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The management's reaction to new mandatory risk disclosure

A longitudinal study on Italian listed companies

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Received 24 February 2011
Revised 21 June 2011
19 September 2011
Accepted 14 November 2011

Abstract

Purpose – This paper aims to study the effect of new regulatory requirements on disclosure through a longitudinal study. The empirical setting is offered by the risk reporting in the management commentaries of Italian listed companies. In this setting there is an evolution from a voluntary disclosure environment toward a regulated one, with the gradual introduction of new reporting requirements.

Design/methodology/approach – This paper uses the content analysis method to investigate the narrative risk disclosure. Non-parametric statistics are used to test the hypotheses.

Findings – It is found that even when new mandatory disclosure is introduced, managers exploit discretion and do not change their disclosure policy, continuing to withhold relevant information to external users. Before and after the introduction of new regulation, managers' behaviour appears in line with self-interest to protect themselves from litigation and competitive costs, as well as from possible decreases in the firm's value.

Originality/value – The study provides a longitudinal study, covering changes from a voluntary disclosure environment to a regulated one. The paper provides evidence that the management incentives do not change in the presence of new disclosure regulation.

Keywords Disclosure, Regulation, Risk reporting, Financial reporting, Non parametric measures, Italy

Paper type Research paper

1. Introduction

This study is motivated by calls for research about the effect of new regulation on the management incentives for disclosure (Dobler, 2008; Leuz and Wysocki, 2008). In recent years regulation was used in many Countries to mandate risk information, deemed lacking in financial reports (Dobler, 2008; Solomon *et al.*, 2000). With regard to such type of disclosure, it is interesting to study the effect of the introduction of new regulation on the financial report preparers' incentives.

Both the practitioners and the academic world proposed a number of arguments supporting requests for new regulation (Institute of Chartered Accountants in England and Wales, 1998; Linsley and Shrives, 2000; Solomon *et al.*, 2000). One of the most common argument is that risk reporting is able to fill the information asymmetry gap with outsiders (Lajili and Zéghal, 2005; Linsley and Shrives, 2000) and is therefore expected to allow them a better assessment of an entity's future performance (Dobler, 2008; Linsley and Shrives, 2006; Schrand and Elliott, 1998).

Academic literature studied the beneficial effects of risk reporting, such as lower cost of capital (Institute of Chartered Accountants in England and Wales, 1998; Linsley and Shrives, 2006; Solomon *et al.*, 2000) or positive effects on risk management and

Corporate Communications: An International Journal
Vol. 17 No. 2, 2012
pp. 113-137

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1356-3289
DOI 10.1108/13563281211220256

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governance (McNamee and Selim, 1998). Despite the hypothesized incentives for managers, empirical research found poor voluntary risk disclosure, with mostly qualitative information and few probability forecasts and financial quantitative estimates of the impact (Beretta and Bozzolan, 2004; Bungartz, 2003; Carlon *et al.*, 2003; Linsley and Shrives, 2006; Mohobbot, 2005). Other streams of research suggest that the management has limited incentives to disclose private risk information, due to litigation or proprietary costs (Lajili and Zéghal, 2005).

Following prior findings in the accounting research field (Ball *et al.*, 2003; Ewert and Wagenhofer, 2005), we hypothesize that new regulation does not change the management adverse incentives to risk disclosure.

The longitudinal analysis of risk reporting is delivered throughout a period of six years (2003-2008), in a context in which regulation evolves from no requirements to mandatory disclosure about financial risks, until full range risk reporting. We consider a sample of 20 Italian listed non-financial firms. The 2003, 2005 and 2008 management commentaries are studied. A content analysis is carried out to study both the quantity and the information attributes of disclosure.

We found that, even in presence of a significant increase in the quantity of risk-related sentences following new regulation, the information attributes of the disclosure about risks remain unchanged throughout the period. The disclosed information is substantially qualitative, with few forward-looking narratives and quantitative forecasts about probability and estimated impact.

