has remained low over the sample period. VaR computed using historical simulation contains very little information about future volatility.

Panel D – Mandatory credit risk and liquidity risk disclosure practices

Study	Sample	Method	Dependent Variable	Main Independent Variables	Main Findings
Khambata & Hirche (2002)	20 European banks Period: 2000 Annual reports	Archival	OBS instruments	NA	Loan commitments are the largest source of credit risk among traditional OBS instruments. The notional amounts of derivative activities make up approximately 95% of the total OBS exposure. There are national differences in the use of derivative leverage. Compared to US banks, European banks use fewer OBS activities. OBS reporting varies widely and is less comparable than US activities.
Khambata & Badji (2003)	20 Japanese banks Period: 2002 Annual reports	Archival	OBS instruments	NA	Financial instruments are heavily used by top four banks. Loan commitments are the largest source of credit risk among traditional OBS instruments. There is a wide difference across the banks in the use of derivative leverage. Compared to US and European banks, Japanese banks use fewer OBS instruments. Japanese banks are more conservative and risk-averse than their US and European counterparts.
Frolov (2006)	All Japanese commercial banks, credit associations, and cooperatives Period: 2002 Annual reports	Archival	Credit risk disclosures	NA	Disclosures are limited to the amount of credit exposures and do not indicate credit losses from different exposure types. Available data on expected credit losses and risk mitigation are far from uniform and provide mostly indirect measurement. Less than 20% of banks provide estimates of future provisioning to the general loss allowance. None of the disclosing banks makes public the specific assumptions used to develop their estimates. Banks disclose no information about the degree to which non-impaired exposures are secured with collateral and guarantees.
Boussanni *et al.* (2007)	21 European banks Period: 2004 Annual reports	Archival	Liquidity risk disclosures	NA	Wide disparity in the level and extent of liquidity risk. Qualitative disclosures were higher than quantitative ones. Financial groups that have earned a relatively high credit rating category were also the institutions that made the most complete and extensive financial disclosures (both qualitative and quantitative) of liquidity risk management matters.

Table 1.3 (Panel B) indicates that market risk disclosures associated with derivatives vary widely in scale, content and format. Disclosures are basically qualitative and generic, with little information provided about the internal controls that have been established to mitigate risks, and little discussion about how risk arose and was being managed. There is also little information provided about VaR disclosure or about the results of stress tests or backtests for VaR. Statements about the assumptions and parameters of VaR and sensitivity analysis are incomplete. Only larger banks provided detailed information about the internal models they used to assess risk (Woods & Marginson, 2004; Yong *et al.*, 2005). Taken together, these deficiencies undermine the comparability and reliability of disclosures and militate against the capacity of readers to assess a firm's risk profile appropriately (Othman & Ameer, 2009; Woods & Marginson, 2004; Yong *et al.*, 2005).

Table 1.3 (Panel C) corroborates the lack of transparency found in previous studies of market risk disclosures related to VaR information. There are few disclosures about backtesting and stress testing. Disclosures of the assumptions, parameters and limitations of the VaR model are incomplete and inadequate (Hirtle, 2007). The method used most often to assess VaR was that of historical simulation based on past events. Thus, very little information emerged about future volatility (Pérignon & Smith, 2010). Moreover, these disclosures are very difficult to audit (Woods *et al.*, 2008b). The deficiencies highlighted severely affect levels of comparability, reliability and understandability of the information provided.

A systematic overestimation of VaR disclosures by commercial banks has been reported (Pérignon *et al.*, 2008; Pérignon & Smith, 2010). This finding contradicts the idea that banks would underestimate VaR to reduce their market risk capital charges. But several explanations for the overestimation of VaR are plausible. First, the VaR aggregation process has an inherent potential to overestimate VaR. Second, companies have incentives to manage their potential reputation risk: for example, by intentionally overstating risk to distract internal and external attention (Pérignon & Smith, 2010).

1.2.2.3 Mandatory credit risk and liquidity risk disclosure practices

The few studies of disclosure practices for credit risk and liquidity risk are summarised in Table 1.3 (Panel D). In terms of credit risk disclosures, finance companies have provided a large flow of uniform information that is assessed to be generally sufficient for market participants. However, some transparency deficiencies were found. Forward

looking disclosures were scarce. Credit risk disclosures were limited to the amount of credit risk exposures. Data on expected credit losses and risk mitigation were not uniform and failed to provide direct measurements. There was a general absence of disclosures about the assumptions used to estimate future provisioning to the general loss allowance (Frolov, 2006).

One of the largest sources of credit risk exposures (OBS instruments related to loan commitments) is under-researched. The few existing studies document a wide variety of reporting practices by European, US and Japanese banks (Khambata & Hirche, 2002; Khambata & Badji, 2003).

Liquidity risk disclosures were basically qualitative, wide ranging, and incomplete. They dealt mainly with the risk management structure and were accompanied by explanatory comments on liquidity risk management practices and aspects of contingency planning (Boussanni *et al.*, 2007).

1.2.3 Impact of the adoption of risk-based regulations

Table 1.4 (Panel A) shows that no single set of accounting regulations results in more extensive levels of disclosure and in an improved quality of RRD (Woods *et al.*, 2008b). Other studies suggest that the adoption of risk-based regulation throughout the World has not had a strong impact on quality.

Table 1.4 (Panel B) documents how FRR 48 in the US affected the extent of market risk disclosures, and that companies generally complied with qualitative disclosure requirements (Blankley *et al.*, 2002). However, several deficiencies were detected. The quality and location of disclosures were less than satisfactory. There was little detailed discussion of accounting policies for derivatives or of risk management structure and activities. Furthermore, VaR disclosures lacked comparability and reliability because of insufficient discussion of the methods, assumptions and parameters used; and the quantitative information disclosed lacked detail, influencing risk assessments (Elmy *et al.*, 1998; Hodder *et al.*, 2001; Roulstone, 1999).

Before the adoption of risk regulation (such GAS 5, in Germany) there was a large variation in risk reporting (Table 1.4, Panel C). After the adoption of GAS 5 the level of RRD increased, but with low levels of compliance (Bungartz, 2003; Fisher & Wielmeyer, 2004; Kajüter & Winkler, 2003; Woods & Reber, 2003).

Table 1.4 (Panel D) shows that the adoption of IAS/IFRS (and more specifically the adoption of IFRS 7) only affected the quantity of RRD by banks (Bischof, 2009;

Table 1.4 – Impact of the adoption of risk-based regulations
Panel A – Accounting harmonization of market risk disclosure practices

Study	Sample	Method	Dependent Variable	Main Independent Variables	Main Findings
Woods *et al.* (2008a)	World's top 25 banks Period: 2000-2006 Annual reports	Archival	Market risk disclosures	Size	Market risk disclosures have increased over time, but they are not correlated with size. It is not possible to generalize that any single set of accounting regulations results in more extensive levels of market risk reporting. French, Italian and Spanish banks have generally low levels of disclosure and high disparities between different banks' disclosure practices. North American banks have a clearly rising trend in the mean disclosure score, but a persistent and considerable degree of disparity in disclosure practices. UK banks have high levels of disclosure, slightly higher than the average disclosure level for North American banks, but with a much lower level of disparity. German, Dutch and Swiss banks are similar to the UK banks.

Panel B – Impact of FRR 48 in market risk disclosures practices

Study	Sample	Method	Dependent Variable	Main Independent Variables	Main Findings
Elmy *et al.* (1998)	33 domestic non-bank SEC registrants Period: 1997 10-K filings	Archival	Market risk disclosures	NA	The quality of the quantitative and qualitative disclosures was less than satisfactory.
Roulstone (1999)	25 SEC registrants Period: 1996-1997 10-K filings	Archival	Market risk disclosures	NA	The adoption of FRR 48 improved disclosures. But disclosures varied widely in detail and clarity. Only half of the sample provided details and limitations of their risk measurement models and disclosures. Tabular format was the least popular. Sensitivity analysis was the most popular.
Hodder *et al.* (2001)	---	Normative	Market risk disclosures	NA	FRR 48 causes judgment difficulties due to lack of comparable information and detailed quantitative information.
Blankley *et al.* (2002)	30 US listed companies Period: 1997 Annual reports	Archival	Market risk disclosures	NA	The disclosure requirements of the FRR 48 related to qualitative information about market risk were generally followed by all DOW 30 companies. Compliance with the other aspects of FRR 48 was mixed.

Panel C – Impact of GAS 5 in risk-related disclosure practices

Study	Sample	Method	Dependent Variable	Main Independent Variables	Main Findings
Woods & Reber (2003)	12 UK and German companies Period: 1999 Annual reports	Archival	Risk-related disclosures	NA	GAS 5 had a positive effect on risk reporting. The overall level of risk disclosure was higher in the UK than in Germany. UK companies disclosed more financial risks, but German companies provide more detailed operational risk disclosures.
Bungartz (2003)	117 German listed companies Period: 2000 Management reports	Archival	Risk-related disclosures	NA	There was a large variation in mandatory risk reporting before the implementation of GAS 5. Risk reports were mainly qualitative, with poor disclosures or interrelations of risk factors, and few forecasts.
Kajüter & Winkler (2003)	82 German listed companies Period: 1999-2001 Management reports	Archival	Risk-related disclosures	NA	There was a large variation in mandatory risk reporting. Risk reports were mainly qualitative, with poor disclosures on risk assessment of risk factors, and few risk forecasts. Increasing quantity of risk disclosures over time, but non-compliance with GAS 5 requirements.
Fisher & Vielmeyer (2004)	86 German listed companies Period: 1999-2002 Management reports	Archival	Risk-related disclosures	NA	Consistent with Kajüter and Winkler (2003) there was a significant increase in the quantity of risk disclosures over time, particularly after the establishment of GAS 5. Still substantial non-compliance with GAS 5 requirements.

Panel D – Impact of IAS/IFRS in risk-related disclosure practices

Study	Sample	Method	Dependent Variable	Main Independent Variables	Main Findings
PWC (2006)	20 European and South African banks Period: 2005 Annual reports	Archival	Risk-related disclosures	NA	The adoption of IFRS did not have a significant impact on the disclosure of risk management activities. The slight increase in disclosure was in qualitative disclosures.
PWC (2008)	22 global banks Period: 2007 Annual reports	Archival	Financial risk disclosures	NA	IFRS 7 did not improve the transparency of risk management disclosures. Banks did not present a comprehensive and clear picture of how they manage risk, but instead complied only with IFRS 7 minimum disclosure requirements. Where information was disclosed, it was often not easily accessible or usable. The location of disclosures was inconsistent, making it difficult for readers to find and compare information between peers. Credit risks were concentrated by product type, industry and geographical region. Time bands in ageing analysis varied. There was no detailed description of associated collaterals. Market risk assumptions for sensitivity analysis were not disclosed in detail. The information was not meaningful or relevant. Discussion of liquidity risk management practices was generic. There was no specific commentary on how liquidity risk was managed to accompany the quantitative information presented in the liquidity table. Sensitivity analysis was needed.
Ernst & Young (2008a)	24 largest European banks Period: 2007 Annual reports	Archival	Financial risk disclosures	NA	Market risk information was presented in a variety of different ways, using different assumptions, this hinders comparability. Fifteen banks provided a graphical disclosure of their "backtesting" of VaR. Banks currently use a wide range of assumptions for their non-VaR sensitivity analysis, varying from 100bvp to 200 bvp.
KPMG (2008)	17 largest European banks Period: 2006-2007 Annual reports	Archival	Risk-related disclosures	NA	All banks provide good information on credit quality and liquidity risk. Only one third voluntarily disclosed liquidity information about their financial assets and their financial liabilities. Disclosures under IFRS 7 are located in different sections of the annual report. Some banks appeared to comply only with the letter of the standards. There were some differences in quality.

					Almost all banks disclosed information about their credit risk exposure and credit rating structure. The majority of banks disclosed information on their past due assets using homogeneous time bands, but the presentation varied significantly. Market risk: all banks disclosed VaR. But disclosures were incomparable due to the heterogeneity of parameters used. Liquidity risk: qualitative information provided by all banks concentrated on general liquidity management and measurement. Banks used 23 different time bands. Capital structure and adequacy: five banks disclosed the impact on their capital ratio of switching from Basel I to Basel II.
KPMG (2009)	16 largest European banks Period: 2008 Annual reports	Archival	Risk related disclosures	NA	Credit risk: all banks disclosed information on their credit rating structure. Five banks provided full disclosure of the fair value of collateral held against past due or impaired assets. Most banks provided data on their exposure to credit risk. Concentration of risk was provided according to industrial sector and geographical sector. The majority of the banks disclosed information on their past due assets, but the presentation varied significantly. Market risk: all banks disclosed VaR, although different assumptions and parameters were used. Banks disclosed market risk sensitivities in a variety of ways. Fifteen banks also provided market risk sensitivity disclosure in addition to VaR. Liquidity risk: qualitative information was provided by all banks and focused on general liquidity management and measurement. Banks used 25 different time bands. Capital structure and adequacy: this generally focused on disclosures made to comply with IAS 1 requirements.
Bischof (2009)	153 European commercial banks Period: 2006-2007 Risk sections	Archival	Risk-related disclosures	NA	Risk disclosure quality and quantity increased after the adoption of IFRS 7. In 2006 (2007), 28% (73%) of European banks voluntarily disclosed the internal and external ratings of their customers. In 2006 (2007), 8% (64%) of European banks disclosed information about the age of unimpaired past due financial assets. Approximately 27% of banks withhold information about customer ratings, and 36% did not provide information about loans in arrears. VaR and sensitivity analysis varied considerably: 30% report sensitivities; 24% report VaR; and 37% report both measures.

PriceWaterhouseCoopers, 2006, 2008). But, "the publication of additional risk information will not necessarily lead to improved risk communication unless directors" improve the quality of RRD (Linsley & Lawrence, 2007, p. 625). The quality of RRD did not improve. Banks did not present a clear picture of their risk profile. They only complied with minimum disclosure requirements. Disclosures were scattered throughout the annual reports and were difficult to compare (KPMG, 2008, 2009; PriceWaterhouseCoopers, 2008). Interestingly, the following deficiencies found before the adoption of these standards continued to persist: different time bands for maturing and aged past due assets; lack of comparability and reliability of VaR and sensitivity analysis disclosures; and a lack of transparency in liquidity risk disclosures (Bischof, 2009; KPMG, 2008, 2009; Ernst & Young, 2008a; PriceWaterhouseCoopers, 2008).

1.2.4 Discussion and avenues for future research

International harmonization (at least in terms of RRD) remains more apparent than real. For example, IFRS 7 (considered a high quality standard) has not remedied the lack of transparency detected in preceding studies. IFRS 7 only deals with financial risks and has not prescribed any specific presentation format for financial instruments (Bischof, 2009; Ernst & Young, 2008a; PriceWaterhouseCoopers, 2008b).

The Basel II Accord disclosure requirements had the potential to overcome this diversity, but their flexibility in permitting the non-disclosure of risk information that is deemed confidential or commercially sensitive has not been conducive to enhanced transparency. Managers can choose to disclose only selected information and to withhold other information to enhance their standing or to hide managerial deficiencies.

Consequently, the improvement of risk-based regulation does not lead to an axiomatic improvement in the quality of RRD. A specific enforcement mechanism is needed to help assure appropriate levels of compliance with minimum disclosure requirements or to encourage useful voluntary RRD to investors (Bischof, 2009; Oliveira *et al.*, 2011a). There is a crucial role to be played by self-enforcement mechanisms related to corporate governance structures (such as audit committees, independent non-executive directors) and institutional supervisors and regulators. Perhaps cognizant of this, the European Parliament and Council issued Directive 2006/46/EC which reinforces corporate governance structures; and in 2010, the EU published a Green Paper on *Corporate Governance in Financial Institutions and*

Remuneration Policies, encouraging a risk management culture and the institution of risk-related functions.

Research studies on RRD practices report on disclosure practices before the adoption of IFRS 7 (with an exception of studies for finance companies). The adoption of GAS 5 in Germany has contributed to the introduction of mandatory RRD requirements in the Modernisation Directive (Directive 2003/51/EC) and in the Transparency Directive (Directive 2004/109/EC). These Directives required extra RRD related to financial risks exposures, financial risk management activities, and the main risks and uncertainties faced by companies. However, no study has analysed the impact of such requirements on the extent of risk information disclosed by European companies. More recently, the IASB has issued an IFRS Practice Statement (*Management Commentary: a Framework for Presentation*) that includes recommendations for the improvement of RRD. A wave of research studies focusing on the impact of EU risk-based regulations, IFRS 7 adoption, and the IFRS Practice Statement about Management Commentary on the RRD practices in non-finance and finance companies seems likely. Several financial reforms in the aftermath of the GFC of 2008/09 prompted amendments to some important risk-based regulations (IFRS 7 and Basel II Accord). A further wave of research seems likely to focus on analysing the impact of the GFC on RRD, and on the feasibility of the financial reforms taken by the G20.

Much of the focus of prior literature has been on large listed non-finance companies and banks. However, thousands of smaller non-finance companies have to comply with risk-based regulations too. These smaller companies have fewer financial resources with which to do so, and have significant challenges in continuing to attract qualified expertise and investors. Moreover, another under-researched sector that was affected intensely by the GFC is the insurance company sector. Research in these two areas may produce new insights beyond those revealed to date.

Prior research has tended to focus on risk information that is included in annual reports. It would seem sensible to explore other sources of risk information (such 10-K and 10-Q fillings, interim reports, press-releases, web sites). Questionnaires and interviews could be very beneficial in helping to understand the motivation for risk disclosures. In the case of finance companies, prior research has had a user-oriented focus on a content analysis of annual reports. Until now no study has devoted attention to preparers' perceptions of risk reporting − on how preparers communicate risk

exposures, what strategies they implement to mitigate them, and why they report the way they do. Directors need to be asked about the risks they are facing currently, or have faced, and how they decided to construct their company's risk narrative. This would help to overcome the lack of knowledge of managers' reactions to changes in a bank's condition due to market monitoring by stakeholders (Bliss & Flannery, 2002; Flannery, 2001). It would also help to assess managers' perceptions of the effectiveness of the G20 financial reforms.

1.3 How Informative is Risk Reporting?

Investors know that creating value requires risk taking. They like to know which risks companies are facing and how these risks are (or will be) managed (Eccles *et al.*, 2001). Risk reporting has the potential to convey useful information to markets and to enhance stakeholders understanding of firms' risk exposures (Linsmeier *et al.*, 2002). As a result, there is a strong demand for transparent risk reporting in annual reports. Such reporting will help investors assess firms' risk profiles and to make investment decisions.

Existing literature on the informativeness of RRD reflects two streams of research: one dealing with the value relevance of RRD; and the other dealing with the quality of RRD. The value relevance of RRD indicates the type of risks investors consider to be the most important for decision making purposes. Research on the quality of RRD indicates the feasibility of the strategies taken by managers in communicating risk information.

1.3.1 The value relevance of risk-related disclosures

Research on the value relevance of RRD can be classified according to focus as: (a) RRD in IPOs (Deumes, 2008; Murugesu & Santhapparaj, 2010); (b) risk management ability (Poshakwale & Courtis, 2005; Sensarma & Jayadev, 2009); or (c) market risk disclosures (Ahmed *et al.*, 2004; Chipalkatti & Datar, 2006; Jorion, 2002; Lin *et al.*, 2010; Linsmeier *et al.*, 2002).

Table 1.5 (Panel A) indicates the relevance of risk reporting in IPOs. RRD predict the volatility of future stock prices, the sensitivity of future stock prices to market-wide fluctuations, and the likelihood of severe declines in stock price in the 30-

Table 1.5 – The value relevance of risk-related disclosures
Panel A – Risk-related disclosures in IPOs

Study	Sample	Method	Dependent Variable	Main Findings
Deumes (2008)	90 Dutch listed companies Period: 1997-2000 IPOs prospectuses	Archival	Risk-related disclosures	Management mostly assigns the label "risk" to a multitude of factors (either internal or external) that can adversely affect future firm performance, future operating results, and stock price volatility. Risk disclosure index predicts future total risk return (volatility of future stock risks); future systemic risk (sensitivity of future stock prices to market-wide fluctuations); and the likelihood of severe declines in stock price in the 30-month period after the publication of the prospectus.
Murugesu & Santhapparaj (2010)	210 Malaysian listed companies Period: 1999-2004 IPOs prospectuses	Archival	2 Risk indicators: - Issue premium - Initial market returns/share	Prospectuses provide risk information that reflects offer price and initial market returns. Results are consistent with underpricing theories and signalling theory.

Panel B – Disclosures about risk management abilities

Study	Sample	Method	Dependent Variable	Main Findings
Poshkwale & Courtis (2005)	73 European and non-European banks Period: 1995-1999 Bankscope database	Archival	Voluntary disclosure, and in particular, voluntary disclosure about risk management practices	Higher disclosure levels are associated with a reduction in cost of equity capital. Disclosures about risk management practices seem to mostly influence the reduction in the cost of equity capital.
Sensarma & Jayadev (2009)	62 public and private Indian banks Period: 1999-2006 Capitaline database	Archival	Risk management performance assessed by the disaggregation of Return on Equity ratio	Banks with better risk management practices reward shareholders with enhanced wealth. Shareholders prefer to buy shares of banks that are perceived to have superior risk management capabilities. Risk management is an important determinant of stock returns of banks, over and above standard factors such as market returns and earnings growth.

Panel C – Market risk disclosures

Study	Sample	Method	Dependent Variable	Main Findings
Jorion (2002)	8 US banks Period: 1995-1999 Quaterly and annual reports	Archival	VaR disclosures	VaR disclosures predict the variability of trading revenues. Thus, analysts and investors can use VaR disclosures to compare the risk profiles of banks' trading portfolios.
Linsmeier *et al.* (2002)	378 US listed companies Period: 1997-1998 10-K fillings	Archival	Market risk disclosures	FRR 48 market risk disclosure requirements are useful to investors. VaR disclosures are negatively associated with trading volume, sensitivity to changes in interest rates, foreign currency exchanges rates, and energy prices.
Ahmed *et al.* (2004)	All commercial banks that filled a Report of Condition and Income with the Federal Reserve Period: 1990-1997	Archival	Interest rate maturity gaps disclosures	One-year maturity gap measures are significantly related to the one-year and three-years-ahead change in net interest income. Fixed-rate and variable-rate instruments differ in explanatory ability. The one-to-five-year aggregate gap measures also have some power in explaining three-year-ahead changes in net interest income. A simple disclosure of maturity gap is highly associated with future changes in net interest income.
Chipalkatti & Datar (2006)	13 US banks Period: 1994-2004 Annual reports	Archival	VaR disclosures	VaR disclosures are costly to prepare and complex to interpret. There are no benefits of VaR disclosures to bank investors. VaR disclosures do not provide useful information to average investors at the time of a banking crisis, and will not help moderate panic reactions by investors in such times.
Lin *et al.* (2010)	3,018 companies included in the S&P1,500 Period: 2002-2004 10-K fillings	Archival	Market risk disclosures	Firms using VaR have higher total risk and firm-specific risk than firms using sensitivity analysis. Conversely, firms employing tabular disclosure generally have lower (but not statistically significant lower) total risk, cost of equity, and firm specific risk, than firms using sensitivity analysis.

month period after publication of prospectuses (Deumes, 2008). Additionally, RRD in IPOs reflects offer price and initial returns (Murugesu & Santhapparaj, 2010).

Table 1.5 (Panel B) shows that disclosure of risk management practices can reduce the cost of capital. Investors prefer to buy shares of finance firms that are perceived to have superior risk management capabilities. This is because better risk management abilities are associated positively with stock returns (Poshakwale & Courtis, 2005; Sensarma & Jayadev, 2009).

Table 1.5 (Panel C) shows that market risk disclosures (such as interest rate maturity gap and VaR) are also value-relevant. Interest rate maturity gap disclosures are highly associated with future changes in net interest income (Ahmed *et al.*, 2004). VaR disclosures are associated negatively with the sensitivity of trading volume to changes in interest rates, foreign currency exchanges rates, and energy prices (Linsmeier *et al.*, 2002). VaR is also associated with total risk and firms' specific risk, when compared to other kinds of market risk disclosures (such as those involving tables and sensitivity analysis) (Lin *et al.*, 2010). VaR can predict the variability of trading revenues, allowing investors to compare different risk profiles (Jorion, 2002). However, if VaR and other methods (tabular or sensitivity analysis) are disclosed together, these disclosures are also associated positively with the cost of capital (Lin *et al.*, 2010). This conclusion is at odds with theoretical assumptions that one of the major benefits of RRD is to reduce the cost of capital. It also contradicts results reported by Poshakwale and Courtis (2005).

However, other authors have found that market risk disclosures related to VaR did not benefit investors. Such disclosures are costly to prepare and complex to interpret; and they do not provide useful information to investors at the time of a banking crisis (Chipalkatti & Datar, 2006). These findings are intriguing. They conflict with previous findings (Jorion, 2002; Lin *et al.*, 2010); but they are consistent with what happened in the recent CFC: investors could not rely on VaR values to assess the risk profiles of firms.

1.3.2 Quality of risk-related disclosures

Considering a risk disclosure item as being value-relevant to investors does not mean that the way managers disclosed that information would be useful to investors in assessing the risk profile of an entity appropriately. Most value relevance studies are based on the quantity of disclosure. But quantity should not be used as a proxy for quality of information (Botosan, 2004).

The quality of disclosures has proven difficult to assess. Some studies have assessed quality using disclosure attributes such as monetary/non-monetary, past/future, good/bad/neutral news (Linsley & Shrives, 2005a, 2006; Beretta & Bozzolan, 2004; Mohobbot, 2005; Konishi & Ali, 2007). Some authors believe that these attributes indicate the quality of disclosures (Gray *et al.*, 1995). Monetary and forward-looking risk disclosures are claimed to be more useful than non-monetary risk disclosures, but they are highly sensitive to proprietary and litigation costs. Bad news needs to be disclosed to improve the credibility of the annual report (Linsley & Shrives, 2006; Linsley *et al.*, 2006).

Beretta and Bozzolan (2004) assessed the quality of RRD by proposing a framework for risk communication that is based on two assumptions: quantity of content and richness of content. However, a framework underpinned by quantity seems unlikely to provide a good proxy for the quality of disclosures, for several reasons. Quantity measures (such as the number or proportion of pages, number of words, and number of sentences) give an idea of the importance of a topic, but are affected by margins, page size and font size. Number of words is tabulated easily but is affected by different styles of writing. Sentences are identifiable easily, are less subject to inter-judge variations, and are more suitable in inferring meanings, despite not providing "an overall appreciation of the scale and patterns of disclosures". Indexing methods can overcome this difficulty (Haniffa & Cooke, 2005; Woods *et al.*, 2008a, p. 14). Second, prior descriptive studies about RRD practices reveal that RRD has different levels of usefulness (Beretta & Bozzolan, 2004; Carlon *et al.*, 2003; Konishi & Ali, 2007; Lajili & Zéghal, 2005; Linsley & Shrives, 2005a, 2006; Linsley *et al.*, 2006; Mohobbot, 2005; Papa, 2007). Disclosing a huge amount of risk information does not mean that the information disclosed is useful to readers. According to Botosan (2004), the quality of risk information should be assessed by recourse to the four desired qualitative characteristics of financial information: understandability, relevance, reliability, and comparability. Oliveira *et al.* (2011a) used this approach to assess the quality of risk reporting.

1.3.3 Discussion and avenues for future research

From a financial communication perspective, RRD in IPOs has been regarded as an area of best practice risk communication (Deumes 2008). However, in terms of internal controls and risk management disclosures, RRD in IPOs cannot be considered a good

benchmark (Hill & Short, 2009). In addition, because RRD reflects IPO offer prices and initial market returns, it is important to know what kind of risk information is potentially useful to users, the different strategies of risk communication used by managers, and their different impact on offer prices and initial market returns. These two aspects of RRD in IPOs are promising but unexplored avenues for future research.

From a shareholder perspective, RRD in IPOs must reflect the effectiveness of risk management systems and internal controls in dealing with risk (Murugesu & Santhapparaj, 2010). This is understandable in view of the findings of Poshakwale and Courtis (2005) that disclosures of risk management practices are most influential in reducing the cost of capital; and that better risk management abilities are associated positively with stock returns (Sensarma & Jayadev, 2009). However, these results are also confounding in view of previous literature indicating that risk management disclosure practices lack decision usefulness (Linsley & Shrives, 2005a, 2006; Linsley *et al.*, 2006).

Although VaR disclosures are value-relevant to investors, previous literature has indicated that they lack transparency. VaR disclosure deficiencies undermine their comparability, understandability and reliability (Elmy *et al.*, 1998; Hirtle, 2007; Hodder *et al.*, 2001; Pérignon *et al.*, 2008; Pérignon & Smith 2010; Roulstone, 1999; Woods *et al.*, 2008b).

Efforts by regulators to improve risk-based disclosures (e.g., European Directives 2001/65/EC, 2003/51/EC, 2004/109/EC, and 2006/46/EC; IFRS 7; and the recent IFRS Practice Statement (*Management Commentary: a Framework for Presentation*)) have encouraged extra RRD related to financial risk management activities. Nonetheless, if an item disclosed is value-relevant but the disclosure lacks quality, the question that emerges is: "can investors trust in these value-relevant disclosures?"

A major issue is that the value relevance literature about risk reporting only focuses on assessing whether a particular item is disclosed or not; and whether the monetary value of a risk disclosure is value-relevant to investors. This might explain why Lin *et al.* (2010) found a positive association between VaR disclosures and cost of capital. VaR is just a "number as opposed to detailing [company's] position" (Lin *et al.*, 2010, p. 36). Thus, there is a potential fruitfulness of examining the link between the usefulness of RRD (as assessed by the characteristics of relevance, reliability,

understandability and comparability) and their value relevance to investors. This would assist regulators in further endeavours to improve regulation.

1.4 What Drives Risk Reporting Disclosures?

Different strands of theory have been proposed to explain why companies disclose risk information (Linsley & Shrives, 2000). These strands contemplate two theoretical approaches that have guided existing research: an economic theory approach; and a social and political theory approach. However, there has been a tendency to combine these two theoretical approaches.

Economic theory approaches rely on positive accounting theory, which is based on the self-interest and profit maximization of economic agents. Under this approach, the theoretical frameworks used commonly to explain motivations for RRD are agency theory, political costs theory, signalling theory, and proprietary costs theory.

The social and political theory approach argues that to obtain insights to the motivations for RRD, it is necessary to consider the political and social relationships between company and society. Knowledge of such relationships is crucial to understanding what influences managers to adopt specific disclosure strategies to communicate risk information. Under this approach, the theoretical frameworks used more often to examine the determinants for RRD are stakeholder theory and legitimacy theory.

1.4.1 Economic theory approach

Companies that disclose RRD are expected to have higher information asymmetries. In addition, stronger corporate governance structures are expected to be associated with risk reporting. Table 1.6 shows that research drawing on economic theories can be divided into studies about the motivations for RRD (Abraham & Cox, 2007; Hill & Short, 2009; Kajüter, 2006); risk management and internal control disclosures (Deumes & Knechel, 2008; Haron *et al.*, 2010; Kajüter & Barth, 2007; Lajili, 2007;); financial risk management disclosures (Dunne *et al.*, 2010; Taylor *et al.*, 2010); and operational risk disclosures (Helbok & Wagner, 2006).

Table 1.6 (Panel A) indicates that larger and riskier listed companies, with more diffuse ownership structures, and with a greater number of independent non-executive directors, are more prone to report RRD in annual reports (Abraham &

Table 1.6 – Economic theory studies about the motivations for risk-related disclosures
Panel A – Risk-related disclosures

Study	Sample	Method	Theoretical framework	Dependent Variable	Main Independent Variables	Main Findings
Kajüter (2006)	80 German listed companies Period: 1999-2003 Management reports	Archival	Agency Political costs Proprietary costs	Risk-related disclosures	Ownership structure Size Industry	Risk management reporting has increased. There is a positive and significant association between risk disclosures and size and ownership structure, but weak evidence of industry differences in risk reporting. More external risks are disclosed than internal risks. There is statistical evidence that disclosures of risk increased over the period.
Abraham & Cox (2007)	71 UK listed companies Period: 2002 Annual reports	Archival	Agency	Risk-related disclosures	Independent non-executive directors Ownership structure Size Level of risk Leverage Industry	Only 40% of sample firms publish information about business risk. Limited variation in firms' reporting of internal control. Size, risk and independent non-executive directors were associated positively with risk reporting. Long-term investors were associated negatively with risk reporting.
Hill & Short (2009)	420 UK listed companies Period: 1991-2003 IPO's risk sections	Archival	NA	Risk-related disclosures	Managerial ownership Age of the company Ownership structure Leverage Industry	High proportion of forward-looking information. Low proportion of information on internal controls and risk management. Disclosure has increased across time. Managerial ownership is associated negatively with risk disclosure. Risk disclosure is not preferred by all firms as a means of reducing information asymmetry.

Panel B – Risk management and internal control disclosures

Study	Sample	Method	Theoretical framework	Dependent Variable	Main Independent Variables	Main Findings
Lajili (2007)	225 Canadian listed companies Period: 2002 Annual reports	Archival	Agency	Risk management disclosures	Independent non-executive directors CEO compensation schemes Controlling vote ownership structure Size	Canadian public companies are more likely to disclose information if their boards of directors are more independent and if their CEOs have relatively higher incentive compensation. Positive association between risk management reporting and size. Negative association between risk management reporting and the degree of controlling vote ownership structures.
Kajüter & Barth (2007)	92 German listed companies Period: 2005 Management reports	Archival	Agency Political costs Signalling	Managerial control systems disclosures and internal KPIs	Size Industry Profitability	Reporting practices vary significantly. Differences can be explained by size and industry.
Deumes & Knechel (2008)	192 Dutch listed companies Period: 1997-1999 Annual reports	Archival	Agency	Internal control disclosures	Managerial ownership Ownership structure Leverage Size Foreign operations Sales growth Listing status Outside directors Industry Auditor type	Low levels of disclosure did not significantly change over the three-year period. Ownership concentration and managerial ownership are associated negatively with disclosure. Leverage, size, foreign operations, sales growth, cross listing and outside directors are associated positively with disclosure.
Haron *et al.* (2010)	121 Malaysian listed companies Period: 2005 Annual reports	Archival Questionnaire Interviews	NA	Internal control disclosures	Profitability	Well performing companies disclose their internal control reports voluntarily. There is a high level of risk management among those who have mandatory internal control disclosures. These companies conduct frequent audit committee meetings due to pressure from external auditors.

Panel C – Financial risk management disclosures

Study	Sample	Method	Theoretical framework	Dependent Variable	Main Independent Variables	Main Findings
Taylor *et al.* (2010)	111 Australian extractive industries companies Period: 2002-2006 Annual reports	Archival	NA	Financial risk management categories	Corporate governance strength Capital raising events Size Leverage Overseas listings Profitability Ownership structure Auditor type Book-value of tangible fixed assets Quality advisors	Financial risk management reporting increased in the first year of use of IFRS in annual report. Positive association between the strength of corporate governance structure and financial risk management disclosure over the period. Positive association between financial risk management disclosures and a capital raising event. Firms with multiple exchange listings are characterised by less extensive financial risk management disclosures. Firm size and leverage are positive predictors of financial risk management disclosure.
Dunne *et al.* (2010)	209 UK listed companies Period: 1999 Annual reports	Archival	Proprietary costs Signalling	Disclosures on derivatives	Reputation costs Proprietary costs Financial situation of the company	Reputational and financial factors seem to be the most important reasons why companies disclose more Financial Reporting Standard 13 information. Proprietary costs argument is not well supported.

Panel D – Operational risk disclosures

Study	Sample	Method	Theoretical Framework	Dependent Variable	Main Independent Variables	Main Findings
Helbok & Wagner (2006)	141 US, Asian and European banks Period: 1998-2001 Annual reports	Archival	Agency Signalling Political costs	Operational risk disclosures	Equity to assets ratio Profitability	Operational risk disclosures have increased over time. Banks with lower equity to assets ratio and lower profitability give greater importance to disclosing their assessment and management of operational risks. Those with higher ratios choose a lower disclosure profile.

Cox, 2007; Kajüter, 2006). Larger director shareholdings have been found by Hill and Short (2009) to reduce the quantity of RRD in IPOs prospectuses of UK companies; and to reduce the amount of disclosure to avoid passing information on to competitors. They also found that voluntary RRD is more probable in companies with greater information asymmetries, but that risk disclosure is not preferred by all firms as a means of reducing information asymmetries. Kajüter (2006) also used political costs theory and proprietary cost arguments to explain the motivations for RRD. But the results show the need for further empirical evidence.

Table 1.6 (Panel B) demonstrates that larger, leveraged, and cross-listed companies are more prone to make risk management and internal risk disclosures. The number of independent outside directors, Chief-Executive Officier [CEO] compensation schemes, and diffuse ownership structures are all corporate governance mechanisms that encourage these disclosures (Deumes & Knechel, 2008; Lajili, 2007). Kajüter & Barth (2007) studied the motivations for managerial control systems and key performance indicators [KPI] disclosures. They found that only size and industry were associated positively with disclosures, consistent with agency theory. No evidence was found for signalling theory. However, Haron *et al.* (2010) found that well performing companies disclose their internal controls voluntarily, and that there is a high level of risk management among companies with mandatory internal control disclosures.

Table 1.6 (Panel C) reports that financial risk management disclosures by Australian mining companies are motivated by the strength of corporate governance arrangements, capital raising events, size and leverage (Taylor *et al.*, 2010). However, no association was found between financial risk management disclosures and ownership structure or profitability. Among UK listed companies, reputational costs (assessed by size) and financial factors are the most important reasons for disclosing financial risk information related to the use of derivatives (Dunne *et al.*, 2010). A proprietary costs argument (assessed by managerial ownership) is not supported.

Table 1.6 (Panel D) shows that, based on a theoretical framework of agency theory, signalling theory and political costs theory, banks with a lower equity ratio and lower profitability accorded greater importance to disclosing their assessment and management of operational risks. In contrast, those with higher ratios chose a lower disclosure profile (Helbok & Wagner, 2006).

1.4.2 Social and political theory approach

Social and political theories (such as stakeholder and legitimacy theory) seek to explain RRD and other aspects of the business-society relationship in other than a simple economic perspective. Table 1.7 shows that according to stakeholder theory larger companies disclose more RRD to satisfy the information needs of stakeholders (Amran *et al.*, 2009). However, in terms of legitimacy theory, Hassan (2009) found opposing results. RRD was not associated with size, but with leverage.

Based on legitimacy theory, Linsley & Kajüter (2008) found that RRD by Allied Irish Bank were not fully effective in re-establishing legitimacy after the discovery of a major fraud at its US subsidiary, Allfirst, in 2002. There was a need for effective internal control and risk management systems to reduce the likelihood of risk events.

1.4.3 Economic theory and social and political theory approach

The combination of economic theories with social and political theories has the ability to provide a holistic explanation of the motivation for RRD.

Table 1.8 shows that according to legitimacy theory and resources-based perspectives, the motivations for voluntary RRD by banks can be explained by the perceived level of stakeholder monitoring, and by perceptions of a bank's reputation (Oliveira *et al.*, 2011b). Therefore, publicly visible older banks with higher levels of depositor confidence and with a greater ability to manage risk, disclose more risk information voluntarily.

1.4.4 Discussion and avenues for future research

Literature about motivations for RRD reveals that the theoretical framework used most commonly is agency theory. *Agency theory* explains how information asymmetry between shareholders and managers can be reduced through the implementation of monitoring mechanisms that are capable of inducing higher levels of disclosure (Jensen & Meckling, 1976). As outsiders, investors are not active in the management of a company. Managers have incentives to behave opportunistically. Thus, information about risk would reduce investors' uncertainties. One way to foster transparency is to implement risk management systems (Heap, 2008). Such systems help to monitor the attitudes of managers towards risk and to assure appropriate flows of risk reporting information (Jensen & Meckling, 1976; Linsley & Shrives, 2003). Without proper monitoring mechanisms, managers have incentives to conceal or manipulate

Table 1.7 – Social and political theory studies about the motivations for risk-related disclosures

Study	Sample	Method	Theoretical framework	Dependent Variable	Main Independent Variables	Main Findings
Linsley & Kajüter (2008)	Allied Irish Bank Period: 2002 Annual reports	Archival Case study	Legitimacy	Risk-related disclosures	NA	Legitimacy theory appears to explain disclosures. But disclosures were not fully effective in re-establishing legitimacy. The disclosures demonstrate the need for effective internal control and risk management systems to reduce the likelihood of risk events.
Amran *et al.* (2009)	100 Malaysian listed companies Period: 2005 Annual reports	Archival	Stakeholder	Risk-related disclosures	Size Level of risk Leverage Industry	The risk disclosure level is very low compared to findings reported by Linsley and Shrives (2006). Size is a key driver of risk reporting.
Hassan (2009)	41 UAE listed financial/non-financial companies Period: 2005 Annual reports	Archival	Legitimacy	Risk-related disclosures	Size Leverage Reserves Industry	Leverage is associated positively with risk reporting.

Table 1.8 – Economic theory and social and political theory studies about the motivations for risk-related disclosures

Study	Sample	Method	Theoretical framework	Dependent Variable	Main Independent variables	Main Findings
Oliveira *et al.* (2011b)	111 Portuguese commercial banks Period: 2006 Annual reports	Archival	Legitimacy Resources-based perspectives	Voluntary risk-related disclosures	Public visibility Company age Depositor confidence Risk management ability Ownership structure Profitability Type of commercial bank	Stakeholder monitoring and corporation reputation are crucial factors that explain voluntary RRD.

information by making misleading disclosures (Latham & Jacobs, 2000). On the other hand, risk reporting is intertwined intrinsically with corporate governance. Linsley and Shrives (2005a, p. 293) state that "those in favour of greater risk-related disclosures argue that good corporate governance requires directors to be accountable to shareholders for the risk the company faces and improved risk disclosure facilitates greater understanding of the company risk profile."

Corporate governance characteristics can be considered true monitoring mechanisms that are capable of compelling risk reporting. Risk reporting research has studied the relationships between RRD and ownership structure (Abraham & Cox, 2007; Deumes & Knechel, 2008; Kajüter, 2006; Lajíli, 2007); independent non-executive directors (Abraham & Cox, 2007; Deumes & Knechel, 2008; Lajili, 2007); and auditor type (Deumes & Knechel, 2008). However, future research should strive to elicit a broader understanding of the relationships between RRD and corporate governance in other monitoring mechanisms (such as an audit committee or risk committee, the level of independence of those audit committees, CEO/chairman duality, and compensation schemes).

Other theories such as signalling theory, political cost theory and proprietary cost theory have been used to explain motivations for RRD. *Signalling theory* argues that managers in well performing companies will use voluntary RRD to signal best risk management practices, thereby promoting transparency and attracting more investment (Merkl-Davies & Brennan, 2007). Helbok and Wagner (2006) have used this theory to predict the opposite relationship: that managers in poor performing banking companies have incentives to use disclosure to signal their risk management abilities related to operational risk. Other studies (except for Haron *et al.*, 2010) did not find significant results supporting signalling arguments. Therefore, future research is needed to test the suitability of signalling theory in explaining risk reporting.

Political costs theory contends that to mitigate potential political costs, highly visible companies will increase disclosures so as to manipulate their image positively and to distract attention (Birt *et al.*, 2006; Deegan & Gordon 1996). Political costs theory also posits that companies subject to deep scrutiny from regulatory authorities have incentives to increase disclosures to avoid regulatory interventions (Watts & Zimmerman, 1986). This is particularly important in highly regulated sectors such as banking. Most RRD research focuses on risk reporting practices holistically. More fine-grained research is needed to understand industry-specific risk reporting practices. Such

research would be insightful in developing better understanding of managers' motivations to disclose risk information. Environmentally sensitive industries (such as mining) and publicly visible sectors (such as banking and insurance) are growing fields of research.

Proprietary costs theory highlights the competitive disadvantages of additional disclosure (Verrecchia, 1983). Proprietary costs vary according to industry. However, companies in the same industry are subject to competitive pressures to produce the same level of disclosure as their industry competitors, to avoid being perceived negatively. Consequently, companies in the same industry will attempt to disclose at least the same level of information as their industry peers so that they will not be undervalued by the market. Proprietary cost perspective argues that the incentive to disclose information is a decreasing function of the potential proprietary costs attached to a disclosure; and that it is an increasing function of the favourableness of the news in a disclosure (Verrecchia, 1983). When proprietary costs are higher than the benefits of full disclosure, managers will have incentives not to disclose, unless the news is value-relevant (Prencipe, 2004). Consequently, companies will be mindful of their competitive position. Those companies operating in a low-competition environment will have less incentive to disclose private information than those operating in a high-competition environment (Birt *et al.*, 2006).

Kajüter (2006) found evidence about the influence of proprietary costs on the quantity of private risk information disclosed by comparing the differences between the external risks and internal risks disclosed. His argument was based on the contestable assumption that proprietary costs were probably lower for external risk than for internal risks. Dunne *et al.* (2010) suggest that a negative association between financial risk disclosure and managerial holdings is supported by proprietary costs arguments. However, their study did not show sufficient empirical evidence to corroborate this hypothesis. Moreover, other studies have found empirical evidence that confirms the above relationship (Deumes & Knechel, 2008; Hill & Short, 2009). But they are supported by agency theory arguments related to the reduction of information asymmetries. Further research is needed to analyse relationships between risk reporting and other feasible proxies for proprietary costs.

The results of RRD studies based on stakeholder theory and legitimacy theory conflict with findings of studies that have used agency theory. Most studies find a positive association between RRD and size, based on argument that larger companies

face greater information asymmetries. Thus, RRD can serve as a way of reducing those asymmetries (Abraham & Cox, 2007; Deumes & Knechel, 2007; Kajüter, 2006; Kajüter & Barth, 2007; Lajili, 2007; Taylor *et al.*, 2010;). However, Amran *et al.* (2009) explain this relationship through the use of stakeholder theory. Companies disclose RRD to satisfy relevant stakeholders' expectations about company performance, not to reduce information asymmetries.

Based on legitimacy theory, Hassan (2009) explains the positive association between RRD and leverage by assuming that managers have personal interests in disclosing RRD so as to signal to stakeholders how they manage these risks efficiently. This theoretical explanation is intriguing since the relationship between RRD and leverage is underpinned by the existence of information asymmetries between managers/shareholders and debt-holders. Thus, agency theory provides a more feasible explanation of the results than legitimacy theory.

Many economic theories rely only on what managers are trying to avoid happening (Hasseldine *et al.*, 2005). Dunne *et al.* (2010) based their hypotheses on the importance of corporate reputation in RRD. This theoretical perspective extends the economic theory approach beyond positive accounting theory by focusing on what managers are doing to manage strategic resources (such as corporate reputation), and what communication strategies they are adopting to influence the external perception of reputation (Hasseldine *et al.*, 2005; Toms, 2002). This could be the missing link that is capable of answering Linsley and Shrives's (2006, p. 400) appeal for the adoption of "multi-disciplinary approaches as insights drawn from areas such as sociology (...) to assist future risk disclosure research"; and to Roberts *et al.*'s (2005, p. 6) call "for greater theoretical pluralism and more detailed attention to board processes and dynamics."

The positive view of stakeholder theory adopts a socio-economic perspective. It posits the importance of managing a company's relationships with the relevant stakeholders who supply crucial resources, and are able to affect firm's performance (Post *et al.*, 2002). The organizational view of legitimacy theory contends that companies that are more publicly visible through scrutiny and monitoring by relevant stakeholders (such as larger companies or environmentally sensitive industries) and who rely intensively on social, political and economic support, will require a greater level of legitimacy. According to this perspective, "legitimacy [is an intangible] resource (…)

that organizations extract – often competitively – from their cultural environments and they employ in pursuit of their goals" (Suchman, 1995, p. 576).

The resources-based view of the firm explains competitive advantages in terms of intangible assets with inimitable qualities – such as corporate reputation – and the importance of adopting reputation-building/maintenance strategies to improve a firm's performance (Toms, 2002). Reputation and legitimacy, things that must be built, maintained or restored, rest heavily on disclosure (Toms, 2002; Suchman, 1995). Stakeholders "will come to the firm attracted by the information content of its reputation" (Sabaté & Puente, 2003, p. 281). Thus, managers of companies with a higher degree of public visibility have incentives (through a legitimation process) to increase transparency of RRD in order to build a good reputation with relevant stakeholders. This legitimation process reduces information asymmetries, reduces litigation and reputational costs, attracts crucial resources, and reinforces the confidence of relevant stakeholders.

Self-interest and wealth maximization assumptions form the basis of economic theories. They cannot be excluded from the analysis by social and political theories. Previous literature has indicated that factors associated with corporate governance structures, agency, proprietary, litigation and reputational costs can be important drivers of RRD. Thus, research about the motivations of RRD by non-finance and finance companies, through the use of multi-theoretical frameworks grounded on agency theory, resources-based perspectives and legitimacy theory, seems likely to be fertile and to produce insights beyond those revealed in literature so far.

Prior literature has focused on small samples of predominantly Anglo-Saxon and German companies using analysis periods that have been principally prior to the GFC. Longitudinal studies, containing larger samples, are needed. These should incorporate the periods before and after the GFC and relate to other settings with different agency conflicts.

Bebbington *et al.* (2008, p. 338) argue that disclosure can be "conceived as both an outcome of and part of reputation risk management process." In this reputation building process, mainly in a period of potential reputational damages, managers adopt legitimacy strategies to gain, maintain or restore their reputation through disclosure. These strategies include impression management techniques to strategically manipulate the perceptions and decisions of stakeholders (Linsley & Kajüter, 2008). In periods of distress, such as the GFC, the use of these impression management techniques can be

intensified and included in annual reports. The proximity of the auditor's report gives them credibility (Merkl-Davies & Brennan, 2007). Impression management techniques involve self-serving behaviour to mislead some stakeholders. Therefore, it is urgent to investigate whether, during the GFC, managers had incentives to adopt those kinds of strategies. Moreover, after the GFC some finance companies around the world were bailed-out. Thus, another interesting and potentially insightful field of research that could offer knowledge about how these finance companies managed stakeholders' perceptions of corporate reputation seems to be case-studies of adoption of legitimacy-restoring strategies.

1.5 Conclusions

The present review of the academic literature on RRD has pinpointed several research gaps and indicated future avenues for research. Prior literature indicates that RRD are value-relevant to investors. Risk information is communicated to investors with several inadequacies that can endanger investment decision making.

Compared to non-finance companies, research about RRD by finance companies continues to be under-researched. For finance companies, most of the damage of the GFC has affected structured finance activities and products. Regulators have acknowledged the lack of transparency surrounding these OBS arrangements. From a user perspective, the ability to detect disclosures of structured finance activities and related products is restricted because: (a) structured finance activities are included in disclosures of other financial products; and (b) structured finance products are linked frequently to wider transactions and explanations in the context of the whole transaction may be missing (PriceWaterhouseCoopers, 2008). Since the GFC (and as a result of the G20 agenda of regulatory reform) the FSB, the BIS, the EU, the IASB, the Financial Accounting Standards Board, and the US SEC, have announced their intention to improve disclosure transparency. How have the disclosure practices of these structured finance activities and products evolved? Have the regulatory reforms improved their transparency? Were these reforms enough to achieve the appropriate level of transparency? Are investors and readers capturing the appropriate picture of each company risk profile? Are other regulatory measures needed? We believe this would be another challenging future field of research that could yield additional insights to RRD practices.

Part II

Empirical contributions in risk-related disclosures

Essay 2

Risk-related disclosures by non-finance companies: Portuguese practices and discloser characteristics

2.1 Introduction

There have been many calls to reduce asymmetries of access to corporate information and to improve the measurement and disclosure of risk-related matters (Beretta & Bozzolan, 2004; Mohobbot, 2005; Szegö, 2002). Such calls have been prompted by the inadequacy of risk reporting practices (Solomon *et al.*, 2000).

Most existing studies of RRD are based on empirical evidence from Anglo-Saxon, Dutch and Germanic countries (Abraham & Cox, 2007; Carlon *et al.*, 2003; Deumes & Knechel, 2008; Kajüter, 2006; Lajili & Zéghal, 2005; Lajili, 2007; Linsley & Shrives, 2006); French and Latin countries (Beretta & Bozzolan, 2004; Combes-Thuélin *et al.*, 2006); Asia-Pacific countries (Amran *et al.*, 2009; Mohobbot, 2005); and Arab countries (Hassan, 2009). Generally, these prior studies have found that RRD are vague, generic, qualitative, backward looking, and inadequate for the information needs of stakeholders.

Previous literature has focused mainly on explaining RRD in terms of stakeholder theory (Amran *et al.*, 2009), institutional theory (Hassan, 2009) or agency theory (Abraham & Cox, 2007; Deumes & Knechel, 2008; Lajili, 2007). The present essay is a response to the call by Roberts *et al.*, (2005, p. 6) "for greater theoretical pluralism and more detailed attention to board processes and dynamics." It proceeds by proposing a theoretical framework based on a confluence of agency theory, legitimacy theory and resources-based perspectives. Such a framework was suggested by Roberts *et al.* (2005) and Aguilera (2005) but has not been used hitherto. This essay uses this framework to address the thinness of empirical evidence by analysing disclosures of risk exposures and risk management practices in the annual reports for 2005 of non-finance companies registered by the Portuguese Stock Exchange regulator, *Comissão do Mercado de Valores Mobiliários* [CMVM]. Thus, it aims to ameliorate the incompleteness of prior research studies, and do so in the context of a different (and under-researched) European Latin country, Portugal.

In the accounting regulatory setting in Portugal in 2005, Portuguese listed companies became obliged to comply with IAS/IFRS and the Modernisation Directive (Directive 2003/51/EC) of the European Parliament and Council (enacted into Portuguese law by Decree-law 35/2005). These two regulatory initiatives demanded extra RRD. A setting of regulatory change such as this has not featured previously in descriptive RRD studies of non-finance companies. Findings reported in previous

literature relate to periods prior the implementation of IAS/IFRS or the Modernisation Directive in 2005. The timing of the present study included in this essay will help to determine whether the adoption of these two regulatory initiatives affected the quantity and quality of RRD positively.

The results reveal that the adoption of IAS/IFRS and the Modernisation Directive did not affect the *quantity* and *quality* of RRD positively. Risk information disclosures were mainly vague, generic, qualitative, backward-looking, dispersed throughout the annual report, and inadequate for the information needs of stakeholders. They confirm the results of Beretta and Bozzolan (2004), Carlon *et al.* (2003), Combes-Thuélin *et al.* (2006), Kajüter (2006), Lajili and Zéghal (2005), and Linsley and Shrives (2006). Important influences on RRD are found to be reputation and litigation costs in companies with high public visibility (typically large companies in environmentally sensitive industries) and often with high levels of leverage. Agency costs were found likely to be reduced by the engagement of a Big4 auditing firm. When considering the sub-sample composed only of the 42 listed companies, the monitoring provided by independent directors also appeared to reduce agency costs.

The following section develops an analytical framework to contextualise the regulatory setting in Portugal, reviews previous literature, and develops hypotheses for testing. Thereafter, this essay outlines the research method, reports the results, and presents the conclusions.

2.2 Analytical Framework

2.2.1 Regulatory background

For financial years starting on January 1, 2005, Regulation 1606/2002 of the European Commission required companies with securities traded on a regulated market to prepare consolidated accounts in accord with IAS/IFRS. Accounting treatments for financial risks were established by such standards as IAS 1 (*Presentation of Financial Statements*), IAS 32 (*Financial Instruments: Presentation*) and IAS 39 (*Financial Instruments: Recognition and Measurement*). These standards focused mainly on financial risk exposures and financial risk management policies. Other risk factors which could arise from contingent liabilities or contingent assets were dealt with by IAS 37 (*Provisions, Contingent Liabilities and Contingent Assets*). IFRS 7 (*Financial*

Instruments: Disclosures) became obligatory after January, 2007, although its adoption before 2007 was recommended.

In 2005, companies not having securities traded on the Portuguese capital market were required to prepare their annual accounts in accord with the Portuguese Accounting Plan [PAP]. Additional mandatory RRD were required by Accounting Directives [AD] such as AD 17 (*Future Contracts*), AD 27 (*Segmental Reporting*), and AD 29 (*Environmental Issues*). Non-finance companies were also required to comply with some RRD demanded by corporate governance practice recommendations issued by the CMVM.[2] Further, in 2005 the enactment into Portuguese law of the Modernisation Directive of the European Parliament and Council required companies to describe their main risks and uncertainties in the management report. In respect of financial instruments companies were required also to describe their financial risk exposures and risk management activities related to financial risks.

In this essay, risk information disclosures are classified as mandatory if they are provided as a consequence of an explicit accounting rule or security exchange requirement. If the disclosed item involves management's judgment or discretion in terms of materiality and significance, it is classified as voluntary.[3]

2.2.2 Prior literature on risk-related disclosures

Several studies have noted the inadequacy and vagueness of RRD. Carlon *et al.* (2003) found that the application of risk reporting requirements related to financial instruments was diverse, and that there was a large variation in the content and detail of voluntary risk reporting by Australian mining companies. In Italian and Canadian listed companies, voluntary RRD were mainly qualitative and focused on past and present risks rather than future risks (Beretta & Bozzolan, 2004; Lajili & Zéghal, 2005). Linsley and Shrives (2006) found that RRD by UK listed companies were mainly qualitative, but that they were prone to report forward-looking risk information. Kajüter (2006) found that mandatory RRD of German companies in management reports were vague; few RRD were precise and detailed; most risks were described insufficiently; and it was difficult to distinguish risks in terms of criticality. Some other studies have commented

[2] Recommendation 3/2005 requires management to describe the existing internal control system.

[3] The mandatory disclosure requirement in the Modernisation Directive is vague and permits management's discretion. To overcome potential classification problems we considered the disclosures mandatory if they were made in sections of the management report specifically devoted to risk management.

on the difficulty of assessing company risk profiles because of unstandardized presentation of risk in annual reports and because of the dispersal of RRD throughout the annual report (Combes-Thuélin *et al.*, 2006; Linsley & Shrives, 2006).

Studies of motivations for RRD have focused mainly on exploring voluntary disclosures of internal controls (Deumes & Knechel, 2008); voluntary RRD in annual reports and in Management, Discussion & Analysis [MD&A] sections (Mohobbot, 2005; Beretta & Bozzolan, 2004); mandatory RRD in the management report (Kajüter, 2006); and voluntary and mandatory RRD in annual reports (Abraham & Cox, 2007; Amram *et al.*, 2009; Hassan, 2009; Lajili, 2007; Linsley & Shrives, 2006).

A broad concept of risk is adopted (including downside risk and upside risk) by considering whether risk is perceived as a threat (bad news) or as an opportunity to mitigate risk (good news). The risk concept includes any opportunity or prospect (or any hazard, danger, harm, threat or exposure) that has affected the economic and financial situation of a company or may affect it in the future. Risk is regarded to include actions taken to manage, mitigate or deal with any opportunity, prospect, hazard, harm, threat, or exposure; and the description and evaluation of internal control system effectiveness. Literature indicates that companies make more risk management disclosures than risk disclosures in an attempt to promote an image of pro-active management (Combes-Thuélin *et al.*, 2006),

Literature on RRD can be divided into three major groups, according to how the dependent variable is measured. As shown in Table 2.1, prior studies have used content analysis to build the dependent variable using sentences as the recording unit (Amran *et al.*, 2009; Beretta & Bozzolan, 2004; Kajüter, 2006; Lajili, 2007; Linsley & Shrives, 2006; Mohobbot, 2005), or words (Abraham & Cox, 2007), or disclosure indexes (Deumes & Knechel, 2008; Hassan, 2009). The present essay uses sentence counts.

Motives for RRD have been explained by agency theory, political costs theory, stakeholder theory, signalling theory, institutional theory, and a proprietary costs perspective (Kajüter, 2006; Mohobbot, 2005). Hassan (2009) used the institutional theory notion of social legitimacy; Amran *et al.*, (2009) drew upon stakeholder theory; and Abraham and Cox (2007), Deumes and Knechel (2008), and Lajili (2007) used agency assumptions to explain motivations for RRD. Table 2.1 presents the explanatory variables and empirical findings of each of the major studies. Some conflicting results are revealed. The studies explain several identical relationships between explanatory

Table 2.1 - Prior literature on determinants of risk-related disclosures based on firm's characteristics

	Dependent variable									
					Sentences		Words	Disclosure index		
Explanatory variables	Amran *et al.*, (2009)	Lajili (2007)	Linsley and Shrives (2006)	Kajiter (2006)	Mohobbot (2005)	Beretta and Bozzolan (2004)	Abraham and Cox (2007)	Deumes and Knechel (2008)	Hassan (2009)
Size:									
Total sales		+	+		+	+	+		0
Total assets			0	+	+				
Market capitalization			+						
Total revenues	+		0						
Sum of market value of equity and book value of debt								+	
Leverage/Level of risk:									
Product and geographic diversification	0								
Debt to equity ratio	0		0		0		0	+	+
Asset cover			0						
Beta factor		0	0						
Ratio of book value of equity to market value of equity			0		0				
Quiscore			0						
BiE index			+						
Innovest EcoValue'21 ™			+						
Variance of 60 month stock returns							+		
Board composition:									
Number of independent non-executive directors		+					+		
Independent outside directors/total directors								+	
Number of non-executive dependent directors							0		
Number of executive directors							0		
Total number of directors		+							
Ownership structure:									
Minority controlling votes		–							
Free-floats				+					
In-house managed pension funds							–		
Outside managed pension funds							0		
Life assurance funds							+		
Top 10 shareholder's holdings, and holdings of individuals/foreigners					0				
Shareholdings of non-managers greater than 5%								–	
Shareholdings of managers greater than 5%								–	
Profitability									
Return on assets					0				
Return on equity					0			+	
CEO base salary and stock/options		0							
Reserves									0
Dual Listing							Y	Y	
Industry	Y	0		Y		0	Y	Y	Y
Foreign subsidiaries/total subsidiaries								+	
Sales growth per year								0	
Book value of inventory/total assets								0	
Book value of receivables/total asstes								0	
Auditor quality (Big6/5)								0	

(Y): statistically significant; (+): positive and statistically significant relation; (–): negative and statistically significant relation; (0): no relation found

variables and the dependent variable, but by recourse to different theories. The present essay conciliates this theoretical conflict by proposing a theoretical framework that has been suggested in prior literature, but not tested: that is, by explaining RRD as being grounded in agency theory, legitimacy theory and resources-based perspective (Roberts *et al*., 2005; Aguilera, 2005).

2.2.3 Development of hypotheses

2.2.3.1 Agency theory

Agency theory explains how information asymmetry between shareholders, managers and creditors can be reduced by monitoring the opportunistic attitudes of managers. (Jensen & Meckling, 1976). If shareholders and creditors do not observe companies' risk management activities directly, they will tend to institute monitoring systems to increase the flow of information about those activities, and to reduce uncertainty (Linsmeier *et al.*, 2002). In the absence of such monitoring mechanisms, managers seem more likely to perform opportunistically by withholding relevant information or by manipulating reporting to their advantage by making misleading disclosures (Latham & Jacobs, 2000). Four monitoring mechanisms (discussed below) are: the nature of the specific ownership structures (Abraham & Cox, 2007; Deumes & Knechel, 2009; Kajüter, 2006; Lajili, 2007); the way the board of directors is composed (especially in terms of the number of independent non-executive directors) (Abraham & Cox, 2007; Lajili, 2007; Deumes & Knechel, 2008); the independence of audit committees (Fraser & Henry, 2007), and the type of external auditor appointed (Oliveira *et al.*, 2006).

Ownership Structure

In more concentrated ownership structures, agency costs are usually lower than in more diffuse structures involving outside ownership (Jensen & Meckling, 1976; Ball *et al.*, 2000; Deumes & Knechel, 2008). Because larger shareholders play an active role in monitoring and controlling a firm, and are more willing to discipline poorly performing management, they can mitigate agency costs by intervening actively (Birt *et al.*, 2006). Thus, there is less need for RRD. In more diffuse structures, agency problems increase because small shareholders find it more difficult to monitor the activities of management (Barako *et al.*, 2006), and so greater levels of disclosure are expected.

However, the literature offers two opposing views of the relationship between ownership structure and voluntary disclosure: convergence of interests and management

entrenchment. Jensen and Meckling (1976) suggest that when the shareholding of the largest shareholder is high, and outside investors perceive that he/she behaves to maximize firm value, convergence of interests between them can occur. Outside investors will impose fewer contractual constraints on the firm, reducing agency costs**.** Since agency costs are lower there will be weaker incentives for the largest shareholder to manipulate or withhold information. There will be incentives to maintain levels of disclosure consistent with the maximization of firm value. Therefore, a positive relationship is expected between owners' holdings and disclosure.

In the case of management entrenchment, Morck *et al.* (1988) argue that moral hazard problems will occur and information asymmetries increase, so that consequently, a negative relation between insider holdings and disclosure should be expected.

Furthermore, Jung and Kwon (2002) present opposing views of the role of institutional holders/blockholders: active monitoring and strategic alignment. If institutional holders/blockholders are seen as long-term investors they can work as effective devices of monitoring management. Thus, a positive relation between their shareholdings and disclosure is expected. But under the strategic alignment hypothesis, institutional holders/blockholders and owners cooperate, thereby reducing monitoring, such that a negative relationship is expected between their holdings and disclosure. Bushee and Noe (2000) contend that the relationship between voluntary disclosure and ownership structure depends on the investment planning strategies of institutional investors.

Previous RRD literature has found divergent results. Lajili (2007) and Kajüter (2006) found negative relations. Abraham and Cox (2007) found negative and positive relations, and Mohobbot (2005) did not find any relation at all.

Hypothesis 1: There is an association between concentrated ownership structures and the volume of RRD in an annual report.

Independent Non-Executive Directors

Theoretically, independent non-executive directors monitor the activities of executive directors indirectly (Donnelly & Mulcahy, 2008). But non-executive directors are exposed to higher levels of risk, personally. This is because, by acting as corporate outsiders, they usually have little involvement in a company's daily management (Lim *et al.*, 2007). They have incentives to demand the disclosure of more information to

balance the levels of risk to their personal reputation. In theory, independent non-executive directors are not influenced by corporate insiders. Thus, a higher level of disclosure can be expected from companies with a higher proportion of independent directors (Lopes & Rodrigues, 2007). Consequently, to reduce agency costs, companies with a higher percentage of independent directors will be prone to disclose more information.