The overall results support the hypothesis that regulation does not overcome incentives. Managers exploit the discretion allowed by regulation and do not change their disclosure policy. Before and after the introduction of new regulation, the managers' behaviour appear to be in line with the self-interest to protect themselves from possible litigation costs, from decreases in the firm value, and from disclosure competitive costs.

This study can contribute to prior literature in two ways. First, most studies on risk reporting address a one-year sample and the research on the introduction of new regulation on risk reporting is still limited, with some paper available only in German (Fischer and Vielmeyer, 2004; Kajüter and Winkler, 2003). Our work could extend the literature on the firms' risk disclosure behaviour through a longitudinal study, addressing the switch from a voluntary disclosure regime to a regulated one. Second, it can contribute to the literature about the effect of new regulation on disclosure (Combes-Thuélin *et al.*, 2006; Dobler, 2008; Lofstedt *et al.*, 2011), by providing evidence that discretion in compliance with new regulation lead to disclosures similar to those observed in a voluntary disclosure regime, due to the effect of management incentives.

This research may also have some practical implications. It can suggest the case for the issuance of more detailed requirements/standards for disclosure, particularly in contexts with limited financial communication culture and broad regulatory requirements (such as Italy). The study can also suggest the case for the issuers to take into greater account the disclosure users needs.

The remainder of the paper is organized as follows. Section 2 describes the institutional background. Section 3 reviews the literature and develop the hypotheses. Section 4 discusses the sample and the research methodology. Section 5 displays the empirical results and Section 6 includes the discussion of the findings. The paper ends with the conclusions in Section 7.

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2. Institutional background

The Italian financial market provides an interesting setting for a research about the interplay between the introduction of new regulation and the incentives for management. Through several steps, new rules about risk disclosure for listed companies have been introduced in the last decade. The introduction of new regulation also followed criticisms to the lack of financial communication culture and recurring calls for richer disclosures by the Italian Stock Exchange Authority and the professional associations (Allegrini and Greco, 2011; Italian National Association of Chief Financial Officers, 2008; Italian Stock Exchange, 2006; Greco, 2011).

We briefly summarize here the introduction of new regulatory requirements for risk reporting in the management commentary. In the period 2003-2008, the implementation of the European Directive 2001/65/CE "Modernization", requiring an update of the Italian Civil Code, happened in two steps. This period can be thus divided into three stages.

(1) Before 2005, there was no regulation concerning risk disclosure in the management commentary. Disclosure is basically voluntary[1] for both financial and non-financial risks.

(2) In the period 2005-2007, disclosure about financial risk and risk management became mandatory, while disclosure about non-financial risks is essentially issued on a voluntary basis.

The new Civil Code art. 2428 comma 6-bis was introduced and applied starting from the 2005 annual reports. The new article required information about financial risk management policies and hedging activities as well as information about the exposures to interest rate risk, credit risk and market risk. For listed companies, which adopted IAS/IFRS in 2005, the art. 2428 comma 6-bis potentially conflicted with the IAS32, which requires complementary information about risk factors, risk management policies and hedging activities to be located in the footnotes. The potential conflict remains after the adoption in 2007 of the IFRS7, which explicitly allows financial risk disclosure to be located either in the footnotes, or in the management commentary or in specific "risk reports". A common solution for the listed companies has been to select footnotes for disclosure about risk factors, describing risk management policies in the management commentary.

The new mandatory disclosure might influence the overall risk reporting in the management commentary, with a possible increase in the amount of information. The information attributes of risk reporting could also be shifted toward forecasts and quantitative estimates, following the IAS 32 (and after the IFRS 7) disclosure "model".

(3) Starting from 2008, the implementation of the European Directive 2001/65/CE draws to a close, with an update of the Civil Code art. 2428 comma 1 and 2. According to the Code, the directors shall deliver a "faithful, balanced and thorough analysis" of the financial position and the results of the company and of its operating segments. The analysis must include a description of the entity's main "risks and uncertainties", coherent with the size and the complexity of the business and to the extent necessary for the users' understanding. Mandatory full range risk disclosure is introduced in the

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management commentary. A significant increase in the overall risk reporting can be expected.

The situation depicted provides an interesting research avenue to study whether incentives matter in the different periods.

3. Literature review and hypothesis development

Research about risk disclosure requires a clear definition of the object studied. We adopt the definition of risk reporting provided by Linsley and Shrives (2006)[2] for two reasons. First, this definition is broad and can encompass the uncertainties-based view and the target-based view on risk (Dobler, 2008). Second, this definition also clearly include the information about the risk management system and activities, consistently with a commonly accepted meaning of risk reporting (McNamee and Selim, 1998; Walker, 2009).

Theoretical academic literature discusses the managers' incentives to report risk information, relating them to the costs and benefits of disclosure. Potential benefits come from the market outcomes of the firm's risk reporting activity. Precise assessment of the firm's risk profile allows more efficient assets allocation, by helping investors in the estimation of market value, and in the accuracy of security price forecasts (Helliar and Dunne, 2004; Linsley and Shrives, 2000). This can result in lower cost of capital (Lambert *et al.*, 2007; Verrecchia, 2001).

Risk disclosure can help mitigate information asymmetry and reduce agency conflicts between shareholders and management (Jensen and Meckling, 1976; Shleifer and Wolfenzon, 2002). Furthermore, risk reporting is seen as a useful instrument of change management (Abraham and Cox, 2007; McNamee and Selim, 1998), as well as an important instrument of accountability for managers (Linsley and Shrives, 2000).

Risk reporting also implies firm-specific costs. The information provided to capital markets can be used by other parties, such as competitors, labour unions or tax authorities (Verrecchia, 1983). Proprietary risk and risk management information can disclose the management private knowledge of the business, with possible economic disadvantages for reporting firms (Lajili and Zéghal, 2005).

The fear of shareholder litigation have in theory two effects on the management's disclosure decisions (Healy and Palepu, 2001). Threats of legal actions against management for inadequate and untimely disclosure can incentive reporting. Litigation can also provide a disincentive to provide potentially incorrect forward-looking information. The threat of litigation costs could be particularly significant when considering risk information, since this reporting is inevitably subjective and partly non-verifiable (Dobler, 2008).

Other reasons why a manager may not report are related to the risk information endowment. Linsley and Shrives (2006, p. 400) claim that the preponderance of qualitative information "may signify an inability on the part of directors to provide monetary risk disclosures, rather than an unwillingness to do so".

Empirical research indicates that in both voluntary and mandatory disclosure environments, risk reporting is found to be mainly qualitative with few forecasts about the probability and quantitative estimates of the impact (Beretta and Bozzolan, 2004; Bungartz, 2003; Carlon *et al.*, 2003; Mohobbot, 2005). Academic research is generally critical of such type of information content. This type of risk reporting is considered

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"too general and contains insufficient information in terms of a quantitative assessment of either the probability of the risk or the impact of the hazard (i.e. what would happen if the risk event was realised)" (Campbell and Slack, 2008, p. 12). The generic information and the lack of quantitative and forward-looking information are considered of limited help to users (Linsley and Shrives, 2006; Woods and Reber, 2003). Campbell and Slack (2008) provide empirical evidence of the poor significance attributed to such type of information by relevant categories of users.

The explanations for non-disclosure of risk forecasts and quantitative estimates of the impacts are based on adverse incentives, such as the unwillingness of managers to provide non-credible or non-verifiable information (Linsley and Shrives, 2006), as well as litigation or competitive costs (Lajili and Zeghal, 2005). In theory, regulation aiming at expanding and improving risk reporting can address such adverse incentives in several ways (Dobler, 2008). Regulation can require adequate risk management systems to address the problem of the availability of information (McNamee and Selim, 1998). Regulation can also mandate risk reporting (Combes-Thuélin *et al.*, 2006; Solomon *et al.*, 2000).