Hypothesis 2: There is a positive association between the proportion of independent (non-executive directors) on the board and the volume of RRD in an annual report.

Audit Committee Independence

As companies become larger, complex and diversified, it becomes more difficult for boards to retain effective control and to manage risks. As a consequence, responsibility for control is often delegated to employees. Where such delegation occurs, it is understandable that boards would require support from organization-wide monitoring mechanisms, such as audit committees (Fraser & Henry, 2007). However, for an audit committee to be effective it should be independent and include non-executive directors (Turley & Zaman, 2004). Therefore, companies with a higher proportion of non-executive directors serving on their audit committee are likely to attach greater importance to RRD and to the reduction of agency costs.

Hypothesis 3: There is a positive association between audit committee independence and the volume of RRD in an annual report.

Auditor Type

Companies with high agency costs tend to contract higher quality auditing firms — the Big4 international auditing firms (Jensen & Meckling, 1976). To avoid reputational costs to them these larger and well-known auditing firms tend to encourage companies to disclose more information (Chalmers & Godfrey, 2004).

Hypothesis 4: There is a positive association between the engagement of a Big4 international auditing firm and the volume of RRD in an annual report.

Leverage

Companies with high levels of debt tend to be highly leveraged, more speculative and riskier. Debt-holders have greater power over the financial structure of such companies. From an agency theory perspective, creditors of highly leveraged companies have strong incentives to encourage management to disclose more information (Amran *et al.*, 2009). Most prior literature has not found any significant relationship between RRD and leverage (Abraham & Cox, 2005; Amran *et al.*, 2009; Linsley & Shrives, 2006; Mohoboot, 2005). A possible explanation is that monitoring information can be furnished by means other than in the annual report (Leuz *et al.*, 2004).

Hypothesis 5: There is an association between leverage and the volume of RRD in an annual report.

2.2.3.2 Legitimacy theory and resources-based perspective

Managers have incentives to increase the transparency of RRD by conforming to rules and stakeholder expectations. Relevant stakeholders are interested in RRD because they "supply critical resources, *place something of value 'at risk'*, and have sufficient power to affect the performance of the enterprise" (Post *et al.*, 2002, p. 8, italics applied).

Resources-based perspectives address the link between a firm's valuable resources and its performance (Branco & Rodrigues, 2006a). To be valuable, resources should be difficult to imitate and, therefore, help in developing competitive advantages. One such valuable resource is corporate reputation— an intangible asset that is nurtured to fulfil stakeholders' expectations and attract investors and resources (Galbreath, 2005). Stakeholders "will come to the firm attracted by the information content of its reputation" (Sabaté & Puente, 2003, p. 281). Therefore, the economic rationale for building corporate reputation is to "reflect the extent to which external stakeholders see a firm as 'good' and not 'bad'" (Roberts & Dowling, 2002, p. 1078).

Like legitimacy, reputation must be gained, maintained or restored (Suchman, 1995). Greater levels of public visibility imply a greater level of stakeholders' interest. Consequently, greater levels of legitimacy and corporate reputation will be required to manage the crucial stakeholders who provide resources to organizations and affect their ability to operate (O'Sullivan & O'Dwyer, 2009). This legitimation process rests strongly on the influential perceptions of crucial stakeholders of the firm's actions and activities, based on a specified level of public disclosure (O'Sullivan & O'Dwyer,

2009). Disclosure of risk information will help to ameliorate litigation risks and potential reputational damages. Thus, legitimacy is maintained through a legitimation process to manage corporate reputation and achieve the best interests of stakeholders by disclosure (Bebbington *et al.*, 2008). Commonly, proxies for public visibility have included size, and industry variables (Branco & Rodrigues, 2008a, 2008b).

Size

Brammer and Pavlin (2008, p. 124) argue that "larger firms (...) tend to be more visible to relevant publics [crucial stakeholders]." It is likely that larger companies will consider RRD as a way to enhance corporate reputation through disclosure. This is because greater levels of public visibility imply a closer scrutiny from stakeholders (Amram *et al.*, 2009; Branco & Rodrigues, 2008a).

Hypothesis 6: There is a positive association between company size and the volume of RRD in a company annual report.

Environmental Sensitivity

Risks are firm-specific (Beretta & Bozzolan, 2004). Manufacturing industries and politically and environmentally sensitive industries (such as oil, gas, or high technology) are prone to disclose more information (Brammer & Pavlin, 2008; Cooke, 1992; Hannifa & Cooke, 2002). Environmentally sensitive companies have greater social pressures in terms of stakeholder scrutiny. Managers of such companies have incentives to make more RRD to influence stakeholders' perceptions of corporate reputation and management skills.

Hypothesis 7: There is a positive association between the level of environmental sensitivity in an industry and the volume of RRD in the annual reports of companies in that industry.

2.2.3.3 Control variables

Company Listing Status

Company listing status has been used as a proxy for public visibility (Branco & Rodrigues, 2006b; Leventis & Weetman, 2004). Listed companies are considered to be more visible than other companies, they tend to receive more attention from the general

public and are subject to more extensive media coverage (Branco & Rodrigues, 2006b). But, listed companies usually have greater agency costs (Oliveira *et al.*, 2006; Lopes & Rodrigues, 2007). Thus, greater levels of RRD are expected.

Accounting Standards

The accounting standards adopted can generate different levels of disclosure. Some companies included in the sample adopted the PAP, and others adopted IAS/IFRS for the first time.

2.3 Research Method

2.3.1 Sample

This essay analyses RRD in the consolidated annual reports for 2005 of a sample of 81 Portuguese companies registered by the CMVM.[4] The sample comprised all 42 non-finance companies listed on the regulated Euronext Lisbon market as at December 31, 2005, together with 39 non-finance companies not listed on any regulated market. When considering corporate governance effects, the sample was reduced to the 42 listed companies, since only listed companies are required to disclose a corporate governance report.

2.3.2 Dependent variables

This essay uses content analysis to quantify RRD. This specific measure was formulated from categories used by Abraham and Cox (2007) and Lajili and Zéghal (2005). Three risk exposure categories were developed: financial risk [FR], non-financial [NFR], and risk management framework [RMFW] (Appendix 2.1). These categories were used to calculate the dependent variable: RRD level.

Four semantic properties of the information disclosed were used in the content analysis:

- *economic sign* (monetary/non-monetary);
- *type of measure* (past/future);
- *outlook* (good/bad/neutral); and
- *type of disclosure* (voluntary/mandatory) (Beretta & Bozzolan, 2004; Linsley & Shrives, 2006).

[4] In a few cases, when consolidated accounts were not available, we used annual reports.

Abraham and Cox (2007) used words as the recording unit and only analysed the narrative content. The present essay assesses the narrative content of the annual reports using sentences as the recording unit, in view of the findings of Milne and Adler (1999) that sentences are more reliable than words and pages in capturing thematic approaches. Information in graphs and tables was coded after establishing specific decision rules based on methods used by Linsley and Shrives (2006) and Beattie and Thomson (2007) (Appendix 2.2). The RRD level for the j^{th} company was calculated as:

$$RRDj = \sum_{i=0}^{sa} fr_{ij} + \sum_{i=0}^{sa} nfr_{ij} + \sum_{i=0}^{sa} rmfw_{ij}$$

where

fr_{ij} = number of financial risk sentences for the sentence attribute i in the j^{th} company;

nfr_{ij} = number of non-financial risk sentences for the sentence attribute i in the j^{th} company;

$rmfw_{ij}$ = number of risk management framework sentences for the sentence attribute i in the j^{th} company; and

sa = number of sentence attributes (sa = 24).

To assure the reliability of the content analysis, the methods outlined by Krippendorf (2004) were followed. The coding drew upon procedures used by Lajili and Zéghal (2005), and Linsley and Shrives (2006). Content analysis of the entire sample was performed, informed by his prior coding of an initial sample of five annual reports with another (independently operating) coder. The prior coding helped refine a set of pre-established decision rules which were then applied to another sample of five annual reports that were coded independently by the two coders. Scott's *pi* measure of inter-rater reliability was 0.81 — a level considered acceptable in analysis of corporate report disclosures (Hackston & Milne, 1996).

2.3.3 Independent and control variables

Table 2.2 presents definitions of independent variables and control variables, together with the signs of these variables that are likely to be predicted by agency theory, legitimacy theory and resources-based perspective.

Consistent with Deumes and Knechel (2008), and Lajili (2007) the variables shareholdings greater than 10 per cent [TOP10], and minority controlling votes [MCV]

Table 2.2 - Definition and predicted signs for independent and control variables

Variables	*Definition*	*Predicted Sign*
Panel A: Independent Variables		
Agency theory		
Ownership Structure	Shareholdings greater than 10%.	?
	Minority controlling votes assessed by the highest proportion of voting rights that belong to a single shareholder	?
Independent Non-Executive Directors[a]	Proportion of independent non-executive directors on the board.	+
Audit Committee Independence	Proportion of non-executive directors on the audit committee.	+
External Auditor Quality	Dummy variable =1 if auditing firm is a Big 4 firm; 0 otherwise.	+
Leverage	Debt ratio = total debt to total assets	?
Legitimacy theory and resources-based prespective		
Size	Total assets (100^3 Euros)	+
	Total sales (100^3 Euros)	+
	Number of employees	+
Environmental Sensitivity	Dummy variable = 1 if company belongs to an environmentally sensitive industry; 0 otherwise	+
Panel B: Control Variables		
Company Listing Status	Dummy variable = 1 if company is listed on one or more regulated stock exchange markets; 0 otherwise.	+
Accounting Standards	Dummy variable = 1 if company adopted IAS/IFRS; 0 otherwise.	?

[a] Our definition of independent directors is consistent with Regulation 7/2001, article 1, from CMVM, which does not permit family members (Regulation 7/2001 from the CMVM, amended by the Regulation 3/2006, states in its 1st article, nº 2, al. (f) that these members must not have any relation, whatsoever, with the owning family).

are used (assessed by the highest proportion of voting rights that belong to a single shareholder) as proxies for ownership structures. These two proxies were highly correlated. A principal component analysis was applied and an ownership structure index was computed to overcome potential collinearity. Only one component, explaining 87 per cent of the total variance, was extracted (Eigenvalue>1). The principal components analysis was validated by the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = 0.50) and Bartlett's test of sphericity (χ^2 = 58.67; $p \leq 0.01$). Internal consistency was corroborated by the high level of Cronbach's Alpha (0.85). The component extracted represents a unique composite ownership structure index for the j^{th} company:

$$OWNERSHIP\ STRUCTURE_j = 0.931*TOP10_j + 0.931*MCV_j$$

The variable "independent non-executive directors" was proxied by the proportion of independent non-executive directors on the board (Deumes & Knechel, 2008).

The variable "audit committee independence" was proxied by the proportion of non-executive directors to total board members.

The variable "auditor type" was measured by a dummy variable that was assigned 1 if the auditing firm was a Big 4 firm, and 0 otherwise (Deumes & Knechel, 2008; Lopes & Rodrigues, 2007; Oliveira *et al.*, 2006).

"Leverage" was measured by the ratio of total debt to total assets (Abraham & Cox, 2007; Amran *et al.*, 2009; Deumes & Knechel, 2008; Hassan, 2009).

"Size" was assessed using the variables total assets [TA], total sales [TS] and number of employees [NE] (Branco & Rodrigues, 2008a, 2008b). These size variables were highly correlated. Principal component analysis was applied to generate an index for size. Only one component, explaining 88 per cent of the total variance, was extracted (Eigenvalue > 1). The principal components analysis was validated by the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = 0.73) and Bartlett's test of sphericity ($\chi^2 = 208.03$; $p \leq 0.01$). Internal consistency was corroborated by the high level of Cronbach's Alpha (0.93). The component extracted represented a unique composite size index for the j^{th} company:

$$SIZE_j = 0.928*TA_j + 0.963*TS_j + 0.929*NE_j$$

"Environmental sensitivity" was measured by assigning 1 if the company belonged to an environmentally sensitive industry (such mining, oil and gas, chemicals, construction and building materials, forestry and paper, steel and other metals, electricity, gas distribution and water), and 0 otherwise (Branco & Rodrigues, 2008b).

A "company's listing status" was assigned 1 if the company was listed on one or more regulated stock exchange markets, and 0 otherwise.

"Accounting Standards" was measured by considering the accounting frame of reference adopted by each company in 2005. Companies which adopted IAS/IFRS were assigned 1, and 0 otherwise.

2.3.4 Empirical model

The estimation models test whether factors associated with agency theory [A] and legitimacy theory and resources-based perspective [LRb] affect the volume of RRD in company *j* after controlling for other company-level drivers of disclosure [C].

$$RRD_j = f(A_j, LRb_j, C_j) + \upsilon_j$$

2.4 Results

2.4.1 Descriptive analysis

Table 2.3 (Panel A) identified 3,582 sentences containing RRD: 1,323 were of FR factors, 1,860 were of NFR factors, and 399 were of RMFW factors.

RMFW disclosures included descriptions of risk management systems (usually provided in corporate governance reports). Although this type of information is important from a legitimacy perspective (Bhimani, 2009) it is unlikely to help readers understand whether the internal control system is effective, since it was descriptive, generic and often vague.

The top band of Table 2.3 (Panel A) shows that the total number of sentences of bad news disclosure (n=1,548) and good news disclosure (n=1,611) are almost equal. These results are at odds with prior findings of higher levels of good news disclosures (Linsley & Shrives, 2006). However, they are consistent with agency theory, legitimacy theory and resources-based perspectives: that is, managers promote an image of pro-activity by disclosing almost the same levels of risk and risk management information in order to reduce asymmetries (Combes-Thuélin *et al.*, 2006).

About one third of risk disclosures were followed by discussion of how those risks are managed. If markets believe implicitly that "no news is bad news", and if companies did not disclose bad news, this would be interpreted as hiding some problems (Lundholm & Winkle, 2006). Therefore, in accord with legitimacy theory and resource-based perspectives, managers decrease reputation costs by disclosing bad news to increase the credibility of their reporting (Deegan & Gordon, 1996; Skinner, 1994).

The second band of Table 2.3 (Panel A) shows that backward-looking RRD are much more frequent than forward-looking disclosures. These results are consistent with Beretta and Bozzolan (2004) and Lajili and Zéghal (2005), but are inconsistent with Linsley and Shrives (2006). These findings are also consistent with legitimacy theory

Table 2.3 - Frequencies and differences in the means (medians) of risk-related sentence attributes

	Risk -related disclosures	Financial risk	Non-financial risk	Risk management framework
Panel A: Frequencies of risk-related categories for each sentence attributes				
Bad News	1,548	751	795	2
Good News	1,611	452	1,009	150
Neutral News	423	120	56	247
Past	3,335	1,205	1,732	398
Future	247	118	128	1
Non-Monetary	2,701	641	1,661	399
Monetary	881	682	199	0
Voluntary	2,189	325	1,695	169
Mandatory	1,393	998	165	230
Total	3,582	1,323	1,860	399
Panel B: Differences in means (medians) of risk-related sentence attributes				
Bad news – Good news	-0.78	3.69 ***	-2.64	-1.83 ***
	(3.00)	(4.00) ***	-(1.00)	(0.00) ***
Past – Future	38.12 ***	13.42 ***	19.78 ***	4.90 ***
	(32.00) ***	(11.00) ***	(17.00) ***	(2.00) ***
Non-monetary – Monetary	22.47 ***	-.51	18.05 ***	4.93 ***
	(16.00) ***	(0.00)	(15.00) ***	(2.00) ***
Voluntary – Mandatory	9.83 ***	-8.31 ***	18.89 ***	-.75
	(9.00) ***	-(7.00) ***	(16.00) ***	(1.00)

Paired sample *t* -tests (Wilcoxon rank tests) are used to test the difference in means (medians).
Difference statistically significant at a: ***0.01 level (two-tailed); **0.05 level (two-tailed); *0.1 level (two-tailed).

and resources-based perspectives incentives: backward-looking information usually is more reliable and has less potential to harm reputation.

The third band of Table 2.3 (Panel A) shows a much greater frequency of non-monetary RRD than monetary disclosures, consistent with Beretta and Bozzolan (2004), Lajili and Zéghal (2005), and Linsley and Shrives (2006). About a quarter of all RRD are quantitative, divided equally between tabular and narrative disclosures. About three

quarters of the tabular information disclosed liquidity difficulties and provided details of counterparty default. The desire of managers to engage in non-monetary disclosures helps convey understanding of their performance, aids legitimation, and promotes a good reputation and image – all in accord with legitimacy theory and resources-based perspectives.

The fourth and bottom band of Table 2.3 (Panel A) shows that voluntary NFR disclosures are much greater than mandatory disclosures. From a legitimacy and resources-based perspective, NFR disclosures are important: they provide information about business risks such as strategic, operational, and environmental risk. This is helpful to stakeholders in assessing whether a business is performing according to their expectations. Mandatory FR disclosures are significantly greater than voluntary disclosures.

Table 2.3 (Panel B) presents the tests of the differences in the means (medians) of risk-related sentence attributes for each risk-related category, and confirms previous discussion.

Table 2.4 shows the mean number of RRD sentences was 44.22 (range 4 to 143, s.d. 30.79). Some companies made very few disclosures. Of the 81 company annual reports analysed, only two disclosed principal risks and uncertainties clearly. Only 15 aligned strategy with risk disclosure.

Generally, most companies did not distinguish between company-specific risks, industry-specific risks, and general risks. Only one third of companies discussed risk matters in a special section of the management report or in the notes. Only two companies included information about negative changes on external ratings; and only four entered clear conclusions about the effectiveness of their internal control systems.
Two companies identified the models used to measure risk (internal scorings, stress scenarios, repricing gap and liquidity gap). Three companies disclosed the use of VaR (or similar) statistics (Earnings-at-Risk, Cash flow-at-Risk) to measure risk and discussed the statistical method used (Monte Carlo simulation or Risk Metrics), the range of confidence (95 or 99 per cent), and the holding period (5 days, 10 days or 3 months). One company disclosed a quantitative VaR threshold. Two companies disclosed the results of sensitivity analysis related to foreign currency and interest rate risks, but did not explain the methods and assumptions used. In general, the RRD seemed perfunctory. They were probably unhelpful in informing investors about the impact of each risk factor on company performance.

Table 2.4 - Descriptive statistics for the sample firms

	Unit of measurement	N	Minimum	Maximum	Standard Deviation	Mean	Skewness
Continuous variables							
Risk-related disclosures	Number of sentences	81	4.00	143.00	30.79	44.22	1.39
Shareholdings greater than 10%	Percentage	81	0.00	1.00	0.25	0.74	-0.93
Minority controlling votes	Percentage	79	0.10	1.00	0.29	0.57	0.09
Independent non-executive directors	Percentage	42	0.00	0.44	0.17	0.14	0.57
Audit committee independence	Percentage	42	0.00	1.00	0.47	0.36	0.59
Leverage	Debt ratio	81	0.15	9.47	1.03	0.83	7.70
Total assets	100^3 Euros	81	3.57	44,536.12	6,298.35	2,350.27	4.88
Total sales	100^3 Euros	81	0.00	22,800.00	3,105.02	1,102.76	5.19
Number of employees	Count	81	0.00	68,218.00	9,134.47	3,327.23	5.40
Dummy variables							
			Frequency	Per cent			
Auditor type	Dummy = 1	81	46	57%			
	= 0		35	43%			
Environmental sensitivity	Dummy = 1	81	44	54%			
	= 0		37	46%			
Company listing status	Dummy = 1	81	42	52%			
	= 0		39	48%			
Accounting standards	Dummy = 1	81	53	65%			
	= 0		28	35%			
	Total		81	100%			

Definition of variables:
Shareholdings greater than 10% = percentage of qualified shareholdings greater than 10%; Minority controlling votes = highest percentage of voting rights that belong to a single shareholder; Independent non-executive director = percentage of independent non-executive directors in the board; Audit committee independence = percentage of non-executive directors in the audit committee; Auditor type = 1 if the auditing firm is a Big4 firm, and 0 otherwise; Leverage = ratio of total debt to total assets; Environmental sensitivity = 1 if the company belongs to an environmentally sensitive industry, and 0 otherwise; Company listing status = 1 if the company is listed on one or more regulated stock exchange markets, and 0 otherwise; Accounting standards = 1 if the company adopted IAS/IFRS, and 0 otherwise).

Table 2.4 shows that the proportion of independent directors (mean = 0.14) on the board is very low compared to the proportion recommended by the CMVM of 0.25. The independence of the audit committee (mean = 0.36) is also low, possibly impairing RRD. The mean values for ownership structure confirm that Portugal has many family-dominated companies with a complex network of ownership, and a substantial number of shares owned by other companies or one single shareholder (mean = 0.57) (Mota, 2003). The variables for proportion of independent directors and for audit committee independence were only computed for listed companies (N = 42) because only listed companies disclose this information in their corporate governance reports.

2.4.2 Bivariate analysis

Pearson correlation coefficients were determined among continuous variables and Spearman correlation coefficients were determined between categorical and continuous variables, as presented in Table 2.5. The magnitude of the correlation coefficients and value inflated factors suggests that multicollinearity is minimal (Table 2.5).

Correlations between independent variables and RRD are significant (p-value < 0.01) for independent non-executive directors, audit committee independence, size, auditor type, (p-value < 0.05) environmental sensitivity, (p-value < 0.1) ownership structure, and leverage, all with signs as predicted. Positive and significant (correlations p-value < 0.01) were found between the control variables and RRD.

2.4.3 Multiple regressions

OLS multiple regressions were used to test the interrelationship between the various independent and control variables and RRD. The assumptions underlying the regression models were tested for autocorrelation, multicollinearity, heteroscedasticity, outliers and influential observations, and the normality of residuals. Four influential observations were removed from the analysis. The Kolmogorov-Smirnov Lilliefors test suggested that the raw dependent variables and the continuous independent variables were not distributed normally (Table 2.6). Therefore, before running the regression models, dependent variables and continuous independent variables were transformed to normal scores using Blom's transformation (Cooke, 1998).

Table 2.7 shows that the regression model for listed and unlisted companies is statistically significant (p-value < 0.01) for RRD (*adj.* $R^2 = 0.26$).[5]

RRD is associated positively with size (p-value < 0.01), environmental sensitivity (p-value < 0.05), auditor type (p-value < 0.1), leverage (p-value < 0.1), and company listing status (p-value < 0.1). Hypotheses H4, H5, H6 and H7 are supported. According to legitimacy theory and resources-based perspective, larger companies, and companies with higher levels of environmental sensitivity, disclose more risk-related information to manage stakeholders' perceptions about how well corporate reputation has been managed.

[5] The exclusion of outliers and influential observations improved the explanatory power of the regression model.

Table 2.5 - Bivariate relationships for the dependent, independent and control variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A: Correlations (Pearson) among continuous variables										
(1) Risk-related disclosures	1.00									
(2) Ownership structure	-0.16 *	1.00								
(3) Independent non-executive directors	0.42 ***	-0.28 **	1.00							
(4) Audit committee independence	0.49 ***	0.10	0.36 **	1.00						
(5) Leverage	0.15 *	-0.05	0.00	-0.05	1.00					
(6) Size	0.39 ***	0.03	0.44 ***	0.74 ***	-0.06	1.00				
Panel B: Correlations (Spearman) between the categorical and continuous variables										
(7) Auditor type	0.34 ***	-0.04	0.19	0.33 ***	-0.24 **	0.48 ***	1.00			
(8) Environmental sensitivity	0.23 **	-0.05	-0.28 ***	-0.12	0.06	-0.07	0.18 *	1.00		
(9) Company listing status	0.34 ***	-0.50 ***	.	.	0.05	0.19 **	0.24 **	0.01	1.00	
(10) Accounting standards	0.31 ***	-0.34 ***	.	.	0.01	0.39 ***	0.33 ***	-0.03	0.76 ***	1.00

Definition of variables:
Ownership structure = Principal components analysis (Shareholdings greater than 10%; Minority controlling votes); Independent non-executive director = percentage of independent non-executive directors in the board; Audit committee independence = percentage of non-executive directors in the audit committee; Auditor type = 1 if the auditing firm is a Big4 firm, and 0 otherwise; Leverage = ratio of total debt to total assets; Size = Principal components analysis (Total assets; Total sales; Number of employees); Environmental sensitivity = 1 if the company belongs to an environmentally sensitive industry, and 0 otherwise; Company listing status = 1 if the company is listed on one or more regulated stock exchange markets, and 0 otherwise; Accounting standards = 1 if the company adopted IAS/IFRS, and 0 otherwise).

Significant at the: ***0.01 level (one-tailed); **0.05 level (one-tailed); *0.1 level (one-tailed).

Table 2.6 - Kolmogorov-Smirnov (Lilliefors) tests of normality

	df	Untransformed data		Tansformed data	
		K-S statistic	p-value	K-S statistic	p-value
Risk-related disclosures	81	0.14	0.00	0.03	0.20
Ownership structure	42	0.10	0.20	0.07	0.20
Independent non-executive directors	42	0.36	0.00	0.35	0.00
Audit committee independence	42	0.40	0.00	0.40	0.00
Leverage	81	0.36	0.00	0.01	0.20
Size	81	0.35	0.00	0.01	0.20

According to agency theory, leveraged companies, and companies audited by Big4 auditing firms, disclose more risk-related information to reduce agency costs. Listed companies disclose more risk-related information than unlisted companies — this can be explained either by legitimacy theory or agency theory.

The variable, accounting standards, is not statistically significant. The adoption of IAS/IFRS did not affect levels of RRD positively.

Prior literature has found positive and significant associations between RRD and independent non-executive directors (Abraham & Cox, 2007; Lajili, 2007). Using the sub-sample of the 42 listed companies, Table 2.7 shows that the regression model is significant (p-value < 0.01) for RRD (*adj.* R^2 = 0.32). RRD is associated positively with independent non-executive directors (p-value < 0.05). This supports H2. According to agency theory, independent non-executive directors are important in reducing agency costs. This may be the reason why H1 is not supported. In an encouraging sign, it appears they are pressing for disclosure even in companies with concentrated ownership. H3 (audit committee independence) was not supported. But, in most cases, the non-executive director members of the audit committee were independent.

Table 2.8 summarises the results of the hypothesis testing. Public visibility (size and environmental sensitivity) is associated positively with total RRD, consistent with the legitimacy and resources-based perspectives adopted in this paper. The variables leverage and auditor type are positively associated with total RRD, as is independent non-executive directors, but in listed companies only. This result is consistent with agency theory.

Table 2.7 - Results of regression model for risk-related disclosures

Variables	Pred. Sign	Risk-related disclosures			
		Listed and unlisted companies		Listed companies	
Intercept		-0.59	-(2.60) †††	-0.11	-(0.32)
Ownership structure	?	-0.04	-(0.31)	0.17	(0.79)
Independent non-executive directors	+			0.43	(1.13) **
Audit committee independence	+			0.34	(2.57)
Auditor type	+	0.35	(1.48) *	0.32	(0.88)
Leverage	?	0.19	(1.89) †	-0.01	-(0.03)
Size	+	0.31	(2.53) ***	0.10	(0.34)
Environmental sensitivity	+	0.42	(2.06) **	0.43	(1.56)
Company listing status	+	0.54	(1.65) *		
Accounting standards	?	-0.19	-(0.57)		
R^2 *(F-stat)*		0.33	(4.90) †††	0.44	(3.62) †††
Adj. R^2		0.26		0.32	
Durbin-Watson		2.32		2.05	
Max. VIF		2.88		3.71	
N		77		40	

Dependent and independent continuous variables were normalised using Blom's transformation. Figures in parentheses are *t*-satistics. White heteroskedasticity-consistent standard errors, when necessary.

Regression models: $RRD_j = f(A_j, LRb_j, C_j) + \upsilon_j$

Definition of variables:

Ownership structure = principal components analysis (Shareholdings greater than 10%; Minority controlling votes); Independent non-executive director = percentage of independent non-executive directors in the board; Audit committee independence = percentage of non-executive directors in the audit committee; Auditor type = 1 if the auditing firm is a Big4 firm, and 0 otherwise; Leverage = ratio of total debt to total assets; Size = principal components analysis (Total assets; Total sales; Number of employees); Environmental sensitivity = 1 if the company belongs to an environmentally sensitive industry, and 0 otherwise; Company listing status = 1 if the company is listed on one or more regulated stock exchange markets, and 0 otherwise; Accounting standards = 1 if the company adopted IAS/IFRS, and 0 otherwise).

Significant at the: ***0.01 level (one-tailed); **0.05 level (one-tailed); *0.1 level (one-tailed)

Significant at the: †††0.01 level (two-tailed); ††0.05 level (two-tailed); †0.1 level (two-tailed)

Results for ownership structure are consistent with Abraham and Cox (2007), Bushee and Noe (2000), and Mohobbot (2005), all of whom did not find any relation between ownership structure and RRD. Abraham and Cox (2007) and Bushee and Noe (2000) conclude that non-significant results are related to the investment planning strategies of institutional investors.

Table 2.8 - Summary of the results from the hypotheses testing

Variables	Predicted signal	Risk-related disclosures
Ownership structure	?	Not significant
Independent non-executive directors	+	Significant[a]
Audit committee independence	+	Not significant[b]
Auditor type	+	Significant
Leverage	?	Significant and positive
Size	+	Significant
Environmental sensitivity	+	Significant

[a, b] These significant relations have been found in listed companies. Only these companies disclosed information about the number of independent non-executive directors and composition of audit committees in their corporate governance reports.

The non-significant relation between RRD and audit committee independence is consistent with Turley and Zaman (2004) who report that the effect of audit committee in controlling agency costs associated with high leverage is inconclusive. From the viewpoint of Fraser and Henry (2007) the contribution of audit committee independence to enterprise risk management is unclear. This corroborates Spira's (2003) call for more research to investigate the benefits of audit committees.

2.5 Conclusions

The results support explanations of RRD that are based on a combination of agency theory, legitimacy theory and resources-based perspectives. Public visibility, assessed by size and environmental sensitivity, is a crucial part of company strategy to enhance legitimacy and manage corporate reputation through disclosure of risk-related information. Additionally, agency costs associated with leverage and the engagement of a Big4 international auditing firm are also important in explaining RRD. Based on an analysis of 42 listed companies, it is concluded that independent non-executive directors are important in reducing agency costs in terms of RRD.

The results also confirm that the adoption of high quality accounting standards (IAS/IFRS) did not improve the *quantity* of RRD. Similarly, the adoption of the EU Modernisation Directive did not improve the *quality* of RRD. The study included in this essay reveals Portuguese companies in the non-finance sector adopted generic RRD practices lacking in comparability and transparency. Consequently, reader usefulness is

impaired. This is consistent with prior research that has found a special focus on qualitative RRD (Beretta & Bozzolan, 2004; Lajili & Zéghal, 2005; Linsley & Shrives, 2006) and backward-looking RRD (Beretta & Bozzolan, 2004; Lajili & Zéghal, 2005). However, the results differ from Linsley and Shrives (2006). In a UK context, they found RRD focused on forward-looking and good news information. The difference can be attributed to the divergent environmental contexts of the studies: there is far less emphasis on investors' interests and the information needs of securities markets in Portugal than in the UK.

By reporting mainly qualitative and backward-looking RRD, Portuguese managers reduce exposure to litigation costs. Although quantitative and forward-looking information would be more relevant to decision needs, such disclosure is less common because of potential inaccuracy and exposure to litigation costs.

The results reported should be useful to accounting and risk regulators by providing information about the inadequacies of RRD in Portugal and yield a more complete picture of risk components and determinants. In thinking about risk in global terms, not only should agency variables be considered but factors associated with visibility, legitimacy and reputation as well.

Several limitations should be noted. First, subjectivity in the coding instrument is likely to affect reliability. Second, it would be useful to supplement results with results obtained using a qualitative research method (such as interviews). Third, information about risk can be provided in sources other than annual reports, such as interim reports, press-releases, web sites, or prospectuses. Fourth, this essay is confined to a year/one country analysis, and it pre-dates the global financial crisis [GFC] of 2008 and the operationalization of IFRS 7 in January, 2007. Future research should analyse the years before, during and after the turmoil caused by the GFC.

Appendix 2.1 – Risk-related disclosure categories

Financial risk-related categories:

- Solvency risk
- Market and liquidity risks
- Credit risk

Non-financial risk-related categories:

- Strategic risk
- Environmental risk
- Government regulation risk
- Operational risk
- Political risk
- Technology risk
- Accounting risk

Risk management framework categories:

- Risk identification and definitions
- Risk management policies and objectives
- Description of internal control structure

Definition of risk-related categories:
Solvency risk: potencial for bankruptcy. *Market and liquidity risks*: changes in interest rates and in currency rates, liquidity difficulties, and changes in financial instruments value. *Credit risk*: credit risk exposure, past due and impaired assets. *Strategic risk*: changes in competition, number of products sold by customer, loss of market share. *Environmental risk*: environmental incidents, environment laws and regulations. *Government regulation*: changes in government control, regulation and taxation. *Operational risk*: technical failures, accidents, human error, loss of key employees. *Political risk*: conducting business internationally. *Technology risk*: rapid technological change. *Accounting risk*: application of accounting rules.