Prior research found that new regulation on accounting standards is not able to overcome incentives for management (Ball *et al.*, 2003; Ewert and Wagenhofer, 2005). The research of Ball *et al.* (2003) found that the mandatory adoption of IAS/IFRS-inspired accounting standards in some East Asia economies does not change the management behaviour with regard to the financial statement recognition of economic income. The political incentives to income smoothing "appear to dominate accounting standards as a determinant of financial reporting" (Ball *et al.*, 2003, p. 258).

We investigate here the introduction of new regulation mandating disclosure and the change from a voluntary to a regulated environment. We expect an overall increase of the disclosure following new mandatory requirements (Dobler, 2008). However, if a degree managerial discretion is allowed in a regulated disclosure environment, the reporting practice will be still determined by the interaction between requirements and preparers' incentives (Ball *et al.*, 2003; Dobler, 2008). We hypothesize that regulation will not overcome the adverse incentives for management, that is, using discretion in following regulatory requirements, the managers will increase disclosure, but will maintain their disclosure policy with regard to the features of the information disclosed.

We operationalize our proposition, by investigating the effect of new regulation on the quantity and on some information attributes of risk reporting in the management commentary of a sample of Italian listed companies.

We hypothesize that the quantity of disclosure will increase following the introduction of new regulation. Nonetheless, we hypothesize that the information attributes of risk reporting will not change and we expect that qualitative/historic/non-financial/risk reporting will continue to be significantly greater than quantitative/forward-looking/financial risk reporting.

H1. The quantity of risk information increases when new mandatory disclosure is introduced.

H2a. The amount of qualitative risk information continues to be significantly greater than quantitative risk information, when new mandatory disclosure is introduced.

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H2b. The amount of non-financial risk information continues to be significantly greater than financial risk information, when new mandatory disclosure is introduced.

H2c. The amount of historic risk information continues to be significantly greater than forward-looking risk information, when new mandatory disclosure is introduced.

4. Research methodology

4.1 Sample selection

Our initial sample includes all non-financial companies listed without interruptions in the Italian Stock Exchange in the period 2003-2008. We did not consider financial, banking and insurance companies because of their specific mandatory risk disclosure requirements.

We select in our sample the 2003 annual reports, since these are the first annual reports after a major Company Law reform. Moreover, the law introducing the art. 2428 comma 6-bis was issued in 2004, this timing could influence the companies' behaviour already in the 2004 annual reports, even if the new article application is mandatory starting from 2005. We also consider in our sample the 2005 and the 2008 annual reports.

To ensure the sample homogeneity, we selected companies that were not cross-listed in the USA in that period and that did not adopt the IAS/IFRS on a voluntary basis before the 1st January 2005. We did not consider companies cross-listed in the USA, because issuing the Form 20-F, which requires mandatory risk disclosure, could affect their reporting behaviour in Italy.

Using these constraints, we extracted from the Worldscope database 146 companies, listed without interruptions in the period 2003-2008. We randomly selected 20 of them. We downloaded the 2003, 2005 and 2008 annual reports from the Italian Stock Exchange web site and from the corporate web sites.

4.2 Content analysis

Content analysis is selected as a tool to study risk reporting in a number of studies, proving to be a well-established method in these type of research (Abraham and Cox, 2007; Beretta and Bozzolan, 2004; Lajili and Zéghal, 2005; Linsley and Shrives, 2006). Content analysis delivers a classification of text units into categories and is particularly suitable to study the narrative information in the annual reports. If the classification procedure is sufficiently reliable, this research techniques allows replicable and valid inferences to be drawn from the analyzed data (Beattie *et al.*, 2004; Boyatzis, 1998; Krippendorf, 2004; Weber, 1985).

Studies using content analysis have been recently criticised for the lack of transparency about how information is found and categorised (Abeysekera, 2006; Beattie and Thomson, 2007). In this study, we follow the research design, proposed and discussed by Boyatzis (1998) and Weber (1985), to deliver a reliable content analysis.

In the first step, we selected the sentence as recording unit. Milne and Adler (1999, p. 243) claim that "as a basis of counting, sentences are far more reliable than other units of analysis". Recent works on risk disclosure use sentences for text coding (Abraham and Cox, 2007; Beretta and Bozzolan, 2004; Linsley and Shrives, 2006).

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In the second step, we defined our coding instrument, by identifying the risk and the risk management categories as well as the information attributes of the disclosure to be studied.

Linsley and Shrives (2006, p. 393) noted that "there has been limited risk disclosure research to date and hence there are few prior academic studies on which a coding grid could be based". Since then, to the best of our knowledge, there is not a commonly accepted framework for risk disclosure, either in the academic literature or among the proposals of standard setters and professional associations, to be used to develop a coding instrument.

We built our framework using proposals from standard setters (Accounting Standards Board, 2006; GAS 5, 2001; International Accounting Standards Board, 2009) as well as previous studies (Beretta and Bozzolan, 2004; Linsley and Shrives, 2006). We consider six risk disclosure categories: strategic risks, operational risks, reputation risks, compliance risks, reporting risks and financial risks. The types of risks included in each category are detailed in the Appendix (Table AI).

We do not limit our analysis to merely counting risk-related sentences. In order to deliver a richer disclosure profile, we also study some information attributes of the disclosure. As Beretta and Bozzolan (2004, p. 270) stated, "disclosure is enriched by the way the expected impact of disclosed risks are quantified and qualified". Basing on the framework proposed by Beattie *et al.* (2004) and on the study on risk reporting by Linsley and Shrives (2006), we selected three information attributes:

(1) The type of measure (quantitative versus qualitative).

(2) The financial dimension (financial versus non financial information).

(3) The time orientation (historic/forward looking/non-time-specific information).

Following Linsley and Shrives (2006), we classify the specific sentences about risk management system and policy as qualitative, non-financial, non-time-specific information[3].

In the third step, we assessed the reliability of the coding method. Since content analysis is inevitably subjective, Krippendorf (2004) addresses three types of reliability: stability, accuracy and reproducibility. Stability refers to the consistency of the results provided by the same coder over time using identical coding rules. This is considered the weakest form of reliability (Milne and Adler, 1999). Accuracy assesses the coding output against a pre-determined standard set. Reproducibility evaluates whether a coding instrument, serving as a set of common instructions to different observers of the same set of phenomena, gives the same output within an acceptable margin of error (Krippendorf and Hayes, 2007). Reproducibility is the strongest form of reliability, since it ensures that the same data can be obtained by independent researchers using the same coding instrument.

In our study, the content analysis was performed by two coders, the author and a research assistant. The research assistant had prior disclosure coding experience. An initial training for the assistant was provided with a discussion of the research objectives, a review of the regulation about risk reporting as well as of relevant literature on risk and risk management disclosure.

After the training, a list of possible coding decision rules was discussed and drafted. Two rounds of pre-testing were performed by the Author and the research assistant. In each round, two companies were randomly selected among the 146 eligible, and the

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2003, 2005 and 2008 management commentaries were independently coded by the coder and the author. The pre-testing activity was useful to produce convergent views on what disclosure can be identified as risk reporting and consequently categorised. This led to assess the set of decision rules for coding and to the elimination of ambiguities.

The analysis was delivered on the management commentary included in the annual reports. Following the definition provided in Linsley and Shrives (2006), the sentences were coded as risk disclosures if they included information about current or potential opportunities, prospects, dangers, harms, hazards, threats or exposures. The sentences about the management of any such opportunity, prospect, danger, threat or exposure were also coded as risk disclosure. An important coding rule adopted was that risk disclosures had to be specifically stated and that they could not be implied. Graphs and picture were not coded. Tables were coded, with one line equal to one sentence.

The risk disclosures were classified according to the identified categories for risks and risk management. In case of sentences with more than one possible classification, the information was classified into the category most emphasised within the sentence. Any repeated disclosure was recorded as a risk disclosure sentence each time it was discussed in the document.