Appendix 2.2 – Decision rules

- The recording unit is the sentence, but the context unit is the paragraph.
- To identify risk disclosures a broad definition of risk shall be adopted, as explained below.
- Sentences are to be coded as RRD if the reader is: a) informed of any opportunity or prospect, or of any hazard, danger, harm, threat or exposure, that has already affected the economic and financial situation of the company or may affect it in the future; b) informed of any action to manage, mitigate or deal with any opportunity, prospect, hazard, harm, threat, or exposure, or to evaluate the effectiveness of the internal controls systems;
- The risk definition just stated shall be interpreted such that "good" and "bad" risks and uncertainties will be deemed to be contained within the definition.
- Disclosures must be stated specifically, not implied.
- Risk disclosures shall be classified according to categories established.
- Sentences of general policy concerning definitions of risk, internal control and risk management systems (such as those mandated by the Corporate Governance requirement of CMVM) shall be classified as "non-monetary/neutral/ (…)."
- Sentences of general policy concerning other risk management activities shall be classified as "non-monetary/neutral/ (…)."
- Sentences shall be classified as "past" if they relate to past/present events or circumstances in relation to the balance sheet date. Otherwise, they shall be classified as "future" if they relate to future events or circumstances.
- Monetary risk disclosures either disclose directly the financial impact of a risk or disclose sufficient information to enable the reader to calculate the financial impact of a risk.
- Sentences with more than one possible classification shall be split into text units, according to specific context, and classified independently (Beattie & Thomson, 2007).
- If a sentence has more than one possible classification, but cannot be split, the classification shall be made according to the category/attribute most emphasised within the sentence.
- Tables (quantitative and qualitative) that provide risk information should be interpreted as one sentence per line and classified accordingly (Beattie & Thomson, 2007).
- Any disclosure that is repeated shall be recorded as a risk disclosure sentence each time it is disclosed.
- If a disclosure is too vague in its reference to risk, then it shall not be recorded as a risk disclosure.
- Figures, graphs and reports from external entities (inserted in specific boxes), related to risk information, shall be recorded as a risk disclosure sentence (Beattie & Thomson, 2007).

Appendix 2.3 – Companies in the sample

A. Silva & Silva, SGPS, SA
Altri, SGPS, SA
Auto Industrial, SA
Brisa - Auto-estradas de Portugal, SA
Celulose do Caima, SGPS, SA
Cimpor - Cimentos de Portugal, SGPS, SA
Cin - Companhia Industrial do Norte, SA
Cipan - Companhia Industrial Produtora de Antibióticos, SA
CMP - Cimentos Maceira e Pataias, SA
Cofaco - Comercial e Fabril de Conservas, SA
Cofina, SGPS, SA
Companhia Industrial de Resinas Sintécticas, CIRES, SA
Companhia Nacional de Fiação e Tecidos de Torres Novas, SA
Compta - Equipamentos e Serviços, SA
Conduril - Construtora Duriense, SA
Copan - Companhia Portuguesa de Amidos, SA
Corticeira Amorim, SGPS, SA
EDP, SA
Efacec Capital, SGPS, SA
Electricidade dos Açores, SA
Estoril Sol, SGPS, SA
F.Ramada - Aços e Indústrias, SA
Fenalu - Gestão de Investimentos e Participações, SA
Fisipe - Fibras Sintécticas de Portugal, SA
Futebol Clube do Porto - Futebol, SAD
Galp Energia, SGPS, SA
GDP - Gás de Portugal, SGPS, SA
Gescartão, SGPS, SA
Gestnave - Prestação de Serviços, SA
Grupo Media Capital, SGPS, SA
Grupo Soares da Costa, SGPS, SA
Ibersol, SGPS, SA
Imobiliária Construtora Grão Pará, SA
Impresa, SGPS, SA
Inapa - Investimentos, Participações e Gestão, SA
Jerónimo Martins, SGPS, SA
Lisboagás - Sociedade Distribuidora de Gás Natural de Lisboa, SA
Lisgráfica - Impressão e Artes Gráficas, SA
Lithoformas Portuguesa, SA
Modelo Continente, SGPS, SA
Mota-Engil, SGPS, SA
Nova Base, SGPS, SA
Oliveira & Irmão, SA
Papelaria Fernandes - Indústria e Comércio, SA

Pararede, SGPS, SA
Parpública - Participações Públicas, SGPS, SA
Parque Expo 98, SA
Portucel - Empresa Produtora de Pasta e Papel, SA
Portugal Telecom, SGPS, SA
PT Multimédia - Serviços de Telecomunicações e Multimédia, SGPS, SA
Rações Progado Centro Sul, SA
RAR - Sociedade de Controle, SA
Reditus, SGPS, SA
Refer - Rede Ferroviária Nacional, EPE
SAG - Soluções Automóveis Globais, SGPS, SA
Salvador Caetano - Indústrias Metalúrgicas e Veículos de Transporte, SA
Secil - Companhia Geral de Cal e Cimentos, SA
Semapa - Sociedade de Investimento e Gestão, SGPS, SA
Sociedade Águas da Curia, SA
Sociedade Comercial Orey Antunes, SA
Sociedade Figueira Praia, SA
Sociedade Turística da Penina, SA
Sodim, SGPS, SA
Solverde, SA
Sonae Industria, SGPS, SA
Sonae Sierra, SGPS, SA
Sonae, SGPS, SA
SonaeCom, SGPS, SA
Sotave - Sociedade Têxtil dos Amieiros Verdes, SA
Sport Lisboa e Benfica - Futebol, SAD
Sporting - Sociedade Desportiva de Futebol, SAD
STCP - Sociedade de Transportes Colectivos do Porto, SA
Sumolis - Companhia Industrial de Frutas e Bebidas, SA
Teixeira Duarte - Engenharia e Construções, SA
Tertir - Terminais de Portugal, SA
Transinsular - Transportes Marítimos Insulares, SA
Transtejo - Transportes do Tejo, SA
Unicer - Bebidas de Portugal, SGPS, SA
Vista Alegre Atlantis, SGPS, SA
Vista Alegre Participações, SA
Vodafone Portugal - Comunicações Pessoais, SA

Essay 3

Risk-related disclosure practices in the annual reports of Portuguese credit-granting institutions: an exploratory study

3.1 Introduction

The GFC of 2008 has reinforced the importance for investors and regulators to subject the quality of RRD in the banking sector to close scrutiny. Even before the GFC, the inadequacies of RRD in annual reports had been a matter of public debate. In 2007, Woods (2007) drew attention to variations in the level and usefulness of risk-related information disclosed by companies. In 2008, the Financial Stability Forum [FSF] emphasised that the banking sector often failed to disclose the magnitude of risk associated with bank products in a clear and easily accessible way (Financial Stability Forum, 2008), prompting observations that there was "a failure in confidence" in the financial system (Heap, 2008, p. 34).

Although new breadth has been brought to risk reporting practices by IFRS 7 (*Financial Instruments: Disclosures*), the lack of transparency in risk reporting disclosures of banks, found in periods *before* to the adoption of IFRS 7 (Avram & Skully, 2007; Boussanni *et al.,* 2008; Chipalkatti & Datar, 2006; Frolov, 2006; Hirtle, 2007; Linsley *et al.,* 2006; Pérignon *et al.,* 2008; Pérignon & Smith, 2010; PriceWaterhouseCoopers, 2006; Woods *et al.,* 2008a, 2008b; Woods & Marginson, 2004; Yong *et al.,* 2005) has persisted in studies conducted *after* the adoption of IFRS 7 (Bischof, 2009; Ernst & Young, 2008a; KPMG, 2008, 2009; PriceWaterhouseCoopers, 2008). However, in these studies, the sample sizes analyzed are usually small, and only a part of the broad array of financial institutions affected by the GFC (that is, banks) are studied. To address this, this essay analyzes 190 PCIs, including banks.[6]

Market-based measures (such as market capitalization or total assets) are an inappropriate means for evaluating the visibility of credit-granting institutions. Although the subprime crisis of 2007 resulted in widespread increases in the total assets of financial intitutions (Bischof, 2009), in the aftermath of the GFC many reported that their loan books were worth much less than book value, even though governments continued to classify them as "well capitalized" (Weil, 2009). On the other hand, market "prices may not always reflect true fundamental values. (...) [and] a liquidity crunch can affect market prices" (Laux & Leuz, 2009, p. 828). In addition, market prices only incorporate "investors' viewpoints on company performance, thus

[6] Three quarters of our sample is composed by banks. They are special because of their interconnectedness. A collapse of one institution creates a wave of uncertainty among the others (*The Economist*, 2008). Consequently, other entities that are not classifiable as banks (but which pursue similar activities) were affected also by the GFC. The present study seeks to understand the RRD practices of credit-granting institutions as a whole.

ignoring other crucial stakeholder groups", such as depositors, borrowers and regulators (Branco & Rodrigues, 2008a, p. 167).

The present essay uses the number of branches to proxy for the visibility of PCIs. The choice of this proxy is influenced by data showing that, since 2006, the number of branches of credit-granting institutions per 100,000 inhabitants has been almost three times greater in Portugal than in European Common Law countries (UK, Ireland and Netherlands). Further, among European Latin countries, Portugal has the highest growth rate in number of bank branches (European Central Bank, 2010). The "consumer-oriented" nature of PCIs implies an inherent coupling between their business practices and public interest. Greater levels of public visibility imply a greater level of stakeholders' interest, and a greater need to heed stakeholders' expectations (Branco & Rodrigues, 2008a). Therefore, one way to proxy these interactions (and the public visibility of these institutions) is through the number of branches they operate.

This essay focuses on the usefulness of mandatory and voluntary RRD in the individual annual reports for 2006 of 190 credit-granting institutions (not only banks) registered by the Portuguese Central Bank. The four qualitative characteristics of financial statements, enunciated in the IASB's conceptual framework for accounting, are invoked to assess usefulness: *relevance*, *reliability*, *understandability* and *comparability*.[7] The first focal aspect of the essay is RRD required in IFRS 7. The second focal aspect is operational risk, capital structure and adequacy disclosures, and levels of adherence to Basel II (Pillar III) requirements prior to the legal enactment of those requirements.

Results reveal that the adoption of IAS/IFRS in Portugal has led to more risk-related information being disclosed than is required by the Portuguese Accounting Plan for the Banking Sector [PAPBS]. Transparency across the sampled companies was impaired by comparability difficulties, inability to understand narratives, failure of narratives to explain numerical disclosures, and lack of disclosure of all mandated risk-related matters in annual reports. The transparency problems in PCIs in the pre-GFC period were very similar to those found in Anglo-Saxon studies (Avram & Skully,

[7] Information is *relevant* if it has predictive and confirmatory values. *Reliable* information must be free from material error and bias and faithfully represent reality. Information is *understandable* if complex and relevant matters are not excluded from financial statements because they are too difficult for readers to understand. Therefore, efforts to include definitions, glossaries or other forms of detail would improve understandability. *Comparability* can be assessed over time or across different companies in terms of relative financial position, performance, and risk profiles (such as the amount of disclosure, the maturity profile of assets, measurement models, and risk management policies).

2007; Chipalkatti & Datar, 2006; Hirtle, 2007; Linsley *et al.*, 2006; Pérignon *et al.*, 2008; Pérignon & Smith, 2010; Woods & Marginon, 2004).

Findings indicate that there is a possibility that sub-optimal levels of mandatory RRD will persist *after* the adoption of IFRS 7 and its recent amendments focusing on fair value and liquidity risk. Consequently, findings should inform future attempts to improve accounting regulation. This essay argues that accounting, banking and financial market regulators should collaborate to require a consistent disclosure model that improves comparative financial information. Further, the persistence of RRD deficiencies reported *after* the adoption of IFRS 7 suggests that the G20 recommendations (that led to the Basel II Accord reforms, the Capital Requirements Directive [CRD], and IFRS 7 amendments) will lead to a "socially desirable" flow of information only if appropriate enforcement mechanisms are instituted to assure compliance with minimum disclosure requirements.

The following section develops an analytical framework and briefly contextualises the regulatory setting in Portugal. Thereafter, the essay explains the research method, describes the sample, and reports the results, conclusions and recommendations.

3.2 Analytical Framework

3.2.1 Regulatory background

PCIs are supervised by accounting rules and reporting requirements issued by the Portuguese Central Bank. For listed companies, some risk-related corporate governance disclosures are required by the CMVM. In addition, Article 66 of the Portuguese Companies' Code (*Código das Sociedades Comerciais*) requires companies to disclose their main risks and uncertainties in the management report. Although Article 66 focuses on financial risks, it also requires disclosure of information about environmental risks, operational risks and risk management activities related to financial risks.

For financial years starting on January 1, 2005, Regulation 1606/2002 of the European Commission requires companies whose securities are traded on a regulated market to prepare consolidated accounts in accord with IAS/IFRS. From 2005, the Portuguese Central Bank supervised the application of Regulation 1606/2002 in the banking sector. The accounting frame of reference from 2005 onwards was as follows:

a) In 2005, listed and non-listed companies (except for Mutual Agricultural Credit banks [MACBs]) in a regulated market were required to adopt adjusted IAS/IFRS or Instruction 4/96 (PAPBS) in their individual accounts. After January, 2006, they were required to adopt adjusted IAS/IFRS.

b) In 2005, MACBs were required to adopt Instruction 4/96 (PAPBS) in their individual accounts. In 2006, they were required to adopt Instruction 4/96 (PAPBS) or adjusted IAS/IFRS; and after January, 2007 they were required to adopt adjusted IAS/IFRS.

Therefore, in reporting risk-related information in 2006, PCIs (with the exception of MACBs) were required to adopt adjusted IAS/IFRS in their individual accounts and to comply with the following standards:

- IAS 1 (*Presentation of Financial Statements*).[8]
- IAS 30 (*Disclosures in the Financial Statements of Banks and Similar Financial Institutions*).
- IAS 32 (*Financial Instruments: Presentation*).[9]
- IAS 39 (*Financial Instruments: Recognition and Measurement*).[10]
- IAS 37 (*Provisions, Contingent Liabilities and Contingent Assets*).

IFRS 7 (*Financial Instruments: Disclosures*) became obligatory after January, 2007, although its adoption before 2007 was recommended.

3.2.2 Minimum disclosure requirements

Under the PAPBS the few disclosure requirements for risk matters relate to accounting policies (principally about impaired assets and provisions), credit risk (ageing of assets according to maturity dates, details of impaired loans and advances), and liquidity risk (maturity analysis of current assets and liabilities). There is no requirement to disclose risk management information relating to objectives, policies and control structure.

[8] The amendment to IAS 1, adopted by Regulation 108/2006 of the European Parliament (concerning disclosure of information necessary to evaluate an entity's objectives, policies and processes for managing capital), was mandatory for periods beginning on or after 1 January 2007. Earlier application was encouraged.

[9] In 2006, IAS 32 included disclosure requirements about financial risks. IFRS 7 superseded IAS 30 and amended IAS 32 concerning disclosures of risk-related issues. IFRS 7 relates only to financial risks and requires a deeper level of disclosure than in the previous IAS 30 and IAS 32.

[10] IAS 39 was not considered because this study only explores international accounting requirements related to disclosure.

Under IAS/IFRS the RRD requirements, described in Table 3.1, are more extensive and demanding.

Table 3.1 - Minimum disclosure requirements before and after the adoption of IFRS 7

Risk Category[a]	Before adoption of IFRS 7 (IAS 1, IAS 30 and IAS 32)	After adoption of IFRS 7 (IAS 1, IFRS 7)
Generic[b]	Basis of preparation of financial statements. Specific accounting policies used (such as the basis of measurement). Description of financial risk management objectives and policies.	Basis of preparation of financial statements. Specific accounting policies used (such as the basis of measurement). Description of financial risk management objectives and policies.
Credit	Details of movements in any allowance for impairment losses and advances during the period. Aggregate amount of impairment losses. Maximum credit risk exposures. Potential risk concentrations (e.g. by industry type).	Total credit risk exposure and quality. Analysis of aged, past due, non-impaired assets. Analysis of individual impaired financial assets. Collateral held or repossessed. Carrying amounts of renegotiated assets.
Market[c]	Interest risk exposure detailed by contractual repricing or maturity dates. Nature and extent of off-balance sheet instruments exposed to interest rate risk. Repricing gap analysis. Sensitivity analysis of how risk exposures are managed and controlled.	Detailed information about VaR models (assumptions, parameters and limitations). Sensitivity analysis for each type of market risk. Description of the method, assumptions and parameters used.
Liquidity	Liquidity gap analysis of assets and liabilities according to their maturity.	Maturity analysis for financial liabilities. Qualitative disclosures about how liquidity risk is managed.
Capital structure and adequacy		Description of what is managed as capital. Nature of capital requirements imposed externally. Description of how capital requirements are incorporated into management of capital. Description of how managing capital objectives are met.

[a] Disclosures for operational risks are voluntary. IAS/IFRS only regulate financial risks. There are no specific disclosure requirements for operational risks.
[b] Article 66 of the Portuguese Companies Code requires companies to disclose in the management report their financial risk exposures and financial risk management objectives and policies. Therefore, if specific RRD were found in the management report sections, these disclosures were considered mandatory.
[c] Market risks include interest rate risk, foreign exchange risk, equity risk and commodities risk.

Although disclosures are to be provided in the notes, there are instances of cross-referenced information being provided in the management report, in accord with § B6 (IFRS 7). Narrative information about financial risk management objectives and policies is to be presented in the notes in self-contained risk management sections (IAS 1.104-5). PCIs adopting either PASBS or IAS/IFRS have to disclose this kind of

information in a self-contained section of the management report, as required by Article 66 of the Portuguese Companies' Code.

3.2.3 Literature review

Risk disclosure in corporate annual reports in the banking sector is under-researched (Woods *et al.*, 2008a). However, some studies have examined the importance of risk disclosure on the market discipline of risk taking in the banking industry. These studies confirm that greater disclosure enhances market discipline and that better risk management systems attract investors (Nier & Baumann, 2004, 2006; Sensarma & Jayadev, 2009). Market discipline is defined as the "actions of shareholders, creditors and counterparties of banking companies [stakeholders] that can influence the investment, operational and risk-taking decisions of bank managers" (Hirtle, 2007, p. 2).

Owing to the increasing complexity of the financial activities pursued by banks, and the consequent difficulties in properly monitoring and controlling finance companies, supervisory entities have relied on market discipline to assist their oversight. "Market monitoring" as a market discipline to limit banks' systemic risk, is performed by stakeholders not covered by financial safety provisions (Bliss & Flannery, 2002; Frolov, 2007). The greater the level and quality of disclosure, the greater the ability of stakeholders to monitor and assess changes in bank condition, and to incorporate those assessments into a firm's security price if negative changes occur. This monitoring mechanism generates market signals that convey useful information to supervisors responsible for reducing a bank's risk exposure (Bliss & Flannery, 2002).

Usually, a decision to disclose information is based on a consideration of offsetting costs and benefits. This raises the question of whether disclosures should be mandatory or voluntary. Mandatory disclosures are desirable if voluntary disclosure falls short of the socially optimal level that assures effective market discipline (Frolov, 2007). The banking industry has a sub-optimal disclosure level because of the costs of voluntary disclosure of private information (Verrecchia, 2001). Over-disclosing does not compensate banks for the disclosure costs beyond those that are necessary, and thus they are "typically cautious to go beyond minimal disclosure requirements" (Frolov, 2007, p. 183).

Finance institutions have an array of stakeholders (owners, borrowers, depositors, regulators and managers) (Branco & Rodrigues, 2008a). They provide

necessary goods and services, and their business practices are tied to the public interest (Miles, 1987). Therefore, increased public visibility demands extra care in addressing stakeholders' expectations through disclosure. Consequently, a greater level of legitimacy will be required through a reputation risk management process (Bebbington *et al.*, 2008). Further, the opaque nature of banks' activities supports Diamond's (1985) argument about how disclosure can reduce the costly acquisition of information, and therefore explain how it can be considered a socially desirable good. Greater levels of disclosure can reduce banking instability associated with socially undesirable "runs" on banks.

Consequently, supervisory and regulatory authorities impose socially desirable levels of mandatory risk information "as a necessary element of the government's prudential supervision of banks" because of the lack of incentives to voluntarily disclose (Frolov, 2007, p. 186). This helps assure the effectiveness of market discipline, as higher levels of risk transparency enhance market stability and confidence.[11]

Studies of RRD by banks have shown that market discipline or appropriate levels of supervisory oversight have been ineffective (Bischof, 2009; Boussanni *et al.*, 2008; Ernst & Young, 2008a; Hirtle, 2007; KPMG, 2008, 2009; Pérignon *et al.*, 2008; Pérignon & Smith, 2010; PriceWaterhouseCoopers, 2008; Woods *et al.*, 2008a, 2008b; Woods & Marginson, 2004; Yong *et al.*, 2005). Standard setters have responded by developing high quality standards to improve opaque disclosures, remedy their deficiencies, and enforce supervisory mechanisms (see Basel II, second Pillar). Studies before and after the adoption of high quality standards have reported conflicting levels of effect on risk management disclosures. PriceWaterhouseCoopers (2006, 2008) found that the adoption of IAS/IFRS and IFRS 7 did not significantly affect the disclosure of risk management activities. However, Bischof (2009) and Woods *et al.* (2008a) found otherwise. Some studies have also documented conflicting results in terms of disclosures of operational risk, and market risk. The Basel Committee on Banking Supervision, drawing on the BIS (2001, 2002, 2003) and Helbok and Wagner (2006), found increases in the extent and depth of voluntary operational risk disclosure. Avram and Skully (2007) found increases in disclosure quality, but a stable level of disclosure

[11] Credit risk is of particular importance because it is "regarded as the main contributor to a bank's overall risk profile" (Khambata and Hirche, 2002, p. 108). Risks related to off-balance sheet instruments (where credit risk is important) is a good example of information that would improve transparency. Before the GFC, the complexity of these instruments, their off-balance sheet nature, and poor regulation often meant that very little information was disclosed by banks (Heap, 2008).

quantity. KPMG (2008, 2009) and PriceWaterhouseCoopers (2008) reported that banks disclosed information about VaR results. However, broader studies, such as by Yong *et al.*(2005) of 146 Asian Pacific banks, and Bischof (2009) of 153 European banks, reveal different results: only a small number of banks disclosed VaR results before and after the adoption of IFRS 7.

3.2.3.1 Persistent deficiencies in risk-related disclosure

Disclosure deficiencies reported *before* the adoption of IAS/IFRS and IFRS 7 have persisted *after* the adoption of those standards: disclosures have been found to lack transparency, be insufficient from a user's perspective, and be incomparable (Woods and Marginson, 2004; Woods *et al.*, 2008a, 2008b). Only a few US bank holding companies disclosed information for VaR by type of risk, backtesting, and stress testing despite market risk disclosures increasing between 1994 and 2004 (Hirtle, 2007). Only a third of risk disclosures by Asia Pacific banks followed the Basel recommendations (Yong *et al.*, 2005). Although most banks disclose information about how they measure and assess performance in managing market risks, only about one-third reported quantitative information on market risk exposure and performance. VaR disclosures were not comparable. A low level of disclosure of credit, liquidity, and operational risks has been found too – such as lack of disclosure of detailed policies to mitigate credit and liquidity risk. Pérignon *et al.*, (2008) and Pérignon and Smith (2010) found pervasive and persistent overstatements of VaR results and overuse of historical simulation (Pritsker, 2006).

Boussanni *et al.*, (2008) documented a wide disparity in the level and extent of liquidity risk disclosures between European banks. They concluded that disclosures about contingency planning and internal controls were insubstantive and incomplete. Further, risk disclosures were essentially qualitative (Linsley *et al.*, 2006). These results were confirmed by Ernst and Young (2008a), KPMG (2008, 2009), and PriceWaterhouseCoopers (2008). Other deficiencies were detected in credit risk disclosures (different time bands used in ageing analyses of past due assets, lack of detailed description of the associated collateral), and liquidity risk disclosures (use of generic liquidity risk management statements, misalignment between liquidity risk exposure and qualitative disclosures regarding management strategies to deal with those exposures, and the absence of sensitivity analysis of liquidity risk exposure).

These studies found poor transparency features, including unclear communication of the risks being managed (Woods & Marginson, 2004), misalignments between key risk topics, imbalances between qualitative and quantitative data, undue reliance on statistical estimates to create a false sense of quantitative precision (Ernst & Young, 2008b), and non-compliance with minimum mandatory requirements (Bischof, 2009).

3.3.3.2 Finance sector preparedness for risk disclosure

Research from throughout the world reveals a high likelihood that managers and banks are ill-prepared to deal appropriately with risk exposures. In the US a minority of banks used, or planned to use, in-house models of credit risk management (Fatemi & Fooladi, 2006). Most senior managers of Nigerian banks were not fully prepared to manage liquidity risk exposure and were not conversant with common methods of measuring and managing a bank's liquidity exposure (Toby, 2006). Spanish saving banks lacked good knowledge of the operational risk requirements of the Basel II Accord, lacked an efficient organisational structure through which to implement an advanced operational risk information system, and had information systems that were incapable of responding to the Basel II requirements (Flores *et al.*, 2006). Other surveys have reached similar conclusions (Ernst & Young, 2006). Despite a good understanding of risk and risk management, staff of banks in the United Arab Emirates could not prioritize their main risk efficiently (Al-Tamini & Al-Mazrooei, 2007). Generally, Islamic banks are moderately efficient in risk assessment and analysis, risk monitoring and identification (Hassan, 2009). The techniques they use predominantly involve maturity matching, gap analysis and credit ratings (Ariffin *et al.*, 2009).

There needs to be stronger acknowledgement by senior management that the implementation of the Basel II requirements will lead to a better understanding of a bank's risk profile. Inadequate risk management and corporate governance practices, and failure of financial regulators to supervise these practices have been identified as important causes for the banking crises in Ireland and Iceland (O'Sullivan & Kennedy, 2010; Sigurjonsson, 2010). In 2008, a survey of leading banks around the world showed that ineffective risk governance, risk reporting, and firm-wide risk expertise were major contributors to the GFC (Hashagen *et al.*, 2009).

3.3 Research Method

3.3.1 Sample

From a population of 298 companies with individual annual reports published in the Portuguese Central bank database as at December 31, 2007 a sample of 190 PCIs was drawn (Table 3.2). All Portuguese financial institutions (99 companies) and nine PCIs (two financial holding companies with incomplete annual accounts for 2006; four MACBs that adopted IAS/IFRS in 2006; and one investment bank and two financial holdings that adopted PAPBS in 2006) were excluded.

3.3.2 Method

Content analysis was used to quantify the risk-related quantitative information and narrative information disclosed in the annual reports. All items identified as risk disclosures required by IAS 1, IAS 30, IAS 32, IFRS 7 and the third Pillar of the Basel II Accord were included.[12] There were six risk disclosure categories defined as:

- *risk management objectives and policies*: risk identification and definitions, risk management policies, and whether there was a comprehensive risk report.
- *credit risk*: the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. Indicated by the amount of credit risk exposure, past due and impaired assets, collateral held, and credit risk quality.
- *market risk*: the risk of losses in on-balance sheet and off-balance sheet positions arising from movements in market prices. Indicated by the amount of market risk exposure and internal/external risk measurement models. Risks subject to this requirement pertain to *interest rate-related instruments* and *equities* in the trading book; *foreign exchange risk* and *commodities risk* throughout the bank.
- *liquidity risk:* the risk that the firm will be unable to efficiently meet expected and unexpected current and future cash flow and collateral needs without affecting its daily operations or financial condition. Indicated by the amount of liquidity risk exposure and discussion of funding policies.

[12] These were largely in terms of disclosure requirements for capital structure and adequacy, and operational risk. The Basel II Accord became mandatory for PCIs after January, 2007. However, PCIs have been preparing for its adoption since 2004.

Table 3.2 - Portuguese Credit-granting Institutions in the sample

	Number of companies
Commercial banks	
- Mutual Agricultural Credit banks [MACBs]	101
- Other	22
Investment banks	18
Credit Financial Institutions [CFIs]	15
Financial holding companies	21
Other entities	13
Total	190

The Portuguese finance sector is composed of credit-granting institutions and financial companies. Decree-Law 298/92 defines credit-granting institutions as "companies whose business is to receive deposits or other repayable funds from the public and to grant credits for its own accounts" (Article 2). Financial companies are "companies that are not credit institutions" (Article 5). This essay deals only with RRD practices of credit-granting institutions.

Owing to the different business goals of banks, they were categorized as *commercial* banks and *investment* banks.[17] Commercial banks deal with checking, savings, and money market accounts. They accept deposits and perform lending activities. Investment banks raise capital, trade securities and manage corporate mergers and acquisitions. *Commercial* banks are divided into *MACBs*, and *Other banks*. Only MACBs have adopted the PAPBS in their individual accounts according to Notice 1/2005 of the Portuguese Central Bank. All the other companies have adopted adjusted IAS/IFRS rules.

Credit Financial Institutions are regulated by Decree-Law 186/2002, and are very similar to banks. They focus on lending activities, but cannot receive deposits from the public.

Financial holding companies are registered by the Portuguese Central Bank. They hold and control equity shares of PCIs included in the sample. Notice 1/2005 of the Portuguese Central Bank also applies to financial holding companies whose subsidiaries are credit or investment companies. To be considered a financial holding company their subsidiaries should represent at least 50% of consolidated assets. However, the Portuguese Central Bank can propose other criteria.

Other entities deal with leasing, factoring, and mutual guarantee activities. They include investment companies and credit-purchase financing companies not classified as banks or credit financial institutions.

- *operational risk*: the risk of loss resulting from inadequate internal processes, people and systems, from external events or from the adaptation of information systems to the Basel II requirements.
- *capital structure and adequacy*: the measure of a bank's financial strength and stability. Indicated by capital structure and amounts of Tier 1, 2 and 3; capital

adequacy for different types of risk exposure and capital ratios; and capital adequacy approaches adopted under Basel II.

A binary coding system was used in which a PCI scored 1 if the item was reported, and 0 otherwise. Such disclosure scoring is useful in measuring the extent of, and variations in, reporting practices (Woods *et al.*, 2008a).[14] The information about the location of disclosures in the annual report, narratives, and information included in graphs and tables was coded. Content analysis of the entire sample was performed, informed by a prior coding of an initial sample of four annual reports with another (independently operating) coder. An inter-coder reliability test was undertaken (Krippendorff, 2004) to measure the scale of coding errors (Scott's *pi* = 86%). Such a level has been considered "an acceptable level of inter-coder reliability" in analysis of corporate report disclosures (Hackston & Milne, 1996, p. 87).

3.4 Results

3.4.1 Accounting and risk management objectives and policies

PCIs with the lowest frequencies of narrative disclosures about risk-related information are those in which Portuguese accounting rules were adopted (that is, the MACBs) (Table 3.3). These results corroborate the view that the adoption of IAS/IFRS has led to a greater amount of RRD (Woods *et al.*, 2008a; Bischof, 2009). However, the location of these disclosures is not uniform. Other commercial and investment banks and Credit Financial Institutions [CFIs] usually discuss risk in specific sections of the annual report. But, financial holding companies and other entities show lower levels. The information is dispersed throughout the annual report, impairing understandability. Similar results have been found for periods before and after the adoption of IFRS 7 (KPMG, 2008, 2009; PriceWaterhouseCoopers, 2008; Woods *et al.*, 2008a; Woods & Marginson, 2004).

Another surprising result is the low frequency of disclosure of risk management policies and control structure in financial holding companies, despite extended disclosures at a consolidated level.

Of the PCIs that adopted IAS/IFRS in their individual annual reports, the highest level of disclosure was by other commercial banks, investment banks, and CFIs. However, the quality of risk reporting practices varied widely. At one extreme, two

Table 3.3 - Portuguese Credit-granting Institutions with narrative disclosures about risk-related information in risk management sections

	Banks					
	MACBs	Other commercial	Investment	CFIs	Financial holdings	Other entities
	%	%	%	%	%	%
Risks identified						
Key	0	23	17	27	5	8
Generic	0	73	83	67	43	38
Definitions						
Risks	0	82	78	67	38	38
Other	0	27	17	0	5	0
Risk management policies followed						
Credit risk	0	91	89	73	19	23
Market risk	0	82	78	27	24	0
Liquidity risk	0	82	67	33	19	8
Operational risk	0	50	44	47	10	15
Overall control structure						
Credit risk	0	73	78	67	14	38
Market risk	0	68	83	20	14	15
Liquidity risk	1	59	67	27	10	15
Operational risk	0	27	44	33	10	15
Risk management sections						
Management report	0	64	44	27	33	23
Notes	0	91	100	80	52	54

commercial banks provided comprehensive risk reports. These defined and reported key risks, the overall control structure for each risk factor, the risk management policies followed, the risk measurement models used to assess each risk factor, and discussed some strategic objectives. At the other extreme, several entities merely indicated they had risk exposures but did not explain further — they only provided risk definitions or detailed the overall control structure. Moreover, there was a lack of clarity in risk management statements, consistent with previous research (KPMG, 2008; PriceWaterhouseCoopers, 2008; Woods & Marginson, 2004). This made it difficult to

assess a company's risk exposure appropriately. There was no clear identification of key risks. Some companies used undefined financial jargon (such as VaR, stress test, backtest, and sensitivity analysis).