We also adopted specific rules for the information attributes. A sentence was classified as qualitative information if the disclosure was represented in a narrative form; as quantitative information if the disclosure was represented in a numerical form. If the sentence disclosed the financial impact of a risk, it was classified as financial information. A sentence was classified as historical if referred to any opportunity or prospect, or to any danger, harm, threat or exposure, that already impacted before 31 December of the year of report. A sentence was classified as forward-looking if referred to any opportunity or prospect, or to any danger, threat or exposure, described as likely to impact on the company in the future. It was also classified as forward-looking the information about risk factors impacting on the company at the time the management commentary was being issued. A sentence was classified as non-time-specific if it had no time orientation.

A final round of tests was used to assess reliability. Two companies were drawn from our final sample of 20 companies. Their six management commentaries (two for each of the years considered) were analysed by both the Author and the coder to test the reliability of the coding decision rules. An inter-coder reliability test was then performed by calculating the Krippendorf alpha coefficient of agreement. The alpha value obtained was above the acceptable level of reliability of 0.80 proposed by Krippendorf (2004). The research assistant proceeded with the content analysis of the remaining management commentaries included in the sample. Some examples of sentence classification is reported in the Appendix (Table AII).

5. Empirical results

5.1 Disclosure practices

Table I provides the descriptive statistics, with some interesting insights about the risk reporting throughout the different regulatory stages.

The mean values of total risk reporting, excluding financial risk factors and financial risk management disclosure (F), in 2003 and 2005 are not statistically different (mean difference: 8.70; sig. $Pr(T > t) = 0,7474$; $Pr(T < t) = 0,2526$). The

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	2003		2005		2008	
	n	%	*n*	%	*n*	%
Strategic	294	62.55	266	62.00	594	52.47
Operational	66	14.04	59	13.75	123	10.87
Compliance	9	1.91	17	3.96	93	8.22
Reputational	1	0.21	0	0.00	7	0.62
Reporting	13	2.77	20	4.66	10	0.88
Subtotal non-financial risks	*383*	81.49	*362*	84.38	*827*	73.06
Financial	87	18.51	67	15.62	305	26.94
Total risk factors	470	100.00	429	100.00	1,132	100.00
Non-financial risk management	189	54.94	310	53.63	504	54.66
Financial risk management	25	7.27	64	11.07	240	26.03
General policy / RM system	130	37.79	204	35.29	178	19.31
Total risk management	344	100.00	578	100.00	922	100.00

Table I. Distribution of the sentences on risk reporting in percentage by topic

effect of the new mandatory disclosure on financial risk does not appear to influence neither the disclosure on other types of risk nor the other risk management disclosure. The 2003 and the 2005 mean values of the subtotal non-financial risk factors (A) and of the other risk management categories (C) and (E) are not statistically different.

The mandatory disclosure on financial risk factors, introduced in 2005, was inserted in the footnotes. The mean values of the financial risks-related sentences (B) in 2003 and 2005 are not statistically significant. The management commentary appears to be used for the new mandatory information about the financial risk management (E), which significantly increases (mean difference: 1,95; $\Pr(T > t) = 0.0182$; $\Pr(T < t) = 0.9818$).

The overall number of risk-related sentences dramatically improves in 2008. The new regulation more than doubles the quantity of total risk reporting (G) in the management commentary. The mean values of total risk reporting excluding financial risk (F) in 2008 and in 2005 are statistically different at the 5 per cent level (mean difference: 31,65; sig. $\Pr(T > t) = 0,9798$; $\Pr(T < t) = 0,0202$).

Table II shows the distribution of the sentences on risk reporting in percentage by topic. The strategic risk category is the most reported throughout the whole period, representing always more than 50 per cent of the total disclosure about risk factors, with a 10 per cent decrease in the last period[4]. The compliance risk category increases throughout the six-years span, doubling in percentage in each period. This signals the growing importance attributed to this type of risk factor. The reporting risks are disclosed mainly in 2005, the years of the IAS/IFRS first time adoption. The financial risk category slightly declines in percentage in 2005, but increases in 2008 representing up to the 26.94 per cent of the total risk factors disclosure.