3.4.2 Credit risk

Except for financial holding companies, mandatory information required by IAS 30 and IAS 32 was provided by all PCIs (Table 3.4, Panel A). This included information about the size of credit risk exposure and past due and impaired financial assets. Thereby, this helped to assure comparability, confirming research by PriceWaterhouseCoopers (2008). However, understandability was impaired because narrative explanations of numerical information were less than expected.

There were differences in the detailing of credit risk exposure and past due impaired financial assets. Disclosure of risk concentrations (by industry sector) was lower. The information most disclosed was aggregated information, possibly because it was less costly to produce than non-aggregated information, and has lower proprietary costs. Owing to their inherent proprietary nature, and the pre-GFC period of analysis, the size of collateral and the discussion of credit risk exposure show lower and different levels of disclosure. There were no disclosures for renegotiated assets. As these are voluntary disclosures, a possible explanation for the lower levels of disclosure is that banks are "typically cautious to go beyond minimal disclosure requirements" (Frolov, 2007, p. 183). The disclosure level for companies adopting Portuguese accounting rules (the MACBs) were lower than for those adopting IAS/IFRS. Despite this difference, the disclosures are consistent and comparable.

Among adopters of IAS/IFRS, there were higher levels of disclosure in other commercial and investment banks, and CFIs, than in other entities. For commercial banks and CFIs, there were higher levels of narrative explanation of risk exposure, past due/impaired assets, and credit risk quality.[13] The levels of disclosure were higher than those found by Bischof (2009) in European commercial banks after the adoption of IFRS 7. Moreover, the disclosures approximated IFRS 7 requirements, except for the size of collateral held and renegotiated assets. Commercial banks and CFIs also seemed to prepare their credit risk information according to Basel II rules, since credit risk

[13] Widely used credit risk quality indicators were: past due ratio, coverage ratio, non performing loans and loan-to-value. Their disclosure levels across all PCIs are very different.

information by type of credit exposure, geographic distribution, industry type, and residual contractual maturity, was at high levels.

Table 3.4 - Portuguese Credit-granting Institutions with credit risk disclosures in annual reports

	Banks			CFIs	Financial holdings	Other entities
	MACBs	Other commercial	Investment			
	%	%	%	%	%	%
Panel A: Frequent credit risk reporting pratices						
Size of credit risk exposure	99	100	100	100	29	100
Narrative explanations of numerical disclosures	1	59	56	80	0	46
Size of past due and impaired assets	100	100	100	100	33	92
Narrative explanations of numerical disclosures	0	27	22	33	0	31
Size of collateral (other enhancements held)	98	41	39	27	5	8
Credit risk quality						
Discussion of credit risk indicators	60	82	28	53	29	8
Summary of internal rating systems	2	73	39	67	19	8
Panel B: Comparability problems in credit risk reporting practices						
Size of credit risk exposure						
By industry sector (maturing and past due assets)	0	27	17	7	0	8
By maturing assets						
Prior year groups (up to 1 year)	0	5	0	0	0	15
Prior year groups (up to 2 years)	0	5	0	0	0	0
Prior year groups (up to 3 years)	0	0	6	7	0	0
Prior year groups (up to 5 years)	1	9	22	33	0	15
Prior year groups, with qualitative groups	97	41	22	20	0	46
No prior year groups (up to 5 years)	0	9	0	7	0	0
No prior year groups, with qualitative groups	0	14	17	0	0	0
Aged past due assets (time bands)						
Prior year groups, only	11	32	33	27	0	8
Prior year groups (up to 1 year)	0	9	6	0	0	15
Prior year groups (up to 3 years)	0	36	22	20	0	8
Prior year groups (up to 4 years)	3	0	0	7	0	0
Prior year groups (up to 5 years)	0	5	11	13	0	8

Transparency flaws in credit risk disclosures are shown in Table 3.4 (Panel B). The PCIs who followed IAS/IFRS were inconsistent in the amounts of credit risk exposure they disclosed by industry sector and by maturing assets. Some PCIs indicated explicitly that the amounts disclosed included maturing and past due assets, whereas others indicated explicitly that the amounts disclosed only included maturing assets. In the worst case, no explicit information was provided, making it difficult to ascertain the amount disclosed.

Table 3.4 (Panel B) also shows differences in the maturity/aged time bands used to disclose the amounts of credit risk exposure by maturing assets, and past due assets, respectively. The differences are in the maximum range in the qualitative groups, and different time bands for the prior/no prior year figures. Similar problems were detected in studies after the adoption of IFRS 7 (KPMG, 2008, 2009; PriceWaterhouseCoopers, 2008).

3.4.3 Market risk

Table 3.5 (Panel A) shows a much lower level of market risk disclosures by companies that adopted Portuguese accounting rules (MACBs) than those that adopted IAS/IFRS.

Among the companies that adopted IAS/IFRS, banks show the highest levels of disclosure compared to CFIs, financial holding companies and other entities. The results diverge for frequencies of presentation of the repricing gap and the use of maturity dates/repricing gap to measure exposure to interest rate risk. Thus, some PCIs do not disclose the amount of their exposure. Moreover, Table 3.5 (Panels A and B) shows lower frequencies on monetary results for VaR and sensitivity analysis compared to the use of these two techniques. This is consistent with Bischof (2009) and Yong *et al.* (2005), but only for other commercial and investment banks. Although the results are a slightly higher than those found in these two studies, they do not confirm the findings of KPMG (2008, 2009) or PriceWaterhouseCoopers (2008) (where all banks disclosed VaR results). A plausible explanation is that the VaR disclosures are costly to prepare, complex to interpret, and inherently unreliable, thereby encouraging non-disclosure (Chipalkatti & Datar, 2006).

The proprietary nature of VaR information provides an incentive to withdraw it from annual reports to avoid gambling with a bank's reputation (Frolov, 2007; Pérignon *et al.*, 2008). Inconsistencies detected for commercial and investment banks were related to VaR, stress tests, backtests, and sensitivity analysis, consistent with prior studies (Bischof, 2009; Ernst & Young, 2008a; KPMG, 2008, 2009; PriceWaterhouseCoopers, 2008; Woods & Marginson, 2004; Woods *et al.*, 2008a, 2008b; Yong *et al.*, 2005).

Although stress tests and backtests are essential in assessing the reliability of VaR monetary values and in helping to define risk profile more precisely (Marcelo *et al.*, 2008), only two commercial banks with comprehensive risk reports disclosed results of such tests.

Table 3.5 - Portuguese Credit-granting Institutions with market risk disclosures in annual reports

	Banks			CFIs	Financial holdings	Other entities
	MACBs	Other commercial	Investment			
	%	%	%	%	%	%
Panel A: Frequent market risk reporting practices						
Market risk exposure						
Foreign exchange risk exposure	0	41	72	0	5	15
Interest rate risk exposure	1	77	83	47	24	31
Measured by maturity dates/repricing gap	0	50	56	13	5	31
Presentation of a repricing gap table	0	36	33	13	0	23
Value-at Risk monetary results	0	32	33	0	5	0
Sensitivity analysis monetary results	0	27	6	7	0	0
Panel B: Comparability problems in market risk reporting practices						
Maturity/repricing time bands						
Prior year figures, only	0	0	0	13	0	0
Prior year figures (up to 2 years)	0	0	6	0	0	0
Prior year figures (up to 3 years)	0	5	0	0	0	0
Prior year figures (up to 5 years)	0	5	17	0	0	0
Prior year figures (up to 7 years)	0	5	0	0	0	0
Prior year figures (up to 20 years)	0	5	0	0	0	0
Prior year figures, with qualitative groups	0	18	6	0	0	23
No prior year figures (up to 15 years)	0	5	0	0	0	0
Value-at-Risk assumptions						
Use of Value-at-Risk	0	45	72	0	10	0
Method used - riskmetrics	0	9	17	0	0	0
Method used - historical simulation	0	18	28	0	10	0
Method used - MonteCarlo simulation	0	9	6	0	0	0
Confidence level/Holding period	0	0	0	0	0	0
99% / 1 day	0	9	6	0	5	0
99% / 10 days	0	32	17	0	5	0
99% / 22 days	0	0	6	0	0	0
99% / 90 days	0	0	6	0	0	0
99% / 2 weeks	0	9	6	0	0	0
95%	0	5	0	0	0	0
Use of stress test	0	32	33	0	5	0
Use of backtests	0	27	44	0	10	0
Sensitivity analysis assumptions						
Use of sensitivity analysis	0	45	50	7	19	0
Period of analysis - monthly	0	9	11	0	0	0
Period of analysis - quarterly	0	5	0	0	0	0
Period of impact (12 months, only)	0	5	17	7	0	0
Basis point value used - 100 bvp	0	9	22	0	0	0
Basis point value used - 200 bvp	0	23	0	7	5	0

There was a prevalence of historical simulation to measure VaR. As Pritsker (2006, p. 578) notes, the inadequacy of such simulations is that they "respond

sluggishly to changes in conditional volatility, and respond to large price movements asymmetrically (…). Because of these deficiencies, errors in risk estimates accumulate through time and sometimes become very large (…) [such that] traditional backtests have little power to detect them." VaR and sensitivity results are also not comparable. Table 3.5 (Panel B) shows differences in assumptions and parameters used (relating to methods, confidence level, holding periods, analysis period, basis point value, and period of impact). In some cases no information is provided.

Different maturity/repricing time bands were used by the other commercial and investment banks that presented a repricing gap table, impairing comparability (Table 3.5, Panel B). A repricing gap table is a naïve way of presenting interest rate risk exposure, if unaccompanied by sensitivity results showing how a positive or negative parallel shift in the interest rate curve would affect the gap. Only one commercial bank with a comprehensive risk report disclosed this kind of information. The lack of objectivity diminished the understandability of risk information.

3.4.4 Liquidity risk

Table 3.6 (Panel A) shows that liquidity risk disclosures by companies adopting Portuguese accounting rules (MACBs) are lower (in level and quality) than for those adopting IAS/IFRS. MACBs did not disclose a liquidity gap analysis table, but presented a separate maturity analysis for current assets and liabilities.

For PCIs that adopted IAS/IFRS, Table 3.6 (Panel A) demonstrates non-compliance with minimum mandatory requirements established by IAS 30 and IAS 32. A sub-optimal level of liquidity risk disclosure, found also by Yong *et al.* (2005) and PriceWaterhouseCoopers (2008), was characterised by an absence of discussion about detailed policies for mitigating liquidity risk and few specific narratives on how liquidity risk is managed. Only half of the commercial and investment banks and CFIs disclosed their liquidity risk exposure using a maturity analysis table. Further, not all clearly stated the maturity concept that was used to build the gap analysis (Table 3.6, Panel B). Numerical and narrative disclosures were aligned poorly, consistent with prior research (Boussanni *et al.*, 2008; KPMG, 2008, 2009; PriceWaterhouseCoopers, 2008; Yong *et al.*, 2005). Few companies clearly discussed their funding policies and any alignment with their liquidity risk exposure. Users would have to exert considerable effort to link exposures to funding policies and to determine reasons for the adoption of those policies.

Table 3.6 - Portuguese Credit-granting Institutions with liquidity risk disclosures in annual reports

	Banks			CFIs	Financial holdings	Other entities
	MACBs	Other commercial	Investment			
	%	%	%	%	%	%
Panel A: Frequent liquidity risk reporting practices						
Liquidity gap analysis table	0	55	67	47	10	31
Discussion of values	0	9	0	0	0	0
Other isolated maturity groups	99	32	6	27	0	15
Clear alignment between liquidity gap and funding policies	0	0	6	0	0	0
Clear discussion of funding policies	0	32	11	7	5	0
Panel B: Comparability problems in liquidity risk reporting practices						
Liquidity gap analysis table						
Maturity concept clearly stated	99	41	61	40	5	15
Maturity time bands						
Prior year figures (up to 1 year)	0	5	0	0	0	0
Prior year figures (up to 5 years)	0	14	6	20	5	8
Prior year figures, with qualitative groups	0	1	2	3	4	5
Prior year figures (up to 10 years)	0	5	0	0	0	0
No prior year figures (up to 5 years)	0	5	0	0	0	0
Other isolated maturity time bands						
Prior year figures (up to 1 year)	0	9	0	7	0	8
Prior year figures (up to 3 years)	0	0	6	0	0	0
Prior year figures (up to 5 years)	0	23	17	0	0	8
Prior year figures, with qualitative groups	0	18	17	13	5	15
No prior year figures (up to 5 years)	0	14	11	0	0	0

The other PCIs either did not disclose any information or disclosed their maturity analysis separately (for specific itens such as loans and advances, resources, derivatives, subordinated loans, investments held to maturity). Among the PCIs that disclosed a liquidity gap analysis, the information was inconsistent, because maturity time bands differed (Table 3.6, Panel B), consistent with KPMG (2008, 2009). These practices make it difficult for users to assess banks' liquidity risk exposure

appropriately or to build a liquidity gap table. Consequently, comparability across companies is rendered a difficult task too.

3.4.5 Operational risk

Table 3.7 shows that only one commercial bank disclosed an amount for operational risk exposure. Only one commercial bank completed the Basel II adaptation process. Very low frequencies of operational risk management disclosure and risk exposure were made by MACBs compared to the rest of the PCIs surveyed. Other commercial and investment banks and CFIs disclosed more in terms of risk management policies, operational control structures, and operational risk exposures. These PCIs seem to be still adapting to Basel II requirements and therefore are more inclined to address disclosure requirements regarding definitions and risk management policies in a self-contained section of the management report and notes. Moreover, scattered throughout the management reports were disclosures about the priorities of institutions in implementing new information systems, in training workers, and in restructuring organizations. As 2006 was a complex period of adaptation, and because this is voluntary information, it is justifiable that (for reasons of caution and reputation damage) those disclosures were mainly in the form of generic and imprecise narratives.

Table 3.7 - Portuguese Credit-granting Institutions with operational risk disclosures in annual reports

Frequent operational risk reporting practices

	Banks			CFIs	Financial holdings	Other entities
	MACBs	Other commercial	Investment			
	%	%	%	%	%	%
Operational risk exposure	0	5	0	0	0	0
Clear statement of adaptation to Basel II						
Adaptation of information systems	3	41	28	20	19	8
Adaptation completed	0	5	0	0	0	0

3.4.6 Capital structure and adequacy

The highest level of disclosure for capital structure and adequacy was by banks (Table 3.8, Panel A) possibly because their higher levels of public visibility increase the need

for legitimation with customers by informing them of their ability to avoid a banking crisis. These reasons have been used to explain the objectives of capital adequacy requirements (Marini, 2008).

Table 3.8 - Portuguese Credit-granting Institutions with capital structure and adequacy disclosures in annual reports

	Banks			CFIs	Financial holdings	Other entities
	MACBs	Other commercial	Investment			
	%	%	%	%	%	%
Panel A: Capital struture and adequacy reporting practices						
Capital structure						
Accounting structure	100	100	100	100	100	100
Tier 1 amount	2	14	0	0	0	0
Tier 2 amount	5	27	0	7	10	0
Tier 3 amount	0	0	0	0	5	0
Total eligible capital value	48	41	6	13	10	0
Discussion about composition	6	23	0	7	10	0
Capital adequacy						
Discussion of capital adequacy approach	0	5	6	0	0	0
Capital requirements for credit risk	0	9	6	0	0	0
Capital requirements for market risk	0	5	0	0	0	0
Capital requirements for operational risk	0	5	0	0	0	0
Total capital ratio	63	77	67	33	43	8
Tier 1 ratio	11	41	28	7	29	0
Tier 2 ratio	0	9	0	0	0	0
Total capital ratio according to Basel II	0	9	6	0	5	0
Panel B: Adoption of capital adequacy approches proposed by Basel II requirements						
Capital adequacy approaches to be adopted						
Credit risk						
Standard approach (SA)	1	23	11	0	10	8
Internal ratings based approach (IRB)	0	27	17	20	10	0
Market risk						
Standard approach	1	0	6	0	0	8
Internal models approach	0	14	0	13	0	0
Operational risk						
Basic indicator approach (BIA)	1	14	6	0	0	0
Standard approach (SA)	0	23	6	0	0	8
Advanced measurement approach (AMA)	0	18	6	13	10	0

However, few PCIs included narrative disclosures that critically discussed the amounts calculated for total eligible capital value, impairing understandability. Six banks (other commercial/investment banks) disclosed the approaches they followed to assess capital adequacy, capital requirements for credit, market and operational risk, and total capital ratio, according to Basel II (Table 3.8, Panel A). Some signalled the

adoption of more advanced approaches in the future – IRB for credit risk, internal models for market risk, and AMA for operational risk[14] (Table 3.8, Panel B).

3.5 Conclusions

When compared to Portuguese accounting rules, the adoption of IAS/IFRS has brought a greater flow of RRD but has not assured increased transparency across the Portuguese banking sector, consistent with previous studies (PriceWaterhouseCoopers, 2008). The Portuguese banking system is highly visible as a consequence of the greater (relative) number of branches. The two commercial banks with the best risk reporting performance had the highest number of branches, and are listed on a regulated market (Euronext Lisbon) and a foreign stock exchange market. However, among the PCIs with a lower number of branches (CFIs and other entities), transparency flaws were more intense compared to commercial banks, and previous findings (Bischof, 2001; Boussanni *et al.*, 2008; Ernst & Young, 2008a; Hirtle, 2007; KPMG, 2008, 2009; PriceWaterhouseCoopers, 2008; Woods *et al.*, 2008a, 2008b; Woods & Marginson, 2004; Yong *et al.*, 2005).

Among financial holding companies, there were low levels of disclosure because these institutions made extended disclosures at a consolidated level. Risk reporting practices among investment banks are similar to those of commercial banks. But, this is not explained by public visibility, because the number of investment banks branches is much lower. However, many investment and commercial banks belong to the same financial group, possibly explaining that similarity.

The lack of transparency in minimum binding disclosure requirements for market risk, liquidity risk and risk management objectives and policies was similar to the levels found in research studies conducted before the adoption of IFRS 7 (Boussanni *et al.*, 2008; Hirtle, 2007; Pérignon *et al.*, 2008; Woods *et al.*, 2008a, 2008b; Woods & Marginson, 2004; Yong *et al.*, 2005). A lack of transparency was found too in voluntary disclosures (for example, of operational risk, capital structure and capital adequacy). Only credit risk disclosures presented optimal levels of mandatory compliance, similar to the findings of Frolov (2006) and KPMG (2008, 2009). Assuming usefulness to

[14] The Basel II Accord proposed the following approaches to assess capital adequacy: standard approach (SA), internal ratings approach "IRB – foundation" or internal ratings approach "IRB – advanced" for credit risk; standard approach (SA) or internal models approach for market risk; and basic indicator approach (BIA), standard approach (SA) or advanced measurement approach (AMA) for operational risk.

investors is a direct function of attaining qualitative characteristics of relevance, reliability, understandability, and comparability, the findings for PCIs that have adopted IAS/IFRS confirm previous research (Avram & Skully, 2007; Bischof, 2009; Boussanni *et al.*, 2008; Ernst & Young 2008a; Frolov, 2006; Hirtle, 2007; KPMG, 2008, 2009; Linsley *et al.*, 2006; Pérignon *et al.*, 2008; Pérignon & Smith, 2010; PriceWaterhouseCoopers, 2006, 2008; Woods *et al.*, 2008a, 2008b; Woods & Marginson, 2004; Yong *et al.*, 2005). As in other countries, transparency across companies was impaired by comparability difficulties. Breaches of the other three desired qualitative characteristics of financial statements were found too, reducing the usefulness of RRD in decision making. Users face considerable difficulty in capturing the appropriate risk profile of a credit-granting institution and in comparing that profile across the sector.

The understandability of narratives was poor. This was compounded by a lack of narratives to explain numerical disclosures. The result is a potential increased probability of multiple interpretations by readers, owing to the imprecision, vagueness and misleading nature of the statements made. Numerical risk disclosures were useful, but were not fully transparent. Many lacked reliability (for example, VaR statistics) because no stress tests or backtests assured those statistics under different scenarios. They lacked comparability across companies too because of differing disclosure practices. They are likely not to be understood fully because of lack of alignement with narrative explanations. Users do not know if the information is bad news or good news because no further information is usually given. Where given, it is dispersed throughout the annual report.

Although the essay did not analyse risk disclosures after IFRS 7 became operational, Bischof (2009), Ernst and Young (2008a), KPMG (2008, 2009) and PriceWaterhouseCoopers (2008) confirm that such adoption did not guarantee transparency, or assure the effectiveness of market discipline. Considering these flaws and the causes of the GFC, attempts have been made to reinforce market stability and confidence. The Larosiére Report (European Commission, 2009) proposed a recommended basis for the EU position at the G20 meeting in London in 2009, where the agenda of regulatory reform included enhancing regulation and strengthening transparency; reinforcing international cooperation and integrity in financial markets; and reforming the International Monetary Fund, Word Bank and multilateral development banks (European Bank Committee, 2009). The G20 agreed to proposals to

refine bank capital standards; mitigate bank procyclicality; implement a bank leverage ratio standard;[15] adopt voluntary executive compensation standards; centralize over-the-counter derivatives trading and clearing; develop cross-board finance institutions contingency plans;[16] and converge IFRS and US GAAP (FSB, 2009a).[17] After G20 endorsement of 20 recommendations from the FSB (2009b) to address information gaps (described in a report *The Financial Crisis and Information Gaps*), International Organization of Securities Commissions [IOSCO] (2010) published a report (*Disclosure Principles for Public Offerings and Listings on Asset-Backed Securities [ABS]*) to guide securities regulators who are developing or reviewing their regulatory disclosure regimes with respect to public offerings and listings of ABS. IOSCO is considering further work on collateralized debt obligation.

In 2009, the BIS revised the Basel II market risk framework by introducing higher capital requirements to capture the credit risk of complex trading activities. The BIS stressed the VaR requirement to reduce the procyclicality of minimum capital requirements. Pillars 2 and 3 were reinforced in securitisation, off-balance sheet exposures, and trading activities. Following endorsement of the reform programme by the FSB and the G20, the BIS issued consultative proposals to improve the quality of the Tier 1 capital base. This was intended to promote the build-up of capital buffers in good times so that they could be drawn on in periods of stress. The BIS requires more forward-looking provisioning to help reduce procyclicality, and to introduce a minimum liquidity standard for internationally active banks. In terms of disclosures, banks will be required to disclose information about their regulatory capital elements.

The EU has adopted this recommendation. The Capital Requirements Directive [CRD] was amended in 2009 (Directive 2009/111/EC, European Parliament and Council) regarding large exposures, hybrid capital, liquidity risk management, and securitisation. However, to date, Portugal has not enacted any law to implement this directive. Regarding BIS reforms relating to trading book, re-securitisation and remuneration, CRD III is under negotiation. CRD IV, which is open for public consultation, canvasses proposals regarding the building of a high quality capital base, strengthening risk coverage, mitigating procyclicality and discouraging leverage (as

[15] The Basel Committee is responsible for this task. Target dates range from December 2010 until December 2012.

[16] The FSB is responsible for this task. Target dates range from March 2010 until December 2012.

[17] The IASB is responsible for this task. The target date is June 2011.

well as strengthening liquidity risk requirements and forward-looking provisioning for credit losses).

Following from the G20 conclusions, IFRS 7 was amended to introduce a three-level hierarchy for fair value measurement disclosures that requires entities to provide additional disclosures about the reliability of fair value measurements. The amendments also clarify and enhance existing requirements for the disclosure of liquidity risk by seeking qualitative disclosures to support quantitative data. They effect a stronger alignment between liquidity risk exposure and related risk management policies.

However, the IFRS 7 amendments were insufficient in overcoming disclosure deficiencies detected in studies *before* and *after* the initial adoption of IFRS 7. Potential reasons are that IAS/IFRS are not aligned with the way financial companies manage risk, and they are not bank-oriented standards (PriceWaterhouseCoopers, 2008). IAS/IFRS focus only on financial risk. They ignore the other kinds of risks (such as operational risks) faced by banks. This misalignment can culminate in the dispersal of risk reporting practices throughout an annual report, rendering them incomparable and imprecise (KPMG, 2008; PriceWaterhouseCoopers, 2008; Woods *et al.*, 2008a, 2008b; Woods & Marginson, 2004). Furthermore, the principles-based nature of IAS/IFRS implies the use of professional judgement, leading to non-comparable reporting practices. Thus, risk disclosure regulators should collaborate to require a consistent disclosure process that will improve the level of comparability across the sector.[18] Future amendments to IFRS 7 should consider issues of the specific time bands to be used regarding the maturity of assets and credit risk exposures, past due assets, disclosure of sensitivity to stressed market conditions for market risk, and sensitivity analysis/stress tests of liquidity.

Several studies have shown low levels of compliance with IAS/IFRS in the first year of adoption (Carlin *et al.*, 2009; Carlin & Finch, 2010). This is a possible explanation for the low levels of disclosure found in the present essay. Ball *et al.*, (2003) and Bradshaw and Miller (2008) concluded that formal harmonization does not necessarily lead to complete material harmonization,[19] but depends on rule enforcement

[18] Recent changes in the IASC Foundation Constitution are intended to improve the involvement of stakeholders (including prudential regulators and emerging markets). A new monitoring board of market regulators was created with more investors and analysts included as members of the Standards Advisory Committee.

[19] Formal harmonization "refers to the way accounting standards are written: that is, to their legal or quasi-legal specification." Material harmonization "refers to the level of concordance exhibited by the actual practices of companies in implementing accounting standards" (Mustata & Matis, 2007, p. 27).

in the regulatory environment (Bradshaw & Miller, 2008). Consequently, "the extent to which accounting rules influence [accounting quality among non-finance companies] (...) depends on how well these rules are enforced" (Leuz *et al.*, 2003, p. 523). Enforcement mechanism procedures "monitor the compliance of the financial information with the applicable reporting framework and taking the appropriate measures in case of infringements discovered in the course of enforcement" (Committee of European Securities Regulators, 2003). Efforts to improve self-enforcement mechanisms in terms of corporate governance structures (e.g., audit committees), quality of statutory audits, and institutional oversight systems (e.g., Portuguese Central Bank, and Portuguese Stock Exchange Committee) are critical in achieving minimum disclosure requirements.[20] If better risk reporting is mandated, this will encourage companies to implement better risk management systems and better risk reporting should ensue (Solomon *et al.*, 2000).

The findings reported here should be assessed with regard for the limitation that the content analysis method (used widely across many disciplines) does not allow readily for in-depth qualitative analysis of disclosures. Further, the potential for information about risk to be provided in media other than annual reports (such as interim reports, press-releases, web sites, analyst meetings or prospectuses) should not be overlooked. Future research could investigate factors likely to lead to better RRD (such as visibility, ownership structure, and board of directors' membership).

[20] In May 2010, Commissaire Barnier announced that agreement on the proposal on supervising reform is needed in order to create the European Systemic Risk Board and the European Supervisory Authorities. He also announced the adoption of a *Green Paper on Corporate Governance in Financial Institutions and Remuneration Policies* to help address questions of how to manage risk effectively in financial institutions, and how to empower shareholders (Barnier, 2010).

Appendix 3.1 – Companies in the sample

Agrogarante - Sociedade de Garantia Mútua, SA
Aljardi SGPS, Lda
Alves Ribeiro - Investimentos Financeiros, SGPS, SA
Banco ActivoBank (Portugal), SA
Banco BAI Europa, SA
Banco Bilbao Vizcaya Argentaria, Portugal, SA
Banco BPI, SA
Banco Cetelem, SA
Banco Comercial dos Açores, SA
Banco Comercial Português, SA
Banco de Investimento Global, SA
Banco do Brasil (Portugal), SA
Banco EFISA, SA
Banco Espirito Santo de Investimento, SA
Banco Espirito Santo dos Açores, SA
Banco Espírito Santo, SA
Banco Finantia, SA
Banco Invest, SA
Banco Investimento Imobiliário, SA
Banco Itaú Eeuropa, SA
Banco Madesan, Sociedade Unipessoal, SA
Banco Mais, SA
Banco Millennium BCP Investimento, SA
Banco Popular, Portugal, SA
Banco Português de Gestão, SA
Banco Português do Investimento, SA
Banco Primus, SA
Banco Privado Português, SA
Banco Rural Europa, SA
Banco Santander Consumer Portugal, SA
Banco Santander Totta, SA
BANIF - Banco Internacional do Funchal, SA
Banif - Banco Investimento, SA
BANIF Comercial, SGPS, SA
BANIF Crédito, SFAC, SA
BANIF Investimentos, SGPS, SA
BANIF Leasing, SA
Banif, SGPS, SA
BBVA Leasimo - Sociedade de Locação Financeira, SA
BBVA, Instituição Financeira de Crédito, SA
BCP - Participações Financeiras, SGPS, SA
BES Leasing & Factoring, Instituição Financeira de Crédito, SA

BESPAR, SGPS, SA
BEST - Banco Electrónico de Serviço Total, SA
BNP Factor - Companhia Nacional de Aquisição de Créditos, SA
BPN - Banco Português de Negócios, SA
BPN - Participações Financeiras, SGPS, Lda
BPN Crédito, Instituição Financeira de Crédito, SA
BPN, SGPS, SA
BSN - Banco Santander de Negócios Portugal, SA
Caixa - Banco de Investimento, SA
Caixa de Crédito Agrícola Mútuo [CCAM] Açores
Caixa Económica da Misericórdia de Angra do Heroísmo
Caixa Económica Montepio Geral
Caixa Geral de Depósitos, SA
Caixa Leasing & Factoring, Instituição Financeira de Crédito, SA
CCAM Águeda
CCAM Albergaria e Sever
CCAM Albufeira
CCAM Alcácer do Sal e Montemor-o-Novo
CCAM Alcanhões
CCAM Alcobaça
CCAM Alenquer
CCAM Algarve
CCAM Aljustrel e Almodôvar
CCAM Alto Corgo e Tâmega
CCAM Alto Douro
CCAM Alto Guadiana
CCAM Alto Minho
CCAM Amares
CCAM Anadia
CCAM Armamar e Moimenta da Beira
CCAM Arouca
CCAM Arruda dos Vinhos
CCAM Azambuja
CCAM Bairrada e Aguieira
CCAM Baixo Mondego
CCAM Barcelos
CCAM Batalha
CCAM Beira Baixa (Sul)
CCAM Beira Centro
CCAM Beja e Mértola
CCAM Borba
CCAM Bragança
CCAM Cadaval
CCAM Caixa Central

CCAM Caldas da Rainha, Óbidos e Peniche
CCAM Campo Maior
CCAM Cantanhede e Mira
CCAM Cartaxo
CCAM Chamusca
CCAM Coimbra
CCAM Coruche
CCAM Costa Verde
CCAM Elvas
CCAM Estarreja
CCAM Estremoz, Monforte e Arronches
CCAM Évora
CCAM Favaios
CCAM Ferreira Alentejo
CCAM Fornos de Algodres
CCAM Fundão e Sabugal
CCAM Guadiana Interior
CCAM Guarda e Celorico da Beira
CCAM Guimarães
CCAM Lafões
CCAM Lamego e Castro Daire
CCAM Loures
CCAM Lourinhã
CCAM Minho
CCAM Mogadouro e Vimioso
CCAM Moravis
CCAM Norte Alentejano
CCAM Oliveira de Azeméis
CCAM Oliveira do Bairro
CCAM Oliveira do Hospital
CCAM Ovar
CCAM Paredes
CCAM Pernes
CCAM Pinhal
CCAM Pombal
CCAM Ponte de Sôr
CCAM Portalegre e Alter do Chão
CCAM Porto
CCAM Porto Mós
CCAM Póvoa de Varzim, Vila do Conde e Esposende
CCAM Ribatejo Norte
CCAM Ribatejo Sul
CCAM Salvaterra de Magos
CCAM Santiago do Cacém

CCAM Santo Tirso
CCAM São Bartolomeu de Messines e São Marcos Serra
CCAM São João da Pesqueira
CCAM São Teotónio
CCAM Sátão e Vila Nova de Paiva
CCAM Seia
CCAM Serras de Ansião
CCAM Silves
CCAM Sobral de Monte Agraço
CCAM Sotavento Algarvio
CCAM Sousel
CCAM Tarouca
CCAM Terra Quente
CCAM Terras de Miranda do Douro
CCAM Terras Sousa, Ave, Basto e Tâmega
CCAM Tramagal
CCAM Vagos
CCAM Vale Cambra
CCAM Vale do Dão
CCAM Vale do Douro
CCAM Vale do Távora
CCAM Vale Sousa e Baixo Tâmega
CCAM Vila Franca de Xira
CCAM Vila Nova de Famalicão
CCAM Vila Nova de Tazém
CCAM Vila Verde e Terras de Bouro
Cofinoga Portugal, SGPS, SA
CrediAgora, Instituição Financeira de Crédito, SA
Credibom, Instituição Financeira de Crédito, SA
Credifin - Banco de Crédito ao Consumo, SA
CrediPlus, Instituição Financeira de Crédito, SA
DaimlerChrysler Services Portugal, Instituição Financeira de Crédito, SA
Deutsche Bank (Portugal), SA
Espirito Santo Financial (Portugal), SGPS, SA
FidisRetail, Instituição Financeira de Crédito, SA
Finantipar, SGPS, SA
Fincor, SGPS, SA
Finibanco - Holding, SGPS, SA
Finibanco, SA
Finicrédito, Instituição Financeira de Crédito, SA
Fortis Lease Portugal, Instituição Financeira de Crédito, SA
Garval - Sociedade de Garantia Mútua, SA
GE Consumer Finance, Instituição Financeira de Crédito, SA
Heller Factoring Portuguesa, SA

IBM Financiamento - Sociedade de Locação Financeira Mobiliária, SA
IPI Itaúsa Portugal Investimentos, SGPS, SA
Itaúsa Europa Investimentos, SGPS, Lda
Itaúsa Portugal, SGPS, SA
Lisgarante - Sociedade de Garantia Mútua, SA
Norgarante - Sociedade de Garantia Mútua, SA
PME Investimentos - Sociedade de Investimentos, SA
Privado Holding, SGPS, SA
RCI Gest Leasing - Sociedade de Locação Financeira Mobiliária, SA
Rentipar Financeira, SGPS, SA
Santander Totta, SGPS, SA
SLN - Sociedade Lusa de Negócios, SGPS, SA
Sofinloc, Instituição Financeira de Crédito, SA
SPGM - Sociedade de Investimento, SA
Totta - Credito Especializado, Instituição Financeira de Crédito, SA
Unicre, Instituição Financeira de Crédito, SA

Essay 4

Public visibility and risk-related disclosures in Portuguese credit-granting institutions

4.1 Introduction

This essay assesses the RRD of 190 PCIs based on contention that shareholder theory provides an insufficient explanation of banks' RRD. The essay proceeds on the basis that the banking sector is characterised by a multiple set of relationships between shareholders, debtholders, borrowers, regulators, and employees (Yamak & Süer, 2005). Building good relations with such primary stakeholders is crucial in gaining and maintaining legitimacy. Good relations usually result from a legitimation process that is part of a policy to manage corporate reputation and achieve stakeholders' best interest through disclosure (Bebbington *et al.*, 2008).

Because credit-granting institutions are consumer-oriented, they have high levels of public visibility (Cowen *et al.*, 1987), implying a high level of stakeholders' interest and power. Since stakeholders are crucial elements of monitoring whether a company has a good or bad reputation (Roberts & Dowling, 2002), higher levels of stakeholders' interest and power will require stronger reputation management to fulfil stakeholders' expectations. Reputation management by PCIs is important because such banks have a high degree of public visibility: since 2006, the number of credit institution branches per 100,000 people has been almost three times greater than in European Common Law countries (UK, Ireland and Netherlands). Among European Latin countries, Portugal has had the highest growth rate in bank branches (European Central Bank, 2010).

Few studies have used theoretical frameworks to explain factors affecting banks' RRD. One study that has done so (Linsley & Kajüter, 2008) used legitimacy theory to explain how managers in a company in the *finance* sector restored credibility with stakeholders after damage to the company's reputation. The present essay does not focus on a legitimacy-restoring strategy, but on a legitimacy strategy intended to gain or maintain reputation levels. The present essay focuses on all categories of voluntary and mandatory RRD by credit-granting institutions, in contrast to Helbok and Wagner (2006) who focused on the determinants of banks' voluntary *operational risk* disclosures (based on agency, signalling and political costs theories).

By drawing on legitimacy theory and a resources-based perspective, the present essay confirms that commercial banks consider stakeholders' interests. This theoretical framework appears suitable in explaining the relationship between RRD by Portuguese commercial banks and their greater visibility. Other PCIs (investment banks, CFIs, financial holding companies, and other entities) do not seem to attribute great

importance to RRD, possibly because their reputation management strategy is not as critical to them.

The present essay proposes a new proxy for public visibility, and a new approach to the computation of a RRD index. The proxy for public visibility proposed by Branco and Rodrigues (2008a) (the spatial competition [SC] index based on the number of branches) only measures *market* concentration. Since geographic districts have different population densities, there is strong potential for banks with branches in highly populated districts to have higher exposure to stakeholder monitoring than those in districts with lower population densities. Consequently, this essay proposes a new proxy for public visibility – the spatial competition *adjusted* [SCA] index. This is the SC index adjusted by the population density per district.

Previous literature on voluntary disclosure has used discrete variables to capture data (Oliveira *et al.*, 2006; Lopes & Rodrigues, 2007). Studies of risk disclosures (Abraham & Cox, 2007; Linsley & Shrives, 2006; Linsley *et al.*, 2006; Woods *et al.*, 2008a) have used unweighted indexes, and have considered each item of risk disclosure equally important. However, risk is a multi-faceted concept. Risk can be generated from different sources. Some companies are more exposed to specific sources of risk than others. Consequently, following Cooke (1992), this essay computes unweighted indexes for each risk category. However, to compute a RRD index, principal components analysis is needed to "endogenously determine weights from data that would [reveal] the relative importance of each variable [risk category] in the overall measure" (Sensarma & Jayadev, 2009, p.14).

Section 4.2 develops the analytical framework, contextualises the regulatory setting in Portugal, and presents hypotheses. Section 4.3 explains the research method and describes the sample. Sections 4.4 and 4.5 report the main results. Section 6 presents conclusions and limitations.

4.2 Analytical Framework

4.2.1 Regulatory background

The Portuguese Companies' Code (*Código das Sociedades Comerciais*) requires companies to disclose their main risks and uncertainties in the management report (Article 66). Companies are required to give special focus to financial risk management activities, and (at least implicitly) to environmental and operational risks. Listed

companies are also bound to comply with Recommendation 3/2005 of the CMVM requiring disclosures of corporate governance practices related to internal control systems.

The accounting and reporting regulation of PCIs changed for financial years starting after January 1, 2005 due to Regulation 1606/2002 of the European Commission. From 2006, listed and non-listed companies (except MACBs were required to adopt adjusted IAS/IFRS in their individual accounts. In 2006, MACBs were required to adopt Instruction 4/96 of the PAPBS or adjusted IAS/IFRS in their individual accounts. After January, 2007 they were required to adopt adjusted IAS/IFRS in their individual accounts.

4.2.2 Theoretical framework

A normative implication of shareholder theory is that managers have a duty to maximize shareholders' value (Fontodrona & Sison, 2006; Smith, 2003). In the banking sector, this theory provides incentive for managers to undertake high-risk projects that increase share value (Gulamhussen & Guerreiro, 2009). However, since deposits are one of the main sources of funds of credit-granting institutions (European Central Bank, 2006) that goal will be achieved at the expense of the value of deposits (Gulamhussen & Guerreiro, 2009). High risk projects undertaken to maximize shareholders' value can jeopardize solvency. If depositors perceive that solvency is at risk, a social risk can arise, leading to a bank run. This would generate a "loss of confidence in the financial system (…) and even affect healthy banks via the payment system" (Kern, 2006, p. 19).

To avoid these social costs, financial regulation (involving deposit insurance and capital adequacy requirements) is necessary to limit risk-taking by banks, align stakeholders' interests, minimize information and transaction costs, and promote a sound financial system (Ekanayake *et al.*, 2009; Kern, 2006). Therefore, stakeholder theory "which takes into account the different actors owning [the resources] offers a more comprehensive view of the firm than shareholder theory" (Fontrodona & Sison, 2006, p. 36).

Stakeholder theory posits "that a manager's duty is to balance the shareholders' financial interests against the interests of other stakeholders such as employees, customers and the local community, even if it reduces shareholder return" (Smith, 2003, p. 85). Stakeholders are those who "supply critical resources, place something of value 'at risk', and have sufficient power to affect the performance of the enterprise" (Post *et*

al., 2002, p. 8). They "evaluate how well firms have met expectations and/or how firm's behaviors have affected the groups and organizations in their environment" (Wood & Jones, 1995, p. 231). Building good relations with primary stakeholders is crucial in efforts to increase financial returns, and to develop competitive advantages that differentiate the company from competitors. Such advantages are in the form of intangible assets – such as corporate reputation (Branco & Rodrigues, 2007). One fundamental element of such intangible assets is their information content:

> Resource holders [the primary stakeholders] will come to the firm (…) attracted by the information content of its reputation (…) [and by] knowing that the expectations generated are guaranteed. This places the firm in a privileged position in markets, enabling it to capture better resources and in more favorable conditions (Sabaté & Puente, 2003, p. 281).

Stakeholders have a legitimate demand for greater information transparency. As evaluators of this flow, they will monitor manager's attitudes and reduce opportunistic behavior by managers. In the banking sector, this monitoring mechanism (market discipline) generates market signals that convey information useful to supervisors in reducing a bank's risk exposure or in assessing suspicions of excessive exposure to risk (Bliss & Flannery, 2002).

To gain, maintain or restore corporate reputation, managers have incentives to legitimate themselves in meeting stakeholders' expectations. They can do this by sharing some of the asymmetric information they possess, and by promoting information transparency (Sabaté & Puente, 2003). But, sharing of asymmetric information is only disclosed by bank managers because of a regulatory mandate aimed at ensuring effective market discipline. Bank managers do not have incentives to disclose information about risk voluntarily. They are "typically cautious to go beyond minimal disclosure requirements" (Frolov, 2007, p.183). Consequently, compliance with minimal disclosure requirements promotes a good corporate reputation.

Legitimacy theory and a resources-based perspective are subsidiary theories of the stakeholder meta-narrative (Branco & Rodrigues, 2008b; Campbell *et al.*, 2003). They can be used to explain RRD practices by credit-granting institutions. Thus, legitimacy is regarded as gained, maintained or restored as a result of a legitimation process to manage corporate reputation and achieve stakeholders' best interest through disclosure

(Bebbington *et al.*, 2008). By acting in this way, companies can convince stakeholders about how well their corporate reputation is being managed.

4.2.3 Development of hypotheses

According to stakeholder theory, if the level of stakeholder power increases, the importance of meeting the demands of stakeholders increases also. In companies, stakeholder monitoring through public visibility (market discipline) suggests that a greater level of legitimacy will be required (Branco & Rodrigues, 2008a).

To achieve a state of legitimacy, managers pursue a legitimation process involving strategies of repairing, maintaining or gaining legitimacy (Suchman, 1995). This essay focuses on the last two strategies. The "legitimation processes are mainly focused on influential relevant publics (…) [and] attempt to influence [their] societal perceptions" of the firm's actions and activities, through a specified level of public disclosure (O'Sullivan & O'Dwyer, 2009, p. 556). The legitimation process "rests heavily on communication (…) between the organization and its various audiences" (Suchman, 1995, p. 586).

The importance of RRD on the market discipline of risk taking in the banking industry has been found to confirm theorising that greater disclosure enhances market discipline (Nier & Baumann, 2004, 2006), and that better risk management systems attract investors (Sensarma and Jayadev, 2009). Consequently, public visibility should be associated positively with RRD.

H1: There is a positive association between public visibility and the volume of RRD in an annual report.

Stakeholder theory demands that all stakeholder interests be considered. If only profitability is considered, then managers are only considering shareholder interests (Smith, 2003). According to shareholder theory, managers' only duty is to maximize shareholder value. However shareholders and investors do *not* observe companies' risk management activities directly. To ascertain whether their value is maximized, they need to be kept informed about the manager's ability to mitigate risk exposures. Since managers have incentives to behave opportunistically, it is likely that they will withhold relevant information or manipulate reporting to their advantage by making misleading disclosures (Latham & Jacobs, 2000). Therefore, contracts will be devised, monitoring

systems will be promoted, and incentives will be created to increase the flow of information about those activities, to reduce their uncertainties, and align interests (Linsmeier *et al.*, 2002).

H2: There is a positive association between the maximization of shareholders' value and RRD in the annual report.

4.3 Research Method

4.3.1 Sample

From a population of 298 companies with individual annual reports published in the database of the Portuguese Central Bank as at December 31, 2007, a sample of 184 PCIs was drawn (Table 4.1). The 114 companies excluded comprised all Portuguese financial institutions (99 companies)[21] and fifteen credit institutions (six credit-granting institutions that began operations in 2006; two financial holding companies with incomplete annual accounts for 2006; four MACBs that adopted IAS/IFRS in 2006; one investment bank and two financial holding companies that adopted PAPBS in 2006).

4.3.2 Dependent variables

Content analysis was used to assess the mandatory and voluntary RRD in the annual reports in terms of the disclosure requirements of IAS1, IAS 30, IAS 32, IFRS 7 and the third Pillar of the Basel II Accord. Six RRD categories were analyzed (Appendix 4.1): *risk management objectives and policies* [RMOP]; *credit risk* [CR]; *market risk* [MR]; *liquidity risk* [LR]; *operational risk* [OR]; and, *capital structure and adequacy* [CSA].

Content analysis was conducted in four stages: defining an appropriate coding scheme; developing judgemental procedures; analysing and codifying the annual reports; and reducing the risk data into a unique composite risk disclosure index. A

[21] The Portuguese finance sector is composed of credit-granting institutions and financial companies. Decree-Law 298/92 regulates them and defines credit institutions as "companies whose business is to receive or other repayable funds from the public and to grant credits for its own accounts" (Article 2). Financial companies are "companies that are not credit institutions". Because of this business limitation, this essay deals only with credit institutions.

Table 4.1 - Portuguese Credit-granting Institutions in the sample

	Number of companies
Commercial Banks	
Mutual Agricultural Credit Banks [MACBs]	99
Other Commercial	21
Non-Commercial Banks	
Investment Banks	18
Credit Financial Institutions	14
Financial Holding Companies	20
Other Entities	12
Total	184

binary coding system was used to "gain an overall appreciation of the scale and patterns of disclosure" (Woods *et al.*, 2008, p. 23). Narratives, tables and graphs were analysed (Beattie & Thompson, 2007). Judgmental procedures were adopted in reading the entire annual report. This permitted assessment of whether a particular item of disclosure was relevant to a particular company, and did not penalise non-disclosure (Cooke, 1992). Content analysis of the entire sample was performed, informed by a prior coding of an initial sample of four annual reports with another (independently operating) coder. An inter-coder reliability test was undertaken (Krippendorf, 2004) to measure the scale of coding errors (Scott's *pi* = 86.1%). Such a level has been considered "an acceptable level of inter-coder reliability" in analysing corporate report disclosures (Hackston & Milne, 1996, p. 87).

To compute a RRD index for the j^{th} company principal components analysis was applied to the six RRD indexes extracted for each risk category. Principal components analysis is statistically inappropriate for use with discrete data, such as binary data, because "the linear dependence between the dummy variables may lead to incorrect estimates of the (…) index" (Howe *et al.*, 2008, p. 3). To overcome this difficulty the discrete variables were transformed into continuous variables and a risk disclosure index was constructed by company *j* for each of the *k* risk categories considered, following Cooke (1992), and defined as:

$$RD_{jk} = \frac{\sum_{i=1}^{n_{jk}} x_{ij}}{n_j}, \quad 0 \leq RD_{jk} \leq 1$$

where

n_{jk} = number of relevant items for j^{th} company in the k risk category;

RMOP ($n_{jk} \leq 10$); *CR* ($n_{jk} \leq 88$); *MR* ($n_{jk} \leq 68$); *LR* ($n_{jk} \leq 69$); *OR* ($n_{jk} \leq 7$); *CSA* ($n_{jk} \leq 35$);

x_{ij} = 1 if i^{th} (relevant) item disclosed; 0 otherwise.

Principal components analysis was then applied to obtain a composite measure for RRD by PCI.[22] Uni-dimensionality was assured because only one component with high loadings (Eigenvalue > 1, explaining 65 per cent of the total variance) was extracted. No orthogonal rotation was needed. This improved the interpretability of the transformed variables in terms of the original variables. To validate the principal component analysis, the Kaiser-Meyer-Olkin measure of sampling adequacy was used (KMO = 0.81). Bartlett's test of sphericity ($\chi^2 = 653.79$) was statistically significant (*p-value* $\leq$ 0.01). The extracted component is appropriate in explaining the hidden correlation structure between the risk categories considered, and is corroborated by the high level of Cronbach's Alpha (0.89). The component extracted represents a unique composite RRD index for the j^{th} company:

$$RRD_j = 0.85*RMOP + 0.85*CR + 0.85*MR + 0.80*LR + 0.77*OR + 0.69*CSA$$

4.3.3 Independent and control variables

Table 4.2 presents definitions of the independent variables and control variables. It also presents the signs of these variables as they are likely to be predicted by the theoretical framework used.

[22] Principal components analysis reduces the amount of data in financial reporting without a corresponding loss in information content (Fertakis, 1969). It has been used widely in the construction of indexes in a variety of fields to measure general price level, cost of living, level of economic development and regional disparities, quality of life, human development, status of social well being, or stock exchange indexes (Mishra, 2007). In the realm of accounting it has been used to generate risk disclosure indexes (Deumes, 2008), risk management scores (Sensarma & Jayadev, 2009), and to eliminate collinearity among the proxies used to measure the same attribute (Dumontier & Raffournier, 1998; Elgers, 1980; Oliveira *et al.*, 2006).

Table 4.2 - Definition and predicted signs for independent and control variables

Variables	Definition	Predicted Sign
Panel A: Independent Variables		
Legitimacy theory and resources-based perspective		
Public visibility	Spatial competition index = market share of bank *i* in district *k* weighted by the relevance of that local market for the bank.	+
	Spatial competition adjusted index = market share of bank *i* in district *k* weighted by the relevance of that local market for the bank adjusted by the population density of district *k*.	+
	Number of branches	+
	Number of employees	+
	Total assets (10^6 Euros)	+
	Profit (10^6 Euros) = Income before $taxes_t$	+
Shareholder theory		
Maximization of shareholders' value[a]	Equity growth rate = (Book value of shareholders' $equity_t$ - Book value of shareholders' $equity_{t-1}$)/Book value of shareholders' $equity_{t-1}$	+
	Profit growth rate = (Income before $taxes_t$ - Income before $taxes_{t-1}$)/Income before $taxes_{t-1}$	+
Panel B: Control Variables		
Company listing status	Dummy variable = 1 if company is listed on one or more regulated stock exchange markets; 0 otherwise.	?
Type of credit-granting institutions	Dummy variable = 1 if company is a commercial bank that either adopted IAS/IFRS (other commercial banks) or PAPBS (MACBs); 0 otherwise.	?

[a] The maximization of shareholders' value could also be proxied using the shareholders' equity growth rate. However, the PCIs adopted IAS/IFRS for the first time in 2006. Consequently, the shareholders' equity caption incorporates the adjustments related to this transition, which had influenced accumulated earnings. To avoid any bias this proxy was not included in the model.

The most common proxy for the variable "public visibility" is size. This is because the

> … interactions of larger firms with society tend to be more numerous and hold an economic significance, such organizations tend to be more visible to relevant publics. (…) Larger companies tend to favour formal channels of communication [annual reports] (…) to disseminate information about corporate activities (Brammer & Pavlin, 2008, p. 124).

The size variables most often used to proxy public visibility are total assets, number of employees, profit, number of branches and SC index (Branco & Rodrigues, 2008a). Public visibility has been found to be associated positively with corporate social

responsibility disclosures. However, the focus of the present study included in this essay is to assess whether there is any association with those variables and RRD.

The SC index "evaluates the relevance of each bank in each local market where it has branches. It means the market share of bank *i* in district *k* weighted by the relevance of that local market for the bank" (Branco & Rodrigues, 2008a, p. 169). It does not follow a "proximity to end user metric" approach proposed by Campbell *et al.* (2006, p. 99) because it does not incorporate the stakeholders' public contact. And, "public [stakeholders] cannot report their opinion on a company's [reputation] with which they have had no contact" (Campbell *et al.*, 2006, p. 98). Consequently, we propose the following adjustment:

$$SCAj = \sum_{k} \left(\frac{n_{jk}}{n_k} \times \frac{n_{jk}}{n_j} \times \frac{p_k}{a_k} \right)$$

Where:

- n_j is the total number of branches of credit-granting institution *j* in a given year,
- n_k is the number of credit-granting institution branches in district *k* in a given year,
- n_{jk} is the number of branches of credit-granting institution *j* in district *k* in that year,
- p_k the number of inhabitants in district *k* in that year, and
- a_k the area of district *k*.

With this adjustment, the index indicates the level of visibility of the market concentration of credit-granting institution *j* in district *k* by the population of that district. It measures the level of stakeholder monitoring of credit institution *j* in district *k*.

Several proxies for public visibility (SC index, SCA index, number of branches, number of employees, total assets, total profits) are highly correlated. To overcome potential collinearity, a composite measure for public visibility was computed, by applying principal component analysis. Uni-dimensionality was assured. Only one component, explaining 79 per cent of the total variance, was extracted (Eigenvalue > 1). The application of principal components analysis was validated by the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = 0.80), and Bartlett's test of sphericity (χ^2 = 2,008.99; $p \leq 0.01$). Internal consistency was corroborated by the high level of

Cronbach's Alpha (0.94). The component extracted represents a unique composite public visibility index for the j^{th} company:

$$\textit{Public visibility} = 0.60*SC + 0.94*SCA + 0.98*Branches + 0.98*Employees + \\ + 0.96*Total\ assets + 0.82*Profit$$

The "maximization of shareholders' value" is achieved through dividends paid and return on capital. The proxies widely used to measure dividends paid and return on capital are earnings per share, dividends per share, pay-out ratio, and market value. But most PCIs included in the sample are not listed, rendering assessment of these measures difficult. Profit growth rate was used to proxy the "maximization of shareholders' value".

A "company's listing status" was assigned 1 if the company was listed on one or more regulated stock exchange markets, and 0 otherwise. The relation between listing status and disclosures is based on agency assumptions (Lopes & Rodrigues, 2007). Listed companies have greater agency problems. Since higher disclosure reduces agency costs, greater levels of disclosure are expected in listed companies. On the other hand, listing status can be associated also with public visibility. Listed companies are more exposed to stakeholder monitoring and their listing status can be associated with intent to signal how well their reputation has been managed (Oliveira *et al.*, 2006).

The variable "type of credit-granting institutions" was measured considering the business models pursued by credit-granting institutions (commercial *versus* non-commercial banks) and the accounting frame of reference adopted in 2006. Differences in the quantity of disclosures by credit-granting institutions can be explained by differences in their business models (Bischof, 2009). To control for different disclosure patterns the sample considers two different groups of credit-granting institutions: commercial banks and non-commercial banks. The accounting frame of reference adopted can generate different levels of disclosure. Among commercial banks, the MACBs adopted the PAPBS. All the other PCIs (commercial banks and non-commercial banks) adopted IAS/IFRS. Therefore, commercial banks that either adopted IAS/IFRS (other commercial banks), or PAPBS (MACBs) were assigned 1, and 0 otherwise.

4.3.5 Estimation technique

The estimation model used is:

$$RRD_j = \beta_{0j} + \beta_{1j} PV_j + \beta_{2j} MSV_j + \beta_{3j} CLSj + \beta_{4j} TCI_j + u_j$$

where PV = public visibility; MSV = maximization of shareholders' value; CLS = company listing status (CLS = 1 if a credit-granting institution is listed on a regulated stock exchange market, LS = 0 otherwise); TCI = type of credit-granting institution (TCI = 1 if the PCI is a commercial bank that either adopted IAS/IFRS (other commercial banks) or PAPBS (MACBS); 0 otherwise).

4.4 Results

4.4.1 Descriptive analysis

Table 4.3 shows the descriptive statistics for the dependent, independent and control variables. On average, PCIs have low levels of RRD (mean = 0.63). Results indicated that the category most disclosed is RMOP, followed by OR, and CSA. This result differs from the pattern found by Linsley *et al.* (2006), of higher levels of disclosure in CR, MR and CSA categories.

The majority of qualitative disclosures explained general risk management policies. Presumably, the reasons for the high level of qualitative disclosures are related to the technical complexity of certain aspects of risk management in the banking sector (Linsley & Shrives, 2005b). On the other hand, "quantified risk information may be highly sensitive and therefore subject to higher levels of proprietary costs" (Linsley *et al.*, 2006, p.276). The narratives provided can potentially be "persuasive organizational communication" mechanisms (Suchman, 1995, p.587) that are beneficial in legitimizing, and promoting a good reputation and image. Their intent can be to gain or maintain legitimacy by employing "an impression management strategy [in the] annual report to influence the [stakeholders'] perceptions" (Linsley & Kajüter, 2008, p. 66) of their expertise in risk management (Linsley *et al.*, 2006).

Table 4.4 presents the results of Kruskal-Wallis tests for RRD, public visibility and maximization of shareholders' value among the different types of PCIs. There are statistically significant differences in the medians of RRD and public visibility among the three groups of PCIs. Mann-Whitney U tests confirm that the highest levels of RRD and public visibility are found among commercial banks (Table 4.5). This is consistent with the hypothesis that RRD is associated positively with public visibility. The two banks with the highest level of RRD are among the larger banks in terms of proxies for

Table 4.3 - Descriptive statistics for the sample firms

	Unit of measurement	N	Minimum	Maximum	Mean	Std. Deviation	Skewness
Continuous variables							
Risk-related disclosures	Index	184	0.14	2.51	0.63	0.45	1.64
Risk management objectives and policies	Index	184	0.00	0.90	0.26	0.23	1.05
Credit risk	Index	184	0.00	0.36	0.11	0.07	.91
Market risk	Index	184	0.00	0.43	0.06	0.08	2.46
Liquidity risk	Index	184	0.00	0.23	0.05	0.04	2.57
Operational risk	Index	184	0.00	0.86	0.18	0.17	1.61
Capital structure and adequacy	Index	184	0.03	0.60	0.12	0.10	2.44
Spatial competition index	Index	184	0.00	0.30	0.02	0.04	3.14
Spatial competition adjusted index	Index	184	0.28	67.92	4.13	9.72	4.46
Number of branches	Count	184	1.00	853.00	29.85	119.95	5.41
Number of employees	Count	184	0.00	10,520.00	324.90	1,365.36	5.98
Total assets	10^6 Euros	184	1.34	81,891.87	2,122.20	9,541.84	6.74
Profit	10^6 Euros	184	-34.64	689.76	24.54	92.19	5.73
Profit growth rate	Percentage	184	-10.45	56.00	.6634	4.74222	8.93
Dummy variables			Frequency	Per cent			
Company listing status	Dummy = 1	184	6	3%			
	Dummy = 0		178	97%			
Type of banks	MACB	184	98	53%			
	Other commercial		21	11%			
	Non-commercial		65	35%			

Definition of variables:
Risk-related disclosures = principal components analysis (risk management objectives and policies; credit risk; market risk; liquidity risk; operational risk; capital structure and adequacy); Profit growth rate = (Income before $taxes_{(t)}$ - Income before $taxes_{(t-1)}$)/Income before $taxes_{(t-1)}$; Company listing status = 1 if company is listed on one or more regulated stock exchange markets, and 0 otherwise; Type of banks = 1 if company is a commercial bank that either adopted IAS/IFRS (other commercial banks) or PAPBS (MACBs), and 0 otherwise.

public visibility: they are multi-listed companies, with large annual reports. On the other hand, commercial banks had the highest level of quantitative capital structure and adequacy disclosure of total eligible capital value and capital ratios. Their public visibility increases the need for legitimation to customers for reputation management purposes, and to provide information to customers on their ability to avoid future crisis and sustain depositors' confidence on their risk management abilities (Marini, 2008).

Another noteworthy result is the low levels of disclosure among MACBs (Table 4.4). Their low levels of disclosures are explainable by the adoption of Portuguese rules that have fewer RRD requirements compared to IAS/IFRS (Oliveira *et al.*, 2011a).

Table 4.4 - Differences in medians of risk-related disclosures, public visibility and maximization of shareholders' value

	Commercial banks		Non-commercial banks
	MACB	Other commercial	
Risk-related disclosures	0.37	1.22	0.83 ***
Spatial competition index	0.02	0.04	0.00 ***
Spatial competition adjusted index	1.77	15.84	0.57 ***
Number of branches	5.00	108.00	1.00 ***
Number of employees	26.00	823.00	26.00 ***
Total assets (10^6 Euros)	69.00	2,192.92	328.70 ***
Profit (10^6 Euros)	0.71	17.18	7.10 ***
Profit growth rate	0.01	0.24	0.10

Definition of variables:
Risk-related disclosures = principal components analysis (risk management objectives and policies; credit risk; market risk; liquidity risk; operational risk; capital structure and adequacy); Profit growth rate = (Income before $taxes_t$ - Income before $taxes_{t-1}$)/Income before $taxes_{t-1}$.
Kruskal-Wallis test is used to test the difference in medians
Difference statistically significant at a: ***0.01 level (two-tailed); **0.05 level (two-tailed); *0.1 level (two-tailed).

4.4.2 Bivariate analysis

The pairwise correlation matrix between the model variables was determined, as presented in Table 4.6. The correlations between RRD and the independent variables are statistically significant (p-value < 0.01) for public visibility and (p-value < 0.05) for profit growth rate, all with signs as predicted. The correlations between RRD and the control variables are significant (p-value <0.01) for other commercial banks, MACBs, and (p-value < 0.05) company listing status. The magnitude of the correlation coefficients between the explanatory variables suggests that the problem of multicollinearity is minimal.

4.4.2 Multiple regressions

Hypotheses were tested using OLS multiple regression. The raw dependent and continuous independent variables were transformed by computing normal scores using Blom's transformation (Branco & Rodrigues, 2008b; Hannifa & Cooke, 2005). This was because the Kolmogorov-Smirnov (Lilliefors) test suggested they were not distributed normally (Table 4.7). To assure the stability of the regression model, autocorrelation, multicollinearity, heteroscedasticity, outliers and influential observations, and the normality of residuals were analysed. Twelve outliers were found and excluded from the analysis.

Table 4.5 - Mann-Whitney U tests for differences in medians of risk-related disclosures, public visibility and maximization of shareholders' value

	Risk-related disclosures	SC index	SCA index	Number of branches	Number of employees	Total Assets (10^6 Euros)	Profit (10^6 Euros)	Profit growth rate
MACB	0.37	0.02	1.77	5.00	26.00	69.00	0.71	0.01
Other commercial banks	1.22	0.04	15.84	108.00	823.00	2,192.92	17.18	0.24
Mann-Whitney U statistic	12.00	793.00	527.00	478.00	157.00	159.00	313.00	784.00
Z statistic	-7.10 ***	-1.70 *	-3.54 ***	-3.89 ***	-6.10 ***	-6.08 ***	-5.02 ***	-1.77 *
MACB	0.37	0.02	1.77	5.00	26.00	69.00	0.71	0.01
Non-commercial banks	0.83	0.00	0.57	1.00	26.00	328.70	7.10	0.10
Mann-Whitney U statistic	4,920.00	168.50	1,134.00	943.00	3,209.00	4,892.00	4,564.00	3,523.00
Z statistic	5,954.00 ***	-10.23 ***	-6.94 ***	-7.69 ***	0.14 ***	5.86 ***	4.74 ***	1.21
Commercial banks	1.22	0.04	15.84	108.00	823.00	2,192.92	17.18	0.24
Non-commercial banks	0.83	0.00	0.57	1.00	26.00	328.70	7.10	0.10
Mann-Whitney U statistic	296.00	156.00	162.00	163.00	164.50	318.00	452.00	621.00
Z statistic	-3.83 ***	-5.44 ***	-5.38 ***	-5.57 ***	-5.18 ***	-3.61 ***	-2.24 **	-52.00

Difference statistically significant at a: ***0.01 level (two-tailed); **0.05 level (two-tailed); *0.1 level (two-tailed).

Table 4.6 - Bivariate relationships for the dependent, independent and control variables

		(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Correlations (Pearson) among continuous variables							
(1)	Risk-related disclosures	1.00					
(2)	Public visibility	0.69 ***	1.00				
(3)	Maximization of shareholders' value	0.19 **	0.15 **	1.00			
Panel B: Correlations (Spearman) among categorical and continuous variables							
(4)	Company listing status	0.22 **	0.24 ***	0.19 **	1.00		
(5)	Other commercial banks	0.46 ***	0.41 ***	0.10	0.25 ***	1.00	
(6)	MACBs	-0.72 ***	-0.55 ***	-0.14 *	-0.20 ***	-0.42 ***	1.00

Dependent and independent continuous variables were normalised using Blom's transformation.

Definition of variables:

Public visibility = principal components analysis (spatial competition index; spatial competition adjusted index; number of branches; number of employees; total assets; profit); Maximization of shareholders' value = profit growth rate; Company listing status = 1 if company is listed on one or more regulated stock exchange markets, and 0 otherwise; Type of banks = 1 if company is a commercial bank that either adopted IAS/IFRS (other commercial banks) or PAPBS (MACBs), and 0 otherwise.

Significant at the: *** 0.01 level (two-tailed); ** 0.05 level (two-tailed); * 0.1 level (two tailed).

Table 4.7 - Kolmogorov-Smirnov (Lilliefors) tests of normality

		Untransformed data		Transformed data	
	df	K-S statistic	p-value	K-S statistic	p-value
Risk-related disclosures	184	0.22	0.00	0.01	0.20
Public visibility	184	0.41	0.00	0.00	0.20
Maximization of shareholders' value	184	0.34	0.00	0.00	0.20

The regression model is statistically significant (p-value < 0.01) with an adjusted R^2 of 0.64 (Table 4.8). The removal of outliers and influential observations improved the previous adjusted R^2 from 0.41 to 0.64.