The composition of the risk management disclosure also changes. The disclosure on financial risk management increases up to the 26.03 per cent of the total reporting on risk management, while the number of sentences dedicated to the description of the general policy/risk management system decreases throughout the period. The percentage of non-financial risk management disclosure is constant in the six-years span.

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Table II. Descriptive statistics about the sentences on risk reporting

	Total number of sentences			Mean			Median			Min			Max			St.dev.		
	2003	2005	2008	2003	2005	2008	2003	2005	2008	2003	2005	2008	2003	2005	2008	2003	2005	2008
Risk categories																		
Strategic	294	266	594	14.70	13.30	29.7	8.00	11.50	26.00	0	0	2	61	51	75	16.95	11.92	20.08
Operational	66	59	123	3.30	2.95	6.15	0.00	0.00	4.00	0	0	0	30	22	34	8.25	5.62	9.09
Compliance	9	17	93	0.45	0.85	4.65	0.00	0.00	1.00	0	0	0	6	11	44	1.39	2.50	9.87
Reputational	1	0	7	0.05	0.00	0.35	0.00	0.00	0.00	0	0	0	1	0	4	0.22	0.00	0.93
Reporting	13	20	10	0.65	1.00	0.50	0.00	0.00	0.00	0	0	0	6	6	3	1.60	1.78	0.83
A. *Subtot. non-financial risk categories*	*383*	*362*	*827*	*18.55*	*17.75*	*41.25*	*11.00*	*14.00*	*35.00*	*0*	*0*	*0*	*69*	*68*	*107*	*18.52*	*15.46*	*28.38*
B. Financial	87	67	305	4.35	3.35	15.25	1.00	2.00	12.00	0	0	2	25	15	47	7.09	4.02	11.19
C. Non-financial risk management	189	310	504	9.45	15.5	25.20	5.50	6.00	17.50	0	0	4	33	91	70	9.90	22.54	20.49
D. Financial risk management	25	64	240	1.25	3.2	12.00	0.00	1.50	8.50	0	0	1	5	13	38	1.68	3.65	9.36
E. General policy/ risk management system	130	204	178	6.50	10.2	8.90	2.00	4.50	6.00	0	0	1	35	49	40	9.94	14.55	9.56
F. Total risk reporting excluding financial risk (A + C + E)	*702*	*876*	*1,509*	*35.10*	*43.80*	*75.45*	*21.00*	*33.00*	*58.00*	*2*	*3*	*14*	*137*	*202*	*189*	*33.71*	*46.99*	*47.30*
G. Total risk reporting (A + B + C + D + E)	*814*	*1,007*	*2,054*	*40.70*	*50.35*	*102.70*	*22.00*	*39.00*	*86.00*	*7*	*4*	*29*	*142*	*226*	*217*	*35.27*	*52.18*	*53.60*

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The distribution of disclosure about risk factors by topic/type interaction is reported in Table III. The findings clearly show the preponderance of the combination H/NF/QL (historic, non-financial, qualitative) in several categories: strategic, operational, compliance, reputational risks.

The forward-looking information on strategic risks is found mainly non-financial and qualitative (FL/NF/QL combination). Quantitative information about this category is mostly non-financial and historic-oriented (H/NF/QT combination). We found, for example, abundant discussions of economic negative trends or demand declines in the industry, without disclosure of the estimated impact on the financial figures.

The H/F/QT combination includes information about the past financial impact of a risk factor, expressed in quantitative terms. This disclosure is concentrated in the area of financial risks. We also find this type of information with regard to strategic and operational risk. Forecast of estimated impact (FL/F/QT combination) are sporadic and in different categories in 2003 and 2005. In 2008 we found the FL/F/QT combination only for financial risks.

The disclosure about reputational risks is almost absent, with few sentences disclosed in the 2008. Reporting risk disclosure is concentrated in the 2005, the year of the first application of IAS/IFRS. We found 13 sentences classified as H/F/QL, dealing with the potential impact of wrong first time application of new measurement criteria by the management (e.g. the introduction of the fair value implied an important innovation in a Country with a long tradition of historical cost measurement).