RRD is associated positively with public visibility (p-value < 0.01). This result supports H1. RRD is not associated with profit growth rate. This result does not support H2.

RRD is associated negatively with MACBSs (p-value < 0.01). This confirms the non-parametric tests. Potential reasons for this are the adoption of a different accounting frame of reference (PAPBS), demanding less risk information than IAS/IFRS.

RRD is associated positively with other commercial banks (p-value < 0.05). This confirms the results of the non-parametric tests. These credit-granting institutions

disclose significantly more risk information than non-commercial banks. Non-parametric tests also confirmed that they had the highest levels of public visibility. Commercial banks with higher public visibility attributed greater importance to RRD as part of their strategy to gain or maintain legitimacy and enhance their reputation.

Table 4.8 - Results of regression model for risk-related disclosures

Variables	Pred. Sign	Risk-related disclosures (N = 172)			
		Model 1 (All variables)		Model 2 (Without maximization of shareholders' value)	
Intercept		0.49	(5.94) †††	0.50	(6.63) †††
Public visibility	+	0.37	(5.82) ***	0.38	(7.36) ***
Maximization of shareholders' value	+	0.06	(1.16)		
Company listing status	?	0.31	(1.02)	0.36	(1.39)
MACBs	?	-0.75	-(6.63) †††	-0.76	-(7.68) †††
Other commercial banks	?	0.31	(2.29) ††	0.30	(2.02) ††
R^2 (*F-statistic*)		0.65	(62.42) †††	0.65	(77.25) †††
Adjusted. R^2		0.64		0.64	
Durbin-Watson		1.90		1.89	
Max. VIF		1.52		1.52	
Jarque-Bera statistic (*p-value*)		3.85	(0.15)	3.83	(0.15)

Dependent and independent continuous variables were normalised using Blom's transformation. Figures in parentheses are *t*-satistics. White heteroskedasticity-consistent standard errors, when necessary.

Definition of variables:
Public visibility = principal components analysis (spatial competition index; spatial competition adjusted index; number of branches; number of employees; total assets; profit); Maximization of shareholders' value = profit growth rate; Company listing status = 1 if company is listed on one or more regulated stock exchange markets, and 0 otherwise; Type of banks = 1 if company is a commercial bank that either adopted IAS/IFRS (other commercial banks) or PAPBS (MACBs), and 0 otherwise.

Significant at the: ***0.01 level (one-tailed); **0.05 level (one-tailed); *0.1 level (one-tailed)

Significant at the: †††0.01 level (two-tailed); ††0.05 level (two-tailed); †0.1 level (two-tailed)

The regression model was run after dropping the variable "maximization of shareholders' value". Results remained the same (Table 4.8). Therefore, the model was re-run for commercial banks to check for the relationships between RRD and all public visibility proxies, after controlling for company listing status and type of credit institutions. Table 4.9 shows that all the models were statistically significant (p-value < 0.01). In the models there is a positive and significant association between RRD and public visibility proxies proposed, which is consistent with H1.

4.5 Conclusions

In addressing calls to enhance research regarding RRD motivations (Linsley *et al.*, 2006; Schrand & Elliott, 1998; Woods *et al.*, 2008), this essay has proposed a theoretical framework in the under-researched banking sector to assess the RRD motivations of PCIs. Based on a content analysis of their individual annual reports for 2006, a RRD index was computed using principal component analysis to "endogenously determine weights from the data" (Sensarma & Jayadev, 2009, p. 14).

Building on Branco and Rodrigues (2008a) and on Bebbington *et al.* (2008), this essay developed a theoretical framework grounded on legitimacy theory and resources-based perspective to explain RRD by PCIs. A new proxy for public visibility was proposed: a spatial competition index adjusted by population density per district. The results are consistent with the view that Portuguese commercial banks attribute great importance to RRD to gain or maintain legitimacy as part of their reputation management strategies (Bebbington *et al.*, 2008). They are more likely to do this than other banks with lower visibility (investment banks, CFIs, financial holdings companies, and other entities). The reason for this appears to be that Portuguese commercial banks have a public profile that is influenced indirectly by their high visibility: they operate in a highly concentrated sector with a highly concentrated ownership structure (European Central Bank, 2006; Gulamhussen & Guerreiro, 2009).

Stakeholders' monitoring is an important factor in explaining RRD of Portuguese commercial banks. The SCA index has the same explanatory power for RRD for Portuguese commercial banks, compared to the other proxies of public visibility.

The findings should be interpreted with regard for some limitations of the content analysis method used in extracting RRD from annual reports. Although focus is on RRD in annual reports, other communication media (such as interim reports, press-releases, web sites, analyst meetings or prospectuses) should not be overlooked. Additionally, the results are cross-sectional, based on a sample drawn from one country. Thereby, they have limited generalizability. Future research could investigate other factors likely to lead to better RRD (such as ownership structure and corporate governance structure) and extend the empirical data to multiple timeperiods and other countries.

Table 4.9 - Results of regression model for risk-related disclosures by commercial banks

Variables	Pred. Sign	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
Intercept		1.06	(9.86) †††	1.29	(21.25) †††	1.22	(18.18) †††	1.17	(15.81) †††	1.08	(10.80) †††	1.06	(9.89) †††	1.16	(9.66) †††
Public visibility	+	0.21	(2.89) ***												
Spatial competition index	+			0.11	(2.28) **										
Spatial competition adjusted index	+					0.13	(2.18) **								
Number of branches	+							0.21	(3.59) ***						
Number of employees	+									0.21	(2.97) ***				
Total assets	+											0.21	(2.88) ***		
Profit	+													0.17	(2.55) ***
Company listing status	?	0.78	(4.47) †††	0.79	(4.73) †††	0.76	(4.35) †††	0.66	(3.80) †††	0.74	(4.36) †††	0.78	(4.47) †††	0.77	(4.50) †††
MACBs	?	-1.18	(-8.48) †††	-1.46	(-16.20) †††	-1.38	(-13.45) †††	-1.31	(-12.85) †††	-1.20	(-9.04) †††	-1.18	(-8.50) †††	-1.30	(-8.73) †††
R^2 (*F-statistic*)		0.57	(48.54) †††	0.55	(44.99) †††	0.56	(45.42) †††	0.58	(50.35) †††	0.57	(48.56) †††	0.57	(48.54) †††	0.57	(47.57) †††
Adjusted. R^2		0.56		0.54		0.54		0.57		0.56		0.56		0.56	
Durbin-Watson		2.18		2.29		2.16		2.16		2.19		2.18		2.23	
Max. VIF		1.65		1.20		1.27		1.27		1.60		1.65		1.36	
Jarque-Bera statistic (*p-value*)		2.75	(0.25)	1.21	(0.55)	1.96	(0.37)	2.08	(0.35)	2.52	(0.28)	2.74	(0.25)	2.85	(0.24)

Dependent and independent continuous variables were normalised using Blom's transformation. Figures in parentheses are *t*-satistics. White heteroskedasticity-consistent standard errors, when necessary.

Definition of variables:

Public visibility = principal components analysis (spatial competition index; spatial competition adjusted index; number of branches; number of employees; total assets; profit); Company listing status = 1 if company is listed on one or more regulated stock exchange markets, and 0 otherwise; Type of banks = 1 if company is a commercial bank that adopted PAPBS (MACBs), and 0 otherwise.

Models:

Model 1: $RRD_j = \beta_{0j} + \beta_{1j}$ Public Visibility $+ \mu_j$

Model 2: $RRD_j = \beta_{0j} + \beta_{1j}$ Spatial Competion index $+ \mu_j$

Model 3: $RRD_j = \beta_{0j} + \beta_{1j}$ Spatial Competition Adjusted index $+ \mu_j$

Model 4: $RRD_j = \beta_{0j} + \beta_{1j}$ Number of Branches $+ \mu_j$

Model 5: $RRD_j = \beta_{0j} + \beta_{1j}$ Number of Employees $+ \mu_j$

Model 6: $RRD_j = \beta_{0j} + \beta_{1j}$ Total of Assets $+ \mu_j$

Model 7: $RRD_j = \beta_{0j} + \beta_{1j}$ Profit $+ \mu_j$

Significant at the: ***0.01 level (one-tailed); **0.05 level (one-tailed); *0.1 level (one-tailed)

Significant at the: †††0.01 level (two-tailed); ††0.05 level (two-tailed); †0.1 level (two-tailed)

Appendix 4.1 – Voluntary and mandatory RRD disclosure itens

Risk management objectives and policies

- Key risk identification
- Generic risks identification
- Other definitions
- Comprehensive risk reports:
  - Includes the definition of core risks
  - Includes a description of overall control structures
  - Indicates the measures used to monitor different risk categories
- Accounting policies
- Risk management sections:
  - Management report
  - Notes to financial statements
- Existence of cross-references

Operational risk

- Operational risk definition
- Description of operational risk control structure
- Description of operational risk management policies
- Operational risk exposure
- Clear statements about the adaptation of information systems to comply with Basel II Accord:
  - Adaptation of information technologies to comply with Basel II Accord
  - Adaptation completed
  - Collecting incidents to measure capital requirements

Liquidity risk

- Liquidity risk definition
- Description of liquidity risk control structure
- Description of liquidity risk management policies
- Liquidity risk exposure:
  - Liquidity gap analysis table:
    - Maturity concept clearly stated:
      - The remaining period to the repayment date
      - Residual duration
      - Maturity
      - Liquidity gap
    - Maturity time bands (19 itens)
  - Other isolated maturity groups (18 itens)
  - Maturity concepts clearly stated for other isolated maturity groups
    - The remaining period to the repayment date
    - Residual duration
    - Maturity
    - Liquidity gap
  - Maturity time bands for other isolated maturity groups (18 itens)
  - Clear alignment between liquidity gap table and funding policies
  - Clear discussion of funding policies
  - Key performance indicator

Credit risk
- Definition of credit risk
- Description of credit risk control structure
- Description of credit risk management policies
- Size of credit risk exposure (44 itens)
- Size of past due and impaired assets (30 itens)
- Size of collateral (other enhancements held):
  - Current amount only
  - Discussion of values
- Credit risk quality (9 itens)

Market risk
- Definition of market risk:
  - Market risk
  - Interest rate risk
  - Foreign exchange risk
- Description of market risk control structure
- Description of market risk management policies
- Market risk exposure:
  - Foreign exchange risk exposure:
    - Net balance sheet positions by currency
    - Short term positions and long term positions by currency
  - Interest rate risk exposure:
    - Narrative information of interest rate risk exposure (18 itens)
    - Presentation of a repricing gap table
    - VaR analysis:
      - Description of VaR assumptions and parameters (11 itens)
      - VaR values (11 itens)
      - Stress tests
        - Generic description
        - Details of models used
        - Results (values only)
        - Results (by risk factor)
      - Backtests
        - Generic description
        - Details of models used
        - Results (values only)
        - Results (Scatter-ploted with discussion)
        - Results (Scatter-ploted without discussion)
    - Sensitivity analysis
      - Description of sensitivity analysis assumptions and parameters (7 itens)
      - Results of sensitivity analysis
        - Values only
        - Values by country and maturities
        - Values for shareholders' equity, profit, and losses
        - Values by market risk categories

Capital structure and adequacy

- Capital structure:
  - Accounting structure
  - Amount of Tier 1
  - Amount of Tier 2
  - Amount of Tier 3
  - Total eligible capital (14 itens)
- Capital adequacy:
  - Discussion of capital adequacy approach
  - Capital requirements for credit risk
  - Capital requirements for market risk
  - Capital requirements for operational risk
  - Total capital ratio
    - Capital ratio only
    - Evolution per year
    - Impact of IAS/IFRS
  - Tier 1 capital ratio
  - Tier 2 capital ratio
  - Total capital ratio according to Basel II requirements
- Clear statement of compliance with all prudential requirements
- Clear statement of non-compliance with all prudential requirements
- Adaptation to comply with Basel II requirements:
  - Statement only
  - Description of all steps made to comply
- Capital adequacy approaches to be adopted under Basel II Accord:
  - Credit risk
  - Market risk
  - Operational risk

Appendix 4.2 – Companies in the sample

Alves Ribeiro - Investimentos Financeiros, SGPS, SA
Banco ActivoBank (Portugal), SA
Banco BAI Europa, SA
Banco Bilbao Vizcaya Argentaria, Portugal, SA
Banco BPI, SA
Banco Cetelem, SA
Banco Comercial dos Açores, SA
Banco Comercial Português, SA
Banco de Investimento Global, SA
Banco do Brasil (Portugal), S.A.
Banco EFISA, SA
Banco Espirito Santo de Investimento, SA
Banco Espirito Santo dos Açores, SA
Banco Espírito Santo, SA
Banco Finantia, SA
Banco Invest, SA
Banco Investimento Imobiliário, SA
Banco Itaú Eeuropa, SA
Banco Madesan, Sociedade Unipessoal, SA
Banco Mais, SA
Banco Millennium BCP Investimento, SA
Banco Popular, Portugal, SA
Banco Português de Gestão, SA
Banco Português do Investimento, SA
Banco Primus, SA
Banco Privado Português, SA
Banco Rural Europa, SA
Banco Santander Consumer Portugal, SA
Banco Santander Totta, SA
BANIF - Banco Internacional do Funchal, SA
BANIF - Banco Investimento, SA
BANIF Comercial, SGPS, SA
BANIF Crédito, SFAC, SA
BANIF Investimentos, SGPS, SA
BANIF Leasing, SA
BANIF, SGPS, S.A.
BBVA Leasimo - Sociedade de Locação Financeira, SA
BBVA, Instituição Financeira de Crédito, SA
BCP - Participações Financeiras, SGPS, SA
BES Leasing & Factoring, Instituição Financeira de Crédito, SA
BESPAR, SGPS, SA
BEST - Banco Electrónico de Serviço Total, SA
BNP Factor - Companhia Nacional de Aquisição de Créditos, SA

BPN - Banco Português de Negócios, SA
BPN - Participações Financeiras, SGPS, Lda
BPN Crédito, Instituição Financeira de Crédito, SA
BPN, SGPS, SA
BSN - Banco Santander de Negócios Portugal, SA
Caixa - Banco de Investimento, SA
Caixa Económica da Misericórdia de Angra do Heroísmo
Caixa Económica Montepio Geral
Caixa Geral de Depósitos, SA
Caixa Leasing & Factoring, Instituição Financeira de Crédito, SA
Caixa de Crédito Agrícola Mútuo [CCAM] Açores
CCAM Águeda
CCAM Albergaria e Sever
CCAM Albufeira
CCAM Alcácer do Sal e Montemor-o-Novo
CCAM Alcanhões
CCAM Alcobaça
CCAM Alenquer
CCAM Algarve
CCAM Aljustrel e Almodôvar
CCAM Alto Corgo e Tâmega
CCAM Alto Douro
CCAM Alto Guadiana
CCAM Alto Minho
CCAM Amares
CCAM Anadia
CCAM Armamar e Moimenta da Beira
CCAM Arouca
CCAM Arruda dos Vinhos
CCAM Azambuja
CCAM Bairrada e Aguieira
CCAM Baixo Mondego
CCAM Barcelos
CCAM Batalha
CCAM Beira Baixa (Sul)
CCAM Beira Centro
CCAM Beja e Mértola
CCAM Borba
CCAM Bragança
CCAM Cadaval
CCAM Caixa Central
CCAM Caldas da Rainha, Óbidos e Peniche
CCAM Campo Maior
CCAM Cantanhede e Mira

CCAM Cartaxo
CCAM Chamusca
CCAM Coimbra
CCAM Coruche
CCAM Costa Verde
CCAM Elvas
CCAM Estarreja
CCAM Estremoz, Monforte e Arronches
CCAM Évora
CCAM Favaios
CCAM Ferreira Alentejo
CCAM Fornos de Algodres
CCAM Fundão e Sabugal
CCAM Guadiana Interior
CCAM Guarda e Celorico da Beira
CCAM Guimarães
CCAM Lafões
CCAM Lamego e Castro Daire
CCAM Loures
CCAM Lourinhã
CCAM Minho
CCAM Mogadouro e Vimioso
CCAM Moravis
CCAM Norte Alentejano
CCAM Oliveira de Azeméis
CCAM Oliveira do Bairro
CCAM Oliveira do Hospital
CCAM Ovar
CCAM Paredes
CCAM Pernes
CCAM Pinhal
CCAM Pombal
CCAM Ponte de Sôr
CCAM Portalegre e Alter do Chão
CCAM Porto
CCAM Porto Mós
CCAM Póvoa de Varzim, Vila do Conde e Esposende
CCAM Ribatejo Norte
CCAM Ribatejo Sul
CCAM Salvaterra de Magos
CCAM Santiago do Cacém
CCAM Santo Tirso
CCAM São Bartolomeu de Messines e São Marcos Serra
CCAM São João da Pesqueira

CCAM São Teotónio
CCAM Sátão e Vila Nova de Paiva
CCAM Seia
CCAM Serras de Ansião
CCAM Silves
CCAM Sobral de Monte Agraço
CCAM Sotavento Algarvio
CCAM Sousel
CCAM Tarouca
CCAM Terra Quente
CCAM Terras de Miranda do Douro
CCAM Terras Sousa, Ave, Basto e Tâmega
CCAM Tramagal
CCAM Vagos
CCAM Vale Cambra
CCAM Vale do Dão
CCAM Vale do Douro
CCAM Vale do Távora
CCAM Vila Franca de Xira
CCAM Vila Nova de Tazém
CCAM Vila Verde e Terras de Bouro
Cofinoga Portugal, SGPS, SA
Credibom, Instituição Financeira de Crédito, SA.
Credifin - Banco de Crédito ao Consumo, SA
CrediPlus, Instituição Financeira de Crédito, SA
DaimlerChrysler Services Portugal, Instituição Financeira de Crédito, SA
Espirito Santo Financial (Portugal), SGPS, SA
FidisRetail, Instituição Financeira de Crédito, SA
Finantipar, SGPS, SA
Fincor, SGPS, SA
Finibanco - Holding, SGPS, SA
Finibanco, SA
Finicrédito, Instituição Financeira de Crédito, SA
Fortis Lease Portugal, Instituição Financeira de Crédito, SA
Garval - Sociedade de Garantia Mútua, SA
GE Consumer Finance, Instituição Financeira de Crédito, SA
Heller Factoring Portuguesa, SA
IBM Financiamento - Sociedade de Locação Financeira Mobiliária, SA
IPI Itaúsa Portugal Investimentos, SGPS, SA
Itaúsa Europa Investimentos, SGPS, Lda
Itaúsa Portugal, SGPS, SA
Lisgarante - Sociedade de Garantia Mútua, SA
Norgarante - Sociedade de Garantia Mútua, SA
PME Investimentos - Sociedade de Investimentos, SA

Privado Holding, SGPS, SA
RCI Gest Leasing - Sociedade de Locação Financeira Mobiliária, SA
Rentipar Financeira, SGPS, SA
Santander Totta, SGPS, SA
SLN - Sociedade Lusa de Negócios, SGPS, SA
Sofinloc, Instituição Financeira de Crédito, SA
SPGM - Sociedade de Investimento, SA
Totta - Credito Especializado, Instituição Financeira de Crédito, SA
Unicre, Instituição Financeira de Crédito, SA

Essay 5

Voluntary risk reporting to enhance institutional and organizational legitimacy: evidence from Portuguese banks

5.1 Introduction

Few studies have explored the motivations of banks to make RRD. Those to have done so have focused on aggregate concepts of risk or on voluntary operational risk in non-Latin countries in periods immediately after the Basel I Accord (Linsley *et al.*, 2006; Helbok & Wagner, 2006). In contrast, the present essay focuses on voluntary RRD of operational risk and capital structure and adequacy that were made in 2006 (the year before the Basel II Accord became mandatory in Portugal).

The aggregated concept of risk used by Linsley *et al.* (2006) included credit risk, market risk, interest rate risk, operational risk, and capital structure and adequacy. Linsley *et al.* (2006) found a positive association between RRD and size of banks. However, they did not use a theoretical framework to explain the motivations for making RRD. In contrast, Helbok and Wagner (2006) used a framework of agency theory, signalling theory and political costs theory to explain voluntary operational risk disclosures. Their dependent variable included two categories designated as "operational risk in general" and "definitions." However, prior research has considered disclosures of information in these two categories to be "boiler plate" disclosures (Abraham & Cox, 2007; Linsley & Shrives, 2005a) of limited usefulness (Linsley & Shrives, 2006, p. 400) and conducive to adverse capital allocations (Merkl-Davies & Brennan, 2007). Accordingly, the present essay considers a concept of voluntary risk that does not contemplate such "boiler plate" disclosures.

Helbok and Wagner (2006) concluded that voluntary operational risk disclosures were associated negatively with capital ratio and profitability. They found that the economic rationale for RRD was that "outsiders may perceive the impact of an operational loss event to be higher for financial institutions which have lower capitalization and are less profitable" (Helbok & Wagner, 2006, p. 50). However, Blum (2008, p. 1700) argued that banks "know that reporting a high level of risk leads to a higher level of required capital." This essay contends that voluntary RRD are made to enhance stakeholders' confidence in a bank's reputation.

The Basel II Accord became mandatory for Portuguese banks in 2007 (Decree-Law 103/2007; and Decree-Law 104/2007). However, from 2004, many Portuguese banks began to prepare internal systems and processes to conform to Basel II requirements in 2007. In doing so, they had an increased need to develop information systems applications (Flores *et al.*, 2006). According to Boonstra (2003), banks were

motivated to implement information systems to conform to Basel II requirements by the desire to improve their competitive position, improve the economic allocation of resources, and to be regarded as legitimate by the supervisory entity and the market. For Boonstra (2003), one of the most important factors was a political one. The influence of the stakeholders was perceived as crucial to the survival of a bank, especially in settings where banks are publicly visible to relevant stakeholders and are subject to high levels of scrutiny by them. Consequently, the Portuguese setting was chosen because Portugal has shown a higher degree of public visibility since 2006 (assessed by the number of bank's branches per 100,000 people) compared to European common law countries (UK, Ireland and Netherlands) (European Central Bank, 2010).

Linsley and Shrives (2006) have appealed for studies to be conducted of industry-specific risk disclosures in order to understand managers' RRD motivations. This essay responds to their appeal by drawing on the institutional and organizational perspectives of legitimacy theory and resources-based perspective to contend that Portuguese banks were motivated to make voluntary risk disclosures for two major reasons: first, to conform to institutional pressures from stakeholders to ensure a socially desirable flow of information and to make market discipline effective (Diamond, 1985; Frolov, 2007; Bliss & Flannery, 2002; Fernández-Alles & Valle-Cabrera, 2006); and second, to manage stakeholders' perceptions of a company's reputation in dealing with risk exposures. RRD would thereby help to ensure an adequate inflow of resources that are crucial to the viability of a company (Branco & Rodrigues, 2006a; Bebbington *et al.*, 2008; Sanchéz-Ballesta & Bernal Llórens, 2010).

Results show that RRD are influenced by the perceived level of stakeholder monitoring (as assessed by a bank's public visibility) and by perceptions of a bank's reputation (as assessed by company age, depositor confidence level, and the ability of a bank to manage risk). Results lend support to arguments that disclosure "can be conceived as both an outcome of, and part of, reputation risk management processes" (Bebbington *et al.*, 2008, p. 338); and that disclosure is "a market mechanism to create and sustain banks' reputation" (Sanchéz-Ballesta & Bernal Llórens, (2010, p. 403).

The following section reviews the previous literature, develops an analytical framework, and proposes hypotheses for testing. Thereafter, the research method is explained, results are reported, and conclusions are presented.

5.2 Analytical Framework

5.2.1 Prior literature on risk-related disclosures

RRD research has focused preponderantly on qualitative, descriptive studies of risk reporting practices by banks. Oliveira *et al.* (2011a) present an extensive literature review based on these descriptive studies. They conclude that disclosures of managed risks are unclear; that minimum mandatory requirements are not complied with; and that the effectiveness of market discipline is impaired. However, there has been a growing interest by banks in reporting information about operational risk, and capital structure and adequacy (BIS, 2001, 2002, 2003; Helbok & Wagner, 2006; Avram & Skully, 2007).

Table 5.1 - Prior literature on determinants of banks' disclosures

Type of analysis	Dependent variable			
	Risk-related disclosures	Operational risk disclosures	Corporate disclosures	Corporate disclosures
	Linsley *et al.* (2006)	Helbock & Wagner (2006)	Hossain & Reaz (2009)	Sanchéz-Ballesta & Bernal Llorens (2010)
	Bivariate	Multivariate	Multivariate	Multivariate
Explanatory variables				
Size				
Total assets	+		+	
Market capitalization	+			
Profitability				
Return on assets	0	–		
Leverage				
Book-to-market value of equity	0			
Equity to assets ratio		–		
Debt to total assets				0
Liquidity				
Cash to debt				0
Monitoring and reputation				
Size				
Total assets				+
Customers' deposits				
Customers' securities deposited to total assets				+
Age			0	
Company listing status			0	
Complexity of business				
Number of subsidiaries			0	
Assets in place				
Book value of net fixed assets to total assets			+	

Positive and statistically significant relation: (+); Negative and statistically significant relation: (-); No relation: (0).

Table 5.1 shows prior literature on the determinants of banks' disclosures. Hossain and Reaz (2007) and Sanchéz-Ballesta and Bernal Llórens (2010) have explored the determinants of corporate disclosures by Indian and Spanish banks, respectively. However, neither study used a specific theoretical framework. Instead, they assumed that disclosure is a market mechanism to create and sustain a bank reputation. Linsley *et al.*'s (2006) study of RRD by Canadian and UK banks did not specify a theoretical framework. In contrast, Helbok and Wagner (2006) drew upon agency theory, signalling theory and political costs theory to analyse the determinants of operational risk by European, Asian, and US commercial banks.

Linsley *et al.* (2006) found a positive association between RRD and size. However, they did not find any relation between RRD and profitability, or between RRD and leverage. Helbok and Wagner (2006) found that commercial banks with a lower ratio of equity to assets, and lower profitability, accord greater importance to voluntary operational risk disclosures. However, they did not control their results for size, reputation or ownership structure effects.

Consistent with Sanchéz-Balesta and Bernal Llórenz (2010) and Bebbington *et al.* (2008), this essay seeks to resolve the conflicting results. It proposes a theoretical framework based on legitimacy theory and resources-based theory. The essay contends that voluntary risk reporting by Portuguese banks is influenced strongly by two factors: monitoring by stakeholders, and corporate reputation. This theoretical framework has not been used hitherto in explaining the motives for banks to make voluntary RRD.

5.2.2 Development of hypotheses

5.2.2.1 An institutional perspective of legitimacy theory

Institutional theory posits that when institutional pressures "exert strong influences, the strategic decisions of managers result (…) in conformity to institutional pressures which leads to (…) legitimacy" (Fernández-Alles & Valle-Cabrera, 2006, p. 505). Legitimacy "is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574). Legitimacy is underpinned by a process through which a company seeks approval from groups in society (Kaplan & Ruland, 1991). Conformity with institutional pressures (such as adherence to Basel II requirements) is rewarded through improved social support from stakeholders; and

increased company legitimacy, resources, and survival capabilities (Carpenter & Feroz, 2001; Fernández-Alles & Valle-Cabrera, 2006).

Compliance and conformity with any minimum disclosure requirements promotes legitimacy. Stakeholders can assess this legitimacy through monitoring. Therefore, this essay argues that stakeholders' monitoring needs can explain the level of RRD. Commonly, the proxy for closer monitoring by relevant stakeholders is public visibility, measured either by size or company listing status (Branco & Rodrigues, 2006b, 2008a, 2008b; Leventis & Weetman, 2004; Sanchéz-Ballesta & Bernal Lloréns, 2010).

Size

Brammer and Pavlin (2008, p. 124) argue that "larger firms (...) tend to be more visible to relevant publics [crucial stakeholders]" since they tend to be more complex. Thereby, they are likely to be subject to increased inherent risk. Since most relevant stakeholders are unable to participate in the management of a bank, they attribute greater importance to information about risk exposures and risk management practices. Consequently, the greater the size and public visibility of a bank, the greater are the social and political pressures it experiences to provide RRD crucial to fulfilling stakeholders' expectations. Van Hoose (2007, p. 108) argues that "larger banks with more resources may be better able to provide the information required to permit market discipline." Therefore, stakeholder monitoring through public visibility (market discipline) suggests that a greater level of legitimacy will be required (Branco & Rodrigues, 2008a).

Hypothesis 1: There is a positive association between size and the level of RRD.

Company listing status

Listed companies are more visible in society than unlisted companies. They are subject to more extensive RRD related to corporate governance reports. This social visibility tends to expose them to greater levels of stakeholder monitoring (Branco & Rodrigues, 2006b; Oliveira *et al.*, 2006). Thus, greater levels of RRD are expected.

Hypothesis 2: There is a positive association between company listing status and the level of RRD.

5.2.2.2 Organizational legitimacy theory and resources-based perspectives

From an organizational view "legitimacy [is] a resource (…) that organizations extract – often competitively – from their cultural environments and they employ in pursuit of their goals" (Suchman, 1995, p. 576). Hybels (1995, p. 243) considers legitimacy to be an intangible asset that is "a symbolic representation of the collective evaluation of an organization" by the relevant stakeholders and how "each [of them] influences the flow of resources crucial to the organizations' establishment, growth, and survival." Legitimacy needs to be gained, maintained or restored through a specified level of public disclosure (O'Sullivan & O'Dwyer, 2009).

Galbreath's (2005) typology of intangible resources and capabilities includes reputational assets. Corporate reputation is an intangible asset that is difficult to imitate (Branco & Rodrigues, 2006a). From a resources-based view differentiation can create competitive advantages through the heterogeneity of resources and capabilities that are vital for the viability of firms (Fernández-Alles & Valle-Cabrera, 2006). Like legitimacy, corporate reputation is something that must be built, maintained and restored (Branco & Rodrigues, 2006a).

Due to their public visibility and their importance to the stability of the financial system, banks disclose risk-related information to build a good reputation with their relevant stakeholders. Thereby, they reduce information asymmetries between managers/owners and debt-holders, attract more deposits, and re-inforce the confidence of stakeholders.

Consequently, according to legitimacy theory and a resources-based view of the firm "companies take measures to ensure that their activities, image and reputation are acceptable to their stakeholders" (Singh & Point, 2009, p. 23). In similar vein, Sanchéz-Ballesta and Bernal Lloréns (2010, p. 403) argue that disclosure by banks "…[is] a market mechanism to create and sustain banks' reputation." Therefore, higher levels of legitimacy promote higher levels of reputation through RRD, since higher levels of RRD will enhance or sustain appropriate levels of reputation. Commonly, corporate reputation is proxied by company age, level of depositor confidence, and risk management ability (Fombrun & Van Riel, 1997; Hamid, 2004; Sabaté & Puente, 2003; Sanchéz-Ballesta & Bernal Lloréns, 2010).

Company age

Reputation has been considered to represent the public's cumulative judgements of firms over time (Fombrun & Shanley, 1990); and to be "a collective representation of a firm's past actions" (Fombrun & Van Riel, 1997, p. 10). In the latter sense, reputation arises "from learning over time from observed behaviour about some exogenous characteristics of agents" (Diamond, 1989, p. 829). According to legitimacy theory and resources-based perspective, the age of a finance company is related to its public reputation, its involvement in enhanced risk management activities, and the level of confidence depositors have in it (Hamid, 2004; Sanchéz-Ballesta & Bernal Lloréns, 2010). The longer a bank has been established, the higher its reputation level is likely to be. Therefore, higher levels of RRD are expected to build and sustain reputation.

Hypothesis 3: There is a positive association between company age and the level of RRD.

Depositor confidence

Sabaté and Puente (2003, p. 281) contend that "resource holders [the primary stakeholders such as depositors] will come to the firm attracted by the information content of its reputation." Good reputation about bank risk exposures and bank risk management abilities encourage the confidence of stakeholders. The higher the confidence of stakeholders, the higher the level of deposits attracted to the bank (Sanchéz-Ballesta & Bernal Lloréns, 2010). To sustain this level of resources and confidence, a high level RRD will be needed.

Hypothesis 4: There is a positive association between depositor confidence level and the level of RRD.

Risk management ability

A good way to foster transparency is to improve a company's risk management system, since "the ability of a [company] to quantify fully its risk exposure will be irrelevant if it is not underpinned by a strong risk management function" (Heap, 2008, p. 33).

An effective risk management system improves corporate reputation about a bank's ability to deal with risk exposures. It will encourage and build the confidence of bank depositors (Sensarma & Jayadev, 2009; Sabaté & Puente, 2003). The better the

risk management systems are, the better risk reporting seems likely to be (Solomon *et al.*, 2000). Moreover, "if banks recognise that they need to disclose more risk information, then an incentive exists for them to improve their risk management capabilities as they will not want to be viewed as inferior to other banks in this respect" (Linsley & Shrives, 2005b, p. 206).

Hypothesis 5: There is a positive association between risk management ability and the level of RRD.

5.2.2.3 Control variables

Ownership structure

Gulamhussen and Guerreiro (2009) have suggested the highly concentrated equity structure in Portuguese banking sector causes Portuguese banks to experience reduced agency costs. Banks do not face a conflict of interest between owners and entrenched managers who exercise control without a stake. Rather, they face a conflict between controlling owners and minority shareholders. In more concentrated ownership structures, agency costs are lower, because owners internalise the benefits of monitoring management. This reduces opportunistic behaviour by management and levels of RRD (Jensen & Meckling, 1976; Gulamhussen & Guerreiro, 2009).

However, if there is a convergence of interests between the largest shareholder and outside investors, a positive relationship is expected between the owner's holdings and disclosure (Jensen & Meckling, 1976). The same is valid when institutional holders/blockholders are long term investors (Jung & Kwon, 2002).

Profitability

Linsley *et al.* (2006) argue that one of the reasons for a bank to signal its risk management abilities through disclosure is because there is a positive relation between risk management abilities and profitability. However, they did not find any relation between RRD and profitability. Sensarma and Jayadev (2009) argue that better risk management systems can have a negative impact on profitability due to regulatory capital requirements. Helbok and Wagner (2006) found a negative relationship between operational risk disclosures and profitability.

Mutual Agriculture Credit banks

In 2006, MACBs were subjected to a substantial business restructuring and an image change. Operational risk disclosure requirements were intensified and all ensuing steps to change business processes had to be explained in detail.

5.3 Research Method

5.3.1 Sample

The sample consists of 111 Portuguese commercial banks that had individual annual reports for 2006 published in the database of the Portuguese Central Bank as at December 31, 2007. The study reported in this essay focuses on commercial banks because of their high levels of public visibility and consumer-orientation.

5.3.2 Dependent variables

In analysing voluntary RRD items, two categories required by the third Pillar of the Basel II Accord were considered: operational risk, and capital structure and adequacy. Disclosures pertaining to these items were voluntary in 2006. For each of these categories a list of sub-categories was developed (see Appendix 5.1).

Two semantic properties were considered: economic sign (monetary/non-monetary), and type of measure (past/future) (Beretta & Bozzolan, 2004; Linsley *et al.*, 2006). The list of disclosure items was pre-tested and several decision rules were established (Appendix 5.2). The entire annual report was analysed because literature has indicated that risk disclosures were scattered throughout the annual report (Woods & Marginson, 2004). Most of the operational risk and capital structure and adequacy disclosures were narrative. Sentences were used to record those disclosures because of conclusions that sentences are more reliable and valid in cases where purely narrative text is being studied (Milne & Adler, 1999). Sentences are easily identifiable, less subjective to inter-judge variations, and are more suitable in inferring meaning (Haniffa & Cooke, 2005). However, some disclosures about capital structure and adequacy were included in tables. Therefore, narratives and tables and graphs were codified, as suggested by Woods *et al.* (2008). Inter-coder reliability was acceptable (Scott's *pi* = 83.2%) (Beattie *et al.*, 2004).

The hidden correlation between the two risk categories was analysed using Cronbach's Alpha (0.82) and then computed the disclosure score as:

$$RRDj = \sum_{i=0}^{sa} or_{ij} + \sum_{i=0}^{sa} csa_{ij}$$

where

or_{ij} = number of operational risk sentences for the sentence attribute i in the j^{th} bank;

csa_{ij} = number of capital structure and adequacy sentences for the sentence attribute i in the j^{th} bank; and

sa = number of sentence attributes ($sa = 4$).

5.3.3 Independent and control variables

Table 5.2 presents definitions of independent variables and control variables. It reveals the predicted signs of these variables (based on legitimacy theory and a resources-based perspective).

Table 5.2 - Definition and predicted signs for independent and control variables

Variables	*Definition*	*Predicted Sign*
Panel A: Independent Variables		
Size [a, b]	Spatial competition index assessed by the market share of credit institution j in district k weighted by the relevance of that local market for the bank.	+
	Number of branches	+
	Total assets (100^3 Euros)	+
	Number of employees	+
	Profit (100^3 Euros)	+
Company Listing Status	Dummy variable = 1 if company is listed on one or more regulated stock exchange markets; 0 otherwise.	+
Company Age	Number of years the company has been in operation since inception until 2006.	+
Depositor Confidence	Total deposits to total assets	+
Risk Management Ability	Regulatory capital adequacy ratio	+
Panel B: Control Variables		
Ownership Structure	Shareholdings greater than 2%.	?
Profitabilility	Return on assets = Total income to total assets.	?
Mutual Agriculture Credit Bank	Dummy variable = 1 if company is a MACB; 0 otherwise.	?

[a] The spatial competion index proposed by Branco and Rodrigues (2008a) as a proxy for size was calculated as follows:

$SC = \sum_k \left(\frac{n_{jk}}{n_k} \times \frac{n_{jk}}{n_j} \right)$ where:

n_j = total number of branches of credit institution j in a given year

n_k = number of credit institution branches in district k in a given year

n_{jk} = number of branches of credit institution j in district k in that year

"Size" was assessed using the following variables: spatial competition index [SC], number of branches, number of employees, total assets, and profit (Branco & Rodrigues, 2008a). Since these size variables were highly correlated, a principal components analysis was applied to generate an index for size. Uni-dimensionality (one component extracted explained 83 per cent of the total variance) and internal consistency (Cronbach's Alpha = 0.94) were assured. Principal components analysis was validated by the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = 0.80), and Bartlett's test of sphericity (χ^2 = 1,131.52; $p \leq 0.01$). The size index for the j^{th} bank is defined as:

$$Size_j = 0.564*SC + 0.978*Branches + 0.988*Employees + 0.981*Total\ assets + 0.976*Profit$$

"Company listing status" was assigned 1 if the bank was listed on one or more regulated stock exchange markets, and 0 otherwise (Oliveira *et al.*, 2006; Leventis & Weetman, 2004).

"Company age" was assessed by the number of years a bank had been in operation since its inception up until 2006 (Hamid, 2004).

"Depositor confidence" was measured by the ratio total of deposits to total assets (Sanchéz-Ballesta & Bernal Lloréns, 2010).

"Risk management ability" was assessed by the regulatory capital adequacy ratio. Sensarma and Jayadev (2009) used this ratio as a proxy for solvency risk. However, this regulatory ratio incorporates assessments of minimum capital requirements for credit risk, market risk and operational risk. It represents "the available cushion to a bank's unexpected losses and implicitly protects the interests of uninsured depositors. (…) [It] builds confidence of bank depositors" (Sensarma & Jayadev, 2009, p. 11). Therefore, it is a suitable proxy to overall risk management ability of a credit-granting institution.

"Ownership structure" was assessed by the percentage of shareholdings greater than 2%, following the concept of qualified shareholding stated in the Portuguese Securities Code.

"Profitability" was measured by the return on assets ratio (Linsley *et al.*, 2006; Helbok & Wagner, 2006).

"Mutual Agricultural Credit Banks" was measured by considering the business restructuration and image change these commercial banks were subjected to during 2006: commercial banks classified as MACBs were assigned 1, and 0 otherwise.

5.3.4 Empirical model

The estimation model tests whether factors associated with legitimacy theory and resources-based perspectives [LRb] affect the volume of RRD in bank *j* after controlling for other company-level drivers of disclosure [C].

$$RRD_j = f(LRb_j, C_j) + \upsilon_j$$

5.4 Results

5.4.1 Descriptive and bivariate analysis

Table 5.3 reports the descriptive statistics of the dependent, independent and control variables. On average, Portuguese commercial banks had low levels of RRD (mean = 16.78 sentences). The effects of this lower level of disclosure were exacerbated by comparability difficulties, by inability to understand narratives, and by a failure of narratives to explain numerical disclosures (Oliveira *et al.*, 2011a). These results support previous findings (Ernst & Young, 2008a; KPMG, 2008, 2009; PriceWaterhouseCoopers, 2008; Woods *et al.*, 2008a, Woods & Marginson, 2004).

The highest levels of disclosures were made by large listed banks, consistent with the theoretical framework proposed. Their public visibility requires a higher level of legitimacy to fulfil stakeholders' expectations. This reduces information asymmetries between managers/owners and debt-holders, helps monitoring efforts of stakeholders', and builds corporate reputation by improving stakeholders' confidence.

The mean values for ownership structure (shown in Table 5.3) confirm that Portuguese commercial banks are highly concentrated. This indicates the possibility of different agency relations between controlling owners, managers and minority shareholders (Gulamhussen & Guerreiro, 2009).

Table 5.4 (Panel A) shows 1,863 sentences containing voluntary RRD: 968 of operational risk, and 895 of capital structure and adequacy. Most of these sentences are qualitative and backward-looking, consistent with Linsley *et al.* (2006). Quantitative and forward-looking disclosures are highly sensitive and are subject to higher levels of proprietary costs (Linsley *et al.*, 2006). Therefore, consistent with legitimacy theory and

resources-based perspective, it is understandable that managers prefer to disclose qualitative and backward-looking voluntary risk information. Such disclosures are less harmful to corporate image and reputation (Oliveira *et al.*, 2011).

Table 5.3 - Descriptive statistics for the sample firms

	Unit of measurement	N	Minimum	Maximum	Standard Deviation	Mean	Skewness
Continuous variables							
Voluntary risk-related disclosures	Number of sentences	111	2.00	146.00	22.24	16.78	3.69
Spatial competition	Index	111	0.00	0.30	0.05	0.04	2.51
Number of branches	Count	111	1.00	853.00	152.02	47.79	4.10
Number of employees	Count	111	0.00	10,520.00	1,738.40	496.23	4.55
Total assets	100^3 Euros	111	13.93	81,891.87	12,185.75	3,019.63	5.20
Profit	100^3 Euros	111	-34.64	689.76	104.69	24.69	5.36
Company age	Count	111	0.00	162.00	36.99	46.33	0.64
Depositor confidence	Ratio	111	0.21	2.55	0.20	0.85	4.81
Risk management ability	Ratio	111	0.08	1.04	0.13	0.17	5.07
Ownership structure	Percentage	111	0.00	1.00	0.33	0.73	-1.35
Profitability	Ratio	111	-0.03	0.10	0.01	0.01	1.91
Dummy variables			Frequency	Per cent			
Company listing status	Dummy = 1	111	3	3%			
	= 0		108	97%			
Mutual Agriculture Credit Banks	Dummy = 1	111	89	80%			
	= 0		22	20%			
	Total			100%			

Definition of variables:
Spatial competition index = market share of bank *j* in district *k* weighted by the relevance of that local market for the bank; Company listing status = 1 if company is listed on one or more regulated stock exchange markets, and 0 otherwise; Company age = number of years the company has been in operation since inception until 2006; Depositor confidence = total deposits to total assets ratio; Risk management ability = regulatory capital adequacy ratio; Ownership structure = percentage of shareholdings greater than 2%; Profitability = return on assets ratio; Mutual Agriculture Credit Banks = 1 if company is a MACB, and 0 otherwise.

Table 5.4 (Panel B) presents the results of the independent sample *t*-tests and Mann-Whitney U tests for RRD. There are statistically significant differences in the means (medians) between the two groups of each dummy variable. Listed banks have greater levels of RRD because they are exposed to closer stakeholder scrutiny than unlisted banks. Despite the fact that MACBs were subjected to a business restructuring and image change during 2006, and were required to make additional disclosures to

detail the processes involved, the "other commercial banks" show greater levels of disclosure.

Table 5.4 - Frequencies and differences in the means (medians) of voluntary risk-related disclosures

	Voluntary risk-related disclosures	Operational	Capital structure and adequacy
Panel A: Number of sentences of risk-related disclosures for each sentence attributes			
Monetary	462	7	455
Non-monetary	1,401	961	440
Future	55	21	34
Past	1,808	947	861
Total	1,863	968	895
Panel B: Differences in means (medians) of risk-related disclosures			
Company listing status:			
Listed - Unlisted	81.76 ***	40.71 ***	41.05 ***
	(86.00) ***	(44.00) ***	(42.00) ***
MACB:			
MACB - Other commercial banks	-25.55 ***	-14.07 ***	-11.49 ***
	-(12.00) ***	-(7.00) ***	-(5.00) ***

Independent sample *t*-tests (Mann-Whitney U tests) are used to test the difference in means (medians).

Difference statistically significant at: ***0.01 level (two-tailed); **0.05 level (two-tailed); *0.1 level (two-tailed).

Table 5.5 presents the pair-wise correlation coefficients between the model variables. The magnitude of the correlation coefficients indicates that multicollinearity is minimal.

5.4.2 Multiple regressions

The regression model was tested for autocorrelation, multicollinearity, heterocedasticity, outliers, and normality of residuals. Three outliers were identified and excluded. Normality tests revealed that the raw continuous dependent, independent and control variables were not distributed normally (Table 5.6). Following Cooke (1998) these raw variables were normalised using Blom's transformation.

Table 5.5 - Bivariate relationships for the dependent, independent and control variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Correlations (Pearson) among continuous variables									
(1) Voluntary risk-related disclosures	1.00								
(2) Size	0.51 ***	1.00							
(3) Company Age	0.12	-0.01	1.00						
(4) Depositor Confidence	-0.10	-0.10	-0.14 *	1.00					
(5) Risk Management Ability	-0.19 **	-0.50 ***	0.03	-0.30 ***	1.00				
(6) Ownership Structure	0.22 ***	0.33 ***	0.08	-0.25 ***	-0.24 ***	1.00			
(7) Profitability	-0.08	-0.04	0.07	-0.25 ***	0.21 **	0.03	1.00		
Panel B: Correlations (Spearman) between the categorical and continuous variables									
(8) Company Listing Status	0.27 ***	0.27 ***	0.00	-0.23 ***	-0.17 **	-0.14 *	-0.11	1.00	
(9) Mutual Agriculture Credit Bank	-0.38 ***	-0.59 ***	0.20 **	0.41 ***	0.39 ***	-0.49 ***	0.09	-0.34 ***	1.00

Definition of variables:
Size = Principal components analysis (Spatial competition index; Number of branches; Number of employees; Total assets; Profit); Company listing status = 1 if company is listed on one or more regulated stock exchange markets, and 0 otherwise; Company age = number of years the company has been in operation since inception until 2006; Depositor confidence = total deposits to total assets ratio; Risk management ability = regulatory capital adequacy ratio; Ownership structure = percentage of shareholdings greater than 2%; Profitability = return on assets ratio; Mutual Agriculture Credit Banks = 1 if company is a Mututal Agriculture Credit Bank, and 0 otherwise.
Significant at the: ***0.01 level (one-tailed); **0.05 level (one-tailed); *0.1 level (one-tailed).

Table 5.6 - Kolmogorov-Smirnov (Lilliefors) tests of normality

		Untransformed data		Transformed data	
	df	K-S statistic	p-value	K-S statistic	p-value
Voluntary risk-related disclosures	111	0.32	0.00	0.05	0.20
Size	111	0.44	0.00	0.01	0.20
Company age	111	0.22	0.00	0.03	0.20
Depositor confidence	111	0.31	0.00	0.01	0.20
Risk management ability	111	0.27	0.00	0.11	0.00
Ownership structure	111	0.20	0.00	0.08	0.07
Profitability	111	0.21	0.00	0.02	0.20

The regression model is statistically significant (p-value < 0.01) with an adjusted R^2 of 0.36 (Table 5.7). The removal of outliers improved the previous adjusted R^2 from 0.30 to 0.36.

Table 5.7 - Results of regression model for voluntary risk-related disclosures

Variables	Pred. Sign	Voluntary risk-related disclosures (N = 108)	
Intercept		0.51	(1.85) †
Size	+	0.43	(4.12) ***
Company listing status	+	1.15	(2.15) **
Company age	+	0.14	(1.72) **
Depositor confidence	+	0.23	(2.07) **
Risk management ability	+	0.23	(2.23) **
Ownership structure	?	0.09	(0.90)
Profitability	?	-0.08	-(0.99)
Mutual Agriculture Credit Bank	?	-0.61	-(1.84) †
R^2 *(F-statistic)*		0.40	(8.40) †††
Adjusted R^2		0.36	
Durbin-Watson		1.90	
Maximum VIF		3.16	
Kolmogorov-Smirnov statistic (p -value)		0.05	(0.20)

Dependent and independent continuous variables were normalised using Blom's transformation. Figures in parentheses are t -statistics. White heteroskedasticity-consistent standard errors, when necessary.

Regression models: $RRD_j = f(LRb_j, C_j) + \upsilon_j$

Definition of variables:

Size = Principal components analysis (spatial competition index; number of branches; number of employees; total assets; profit); Company listing status = 1 if company is listed on one or more regulated stock exchange markets, and 0 otherwise; Company age = number of years the company has been in operation since inception until 2006; Depositor confidence = total deposits to total assets ratio; Risk management ability = regulatory capital adequacy ratio; Ownership structure = percentage of shareholdings greater than 2%; Profitability = return on assets ratio; Mutual Agriculture Credit Bank = 1 if company is a MACB, and 0 otherwise.

Significant at the: ***0.01 level (one-tailed); **0.05 level (one-tailed); *0.1 level (one-tailed)

Significant at the: †††0.01 level (two-tailed); ††0.05 level (two-tailed); †0.1 level (two-tailed)

RRD is associated positively with size (p-value < 0.01), company listing status (p-value < 0.05), company age (p-value < 0.05), depositor confidence (p-value < 0.05), and risk management ability (p-value < 0.05). Hypotheses H1, H2, H3, H4, and H5 are supported. Thus, Portuguese commercial banks appear to adopt legitimacy strategies for two major reasons. First, from an institutional perspective, publicly visible banks (as assessed by size and company listing status) enhance legitimacy by conforming to institutional pressures associated with Basel II requirements. Enhanced legitimacy

improves market discipline because of stakeholders' monitoring (Bliss & Flannery, 2002; Carpenter & Feroz, 2001; Fernández-Alles & Valle-Cabrera, 2006; Frolov, 2007). Second, from an organizational perspective, banks with higher levels of corporate reputation (assessed by company age, depositor confidence, and risk management abilities) adopt legitimacy strategies through voluntary RRD to manage stakeholders' perceptions of their reputation (Bebbington *et al.*, 2008; Sanchéz-Ballesta & Bernal Lloréns, 2010).

RRD is associated negatively with the MACBs (p-value < 0.1). As expected, other commercial banks disclosed more voluntary risk information since their public visibility is greater. Thus, according to legitimacy theory, they are exposed to extra demands to fulfill stakeholders' expectations through disclosure of voluntary risk information.

RRD is not associated with ownership structure. This result was expected due to the highly concentrated nature of the Portuguese banking sector (European Central Bank, 2006; Gulamhussen & Guerreiro, 2009). The latter characteristic reduces the possibility of existing agency costs due to management entrenchment. This non-significant result also indicates a low possibility of existing agency conflicts between owners/managers and minority shareholders. The result lends support to the explanatory capacity of the theoretical framework proposed to explain voluntary RRD. As expected, RRD are not associated significantly with profitability, consistent with Linsley *et al.* (2006).

5.5 Conclusions

The analysis of voluntary RRD practices by Portuguese commercial banks supports explanations of RRD that are based on a combination of legitimacy theory and resources-based perspective. Corporate reputation risk management seems to be an important determinant of voluntary risk reporting practices by banks.

Public visibility (assessed by size and company listing status) is a crucial factor in promoting legitimacy strategies through RRD. Highly visible banks are subject to greater scrutiny because most relevant stakeholders do not participate in a bank's day-to-day management. Consequently, publicly visible banks are exposed to extra institutional pressures to conform to minimal RRD requirements that are considered conducive to reducing information asymmetries. These disclosures also promote

stability of the banking system, market discipline effectiveness, and sustain the social support of stakeholders. On the other hand, reputation (assessed by company age, depositor confidence level, and company risk management abilities) is crucial to a company strategy to enhance legitimacy by building a sustainable stakeholder management mindset (Jagersma, 2009). Older banks with better risk management abilities, and with more confident depositors, take advantage of this situation: through disclosure of risk information they try to influence how well stakeholders perceive the bank's reputation is being managed. This promotes confidence among relevant stakeholders and, consequently, helps guarantee a continuous inflow of resources to the banks (Sanchéz-Ballesta & Bernal Lloréns, 2010; Fernández-Alles & Valle-Cabrera, 2006).

The present essay is cross-sectional and based on a Portuguese sample that reflects a highly concentrated ownership structure. Such a setting reduces agency conflicts. Further research could beneficially investigate whether, in different settings with different agency conflicts, the theoretical framework proposed remains suitable (Alexander, 2006). Other corporate governance variables not usually included in company annual reports (such as board composition, audit committees, external auditor quality, leadership duality, and CEO compensation schemes) could be used to control the results.

Appendix 5.1 – Voluntary risk-related disclosure categories

Operational Risk [a]

Operational risk categories

- Internal fraud
- External fraud
- Employment practices and workplace safety
- Clients, products and business practices
- Damage to physical assets
- Business disruptions and system failures
- Execution, delivery and process management

Operational risk management categories

- Purchase of insurance
- Hiring and retaining highly trained and experienced staff
- Outsourcing of specialised business activities
- Outsourcing arrangements based on robust contracts that ensure a clear allocation of responsibilities between external service providers and the outsourcing bank
- Developing control quality system and equipments maintenance
- Implementing an operational risk management system responsible for developing strategies to identify, assess, monitor and control/mitigate operational risk, such as self-risk assessment (checklists, workshops or even scorecards), risk mapping, risk indicators and measurement
- Have routines in place for ensuring compliance with a documented set of internal policies, controls, and procedures concerning an operational risk management system
- Regular reporting of operational risk exposures to business unit management, senior management and to the board of directors
- Regular review by internal/external auditors and supervisory entities
- Developing an operational emergency response plan such as disaster recovery and business continuity plans taking into account different types of plausible scenarios
- Extensive use and appropriate investments in new processing technology and information security
- Maintaining comprehensive programs and contingency plans to control health, safety and environmental risks
- Assess legal risk before making an investment

Capital Structure and Adequacy [b]

- Internal process for assessing capital adequacy and for setting appropriate levels of capital
- Provide analysis of changes in the bank's capital structure and the impact on key ratios and overall capital position
- Information about how the requirements, under Basel II Capital Accord, have been calculated or fulfilled
- External evaluation of risk in a generic way

[a] The development of categories and sub-categories was based on Lajili and Zéghal (2005), and BIS (2005).

[b] The development of the list of sub-categories was based on BIS (2003).

Appendix 5.2 – Decision rules

- The recording unit is the sentence, but the context unit is the paragraph.
- To identify risk disclosures a broad definition of risk shall be adopted.
- Sentences are to be coded as RRD if the reader is: a) informed of any opportunity or prospect, or of any hazard, danger, harm, threat or exposure, that has already affected the economic and financial situation of the company or may affect it in the future; b) informed of any action to manage, mitigate or deal with any opportunity, prospect, hazard, harm, threat, or exposure, or to evaluate the effectiveness of the internal controls systems;
- Disclosures must be stated specifically, not implied.
- Risk disclosures shall be classified according to categories established.
- Sentences shall be classified as "past" if they relate to past/present events or circumstances in relation to the balance sheet date. Otherwise, they shall be classified as "future" if they relate to future events or circumstances.
- Monetary risk disclosures either disclose directly the financial impact of a risk or disclose sufficient information to enable the reader to calculate the financial impact of a risk.
- Sentences with more than one possible classification shall be split into text units, according to specific context, and classified independently (Beattie & Thomson, 2007).
- If a sentence has more than one possible classification, but cannot be split, the classification shall be made according to the category/attribute most emphasised within the sentence.
- Tables (quantitative and qualitative) that provide risk information should be interpreted as one sentence per line and classified accordingly (Beattie & Thomson, 2007).
- Any disclosure that is repeated shall be recorded as a risk disclosure sentence each time it is disclosed.
- If a disclosure is too vague in its reference to risk, then it shall not be recorded as a risk disclosure.
- Figures, graphs and reports from external entities (inserted in specific boxes), related to risk information, shall be recorded as a risk disclosure sentence (Beattie & Thomson, 2007).

Appendix 5.3 – Companies in the sample

Banco Primus, SA
Banco Rural Europa, SA
Credifin - Banco de Crédito ao Consumo, SA
Banco Cetelem, SA
Banco do Brasil (Portugal), S.A.
Caixa Económica Montepio Geral
Caixa Económica da Misericórdia de Angra do Heroísmo
Banco Comercial Português, SA
Finibanco, S.A.
Banco Mais, SA
Banco Santander Consumer Portugal, SA
Banco Santander Totta, SA
BPN - Banco Português de Negócios, SA
Banco Bilbao Vizcaya Argentaria, Portugal, SA
Deutsche Bank (Portugal), SA
Banco Popular, Portugal, SA
Banco Comercial dos Açores, SA
BANIF - Banco Internacional do Funchal, SA
Banco Espirito Santo dos Açores, SA
Banco Espírito Santo, SA
Banco BPI, SA
Caixa Geral de Depósitos, SA
Caixa de Crédito Agrícola Mútuo [CCAM] Açores
CCAM Águeda
CCAM Albufeira
CCAM Alcácer do Sal e Montemor-o-Novo
CCAM Alcanhões
CCAM Alcobaça
CCAM Alenquer
CCAM Algarve
CCAM Aljustrel e Almodôvar
CCAM Alto Corgo e Tâmega
CCAM Alto Guadiana
CCAM Alto Minho
CCAM Amares
CCAM Anadia
CCAM Armamar e Moimenta da Beira
CCAM Arouca
CCAM Arruda dos Vinhos
CCAM Azambuja
CCAM Bairrada e Aguieira
CCAM Barcelos
CCAM Batalha

CCAM Beira Baixa (Sul)
CCAM Beira Centro
CCAM Beja e Mértola
CCAM Borba
CCAM Bragança
CCAM Cadaval
CCAM Caixa Central
CCAM Campo Maior
CCAM Cantanhede e Mira
CCAM Cartaxo
CCAM Coimbra
CCAM Costa Verde
CCAM Elvas
CCAM Estarreja
CCAM Estremoz, Monforte e Arronches
CCAM Évora
CCAM Favaios
CCAM Ferreira Alentejo
CCAM Fornos de Algodres
CCAM Fundão e Sabugal
CCAM Guadiana Interior
CCAM Lafões
CCAM Lamego e Castro Daire
CCAM Loures
CCAM Lourinhã
CCAM Minho
CCAM Mogadouro e Vimioso
CCAM Moravis
CCAM Norte Alentejano
CCAM Oliveira do Bairro
CCAM Oliveira do Hospital
CCAM Ovar
CCAM Paredes
CCAM Pernes
CCAM Pinhal
CCAM Ponte de Sôr
CCAM Portalegre e Alter do Chão
CCAM Porto
CCAM Porto Mós
CCAM Póvoa de Varzim, Vila do Conde e Esposende
CCAM Ribatejo Norte
CCAM Ribatejo Sul
CCAM São Bartolomeu de Messines e São Marcos Serra
CCAM São Teotónio

CCAM Santo Tirso
CCAM Salvaterra de Magos
CCAM Santiago do Cacém
CCAM Seia
CCAM Silves
CCAM São João da Pesqueira
CCAM Sobral de Monte Agraço
CCAM Sotavento Algarvio
CCAM Terras Sousa, Ave, Basto e Tâmega
CCAM Sousel
CCAM Tarouca
CCAM Terra Quente
CCAM Terras de Miranda do Douro
CCAM Tramagal
CCAM Vila Nova de Famalicão
CCAM Sátão e Vila Nova de Paiva
CCAM Vagos
CCAM Vale Cambra
CCAM Vale do Dão
CCAM Vale do Douro
CCAM Vale do Távora
CCAM Vila Franca de Xira
CCAM Vila Verde e Terras de Bouro
CCAM Vila Nova de Tazém

Concluding remarks

This thesis makes theoretical and empirical contributions to our understanding of RRD by extending knowledge of RRD in Portugal and (more widely) by profiling and explaining the RRD practices of finance and non-finance companies.

This thesis provides a much needed counterpoint to the preponderance of most existing descriptive research studies of RRD. Such studies are based on empirical evidence that emerges from Anglo-Saxon countries where there is a common law focus and accounting is oriented to the achievement of transparency and full disclosure. Listed public companies tend to be owned widely. They follow a shareholder model of corporate governance that emphasises shareholder rights and investor protection. Stock markets are well developed and are the main source of financing. The financial reporting on which these studies are based focuses on investors' interests. Financial disclosure is viewed as the likely solution to information asymmetry problems (Ball *et al.*, 2000; Lopes & Rodrigues, 2007; Meek & Thomas, 2004). Since RRD can reduce information asymmetries between managers and investors, high levels of RRD are expected in these countries (Linsmeier *et al.*, 2002).

In contrast, Latin countries (such as Portugal) operate under a code law system that is oriented toward legal compliance. These countries are characterised by low levels of disclosure. In part, this is because listed companies are usually family-based and a have a high concentration of ownership by family members. They tend to follow a stakeholder model of corporate governance in which "insider communication solves the information asymmetry between managers and shareholders" (Ball *et al.*, 2000, p. 3). Stock markets are small, and the primary source of financing is banks and government. In such countries, including in Portugal, financial reporting focuses on creditor protection (Lopes & Rodrigues, 2007; Meek & Thomas, 2004). Consequently, when compared with Anglo-Saxon countries, different RRD practices should be expected. This thesis reveals and confirms those expectations.

In periods that pre-date the GFC of 2008/09, RRD were vague, generic, qualitative and backward looking, and inadequate for the information needs of stakeholders. Among Portuguese finance companies, RRD lacked transparency. This undermined comparability, understandability and reliability of RRD. Consequently, investors faced difficulties in assessing the appropriate risk profile of a company. Moreover, results also indicate that the adoption of risk-based regulation (e.g., IAS/IFRS and EU's Modernisation Directive in 2005) had a positive effect on the quantity of RRD, but not the quality. The results reported in this thesis indicate that

RRD practices were inadequate. Thus, they should be helpful to the efforts of supervisory and regulatory entities to improve risk-based regulation. Currently, most risk-based regulations tend to focus only on financial risks (e.g. IFRS 7) or demand vague and generic RRD (e.g. European Directives 2001/65/EC, 2003/51/EC, 2004/109/EC, and 2006/46/EC). Companies should be encouraged to start disclosing more relevant risk information (e.g. forward-looking RRD). There needs to be clearer explanations of how risk is aligned with strategy, how risk is managed, and how all varieties of risk will affect the future performance of the company.

In terms of quality, the RRD practices of Portuguese non-finance companies and finance companies are similar. They show several common deficiencies in terms of comparability, reliability and relevance. In terms of quantity, the RRD practices of Portuguese non-finance companies are similar to the voluntary risk disclosures of Portuguese commercial banks. They are backward-looking and qualitative. Mandatory RRD of Portuguese commercial banks tend to be quantitative. However, content analysis of the annual reports showed that RRD of highly publicly visible Portuguese commercial banks are usually discussed in risk-specific sections of the management report and notes to financial statements. For Portuguese non-finance companies, RRD are scattered throughout the annual reports.

The results presented in this thesis indicate that there are other motivations for RRD beyond an attempt to resolve information asymmetry problems. At the theoretical level, this thesis delivers a broader understanding of the motivations for RRD of finance and non-finance companies. It develops a theoretical framework that considers the interdependencies between economic theories and social and political theories. In particular, it extends the economic theory approach beyond positive accounting theory by incorporating other aspects of the business-society relationship. The benefit of this framework is that it permits examination of what managers are trying to avoid happening (e.g. agency costs, political costs); of what they are doing to create heterogeneous resources to sustain competitive advantages; and what communication strategies they adopt to enhance those resources (e.g. corporate reputation) (Hasseldine, 2005). This theoretical framework has not been used hitherto in RRD literature. Its use in this thesis results in a more penetrating analysis of RRD practices. That analysis draws upon legitimacy theory and resource-based perspectives to reveal public visibility and corporate reputation to be crucial influences in explaining RRD.

For non-finance companies, results also indicate that agency costs associated with leverage are significant influences on RRD. The presence of independent directors improves the level of RRD. Thus, corporate governance structure has an important role in encouraging RRD. The GFC of 2008/09 showed that boards of directors, in particular independent non-executive directors, did not fulfil their key role of identifying, understanding and controlling risks. The apparent awareness of supervisory and regulatory entities to this seems to be manifest in efforts of the European Parliament and Council to reinforce corporate governance structures (e.g. EU Directive 2006/46/EC, and the Green Paper on *Corporate Governance in Financial Institutions and Remuneration Policies*, published by EU). These recommendations are notable for seeking a balance between the skills and independence of directors.

The thesis results are likely to be of crucial assistance to future researchers in investigating RRD. First, because the thesis pinpoints research gaps that make this research field very promising. Second, and more specifically, the results can be helpful in analyzing the effectiveness of the financial reforms that have been made since the GFC of 2008/09 and in an attempt to solve disclosure inadequacies detected in studies that pre-dated the GFC.

Future researchers should acknowledge that although risk is multifaceted and multidisciplinary it is strongly related to accounting, economics, finance, and regulation (Deumes, 2008). This complexity makes RRD an interesting field of research with considerable potential to contribuite in many fields of knowledge.

This thesis has helped me to understand the holistic ramifications of risk issues and the interconnections with fields of knowledge outside of accounting. It is hoped it will engender similar responses to others.

Understanding risk and eliciting better accountability of firms' exposures to risk and management of risk is a challenging task – one that is fraught with many difficulties. This thesis takes us on step along the pathway to the resolution of those difficulties.

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