5.2 Hypothesis testing

In order to test the effect of the new regulatory requirements in the management commentary, we excluded the disclosure on financial risk factors and financial risk management. As previously said, regulation allows discretion on the location of such type of information, with no definite choice by companies between management commentary and footnotes.

The dependent variable used to test the hypotheses is therefore the total number of sentences on risk reporting excluding the disclosure on financial risk factors and financial risk management. This variable is indicated as aggregate F in Table I.

In order to test the hypotheses, we used the Wilcoxon signed ranks test. This test is a non-parametric statistical hypothesis test, useful in cases of two related samples or repeated measurements on a single sample, when the population cannot be assumed to be normally distributed. We select this non-parametric statistical test since our sample is small (20 observations). Morevoer, the Wilcoxon signed ranks test has been used in prior research on disclosure (Linsley and Shrives, 2006).

We test whether the quantity of information significantly increases from a period to another and whether the qualitative/historic/non-financial information is significantly greater than the quantitative/forward-looking/financial information in each period.

The descriptive statistics on the differences among the quantities of risk disclosure (number of sentences) in each period are presented in Table I (aggregate F).

Table IV presents the descriptive statistics on the differences regarding the information attributes, that are tested through the Wilcoxon test. The non-time-specific sentences are not displayed in the Table.

Table V presents the results of the Wilcoxon test with regard to the differences in the quantity of information in each period, that is the total number of sentences on risk

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Table III. Distribution of disclosure about risk factors by topic/type interaction

	Year	H/NF/ QL	NTS/NF/ QL	FL/NF/ QL	H/F/ QL	NTS/F/ QL	FL/F/ QL	H/NF/ QT	NTS/NF/ QT	FL/NF/ QT	H/F/ QT	NTS/F/ QT	FL/F/ QT
Strategic	2003	174	10	40	18	1	2	44	0	0	5	0	0
	2005	159	16	16	22	0	0	41	0	2	9	0	1
	2008	268	86	93	20	10	20	65	0	6	26	0	0
Operational	2003	35	1	10	2	0	2	0	0	0	16	0	0
	2005	28	10	2	4	0	0	5	0	0	9	0	1
	2008	44	28	6	10	5	0	0	0	0	29	0	1
Compliance	2003	0	3	2	3	0	0	0	0	0	1	0	0
	2005	3	3	9	2	0	0	0	0	0	0	0	0
	2008	31	32	5	4	6	2	0	0	0	11	0	2
Reputational	2003	1	0	0	0	0	0	0	0	0	0	0	0
	2005	0	0	0	0	0	0	0	0	0	0	0	0
	2008	1	6	0	0	0	0	0	0	0	0	0	0
Reporting	2003	0	0	4	1	0	8	0	0	0	0	0	0
	2005	0	0	3	13	2	0	0	0	0	2	0	0
	2008	1	0	0	4	2	0	0	0	0	3	0	0
Financial	2003	7	0	1	19	0	3	4	0	0	51	0	2
	2005	2	1	1	24	20	7	0	0	0	11	0	1
	2008	8	6	4	88	80	32	2	0	1	80	0	4

Notes: H = historical; NST = non – time – specific; FL = forward – looking; NF = non – financial; F = financial; QL = qualitative; QT = quantitative

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	Total			Mean			Min			Max			St.dev.		
	2003	2005	2008	2003	2005	2008	2003	2005	2008	2003	2005	2008	2003	2005	2008
Qualitative sentences	636	806	1366	31,80	40,30	68,3	2	3	14	137	201	176	31,86	46,53	43,42
Quantitative sentences	66	70	143	3,30	3,50	7,15	0	0	2	17	11	94	4,87	3,85	23,09
Non-financial sentences	643	811	1352	32,15	40,55	67,60	0	2	13	69	202	131	15,91	46,88	44,63
Financial sentences	59	65	157	2,95	3,25	7,85	0	0	0	17	16	28	4,10	4,36	7,00
Forward-looking sentences	68	34	135	3,40	1,70	6,75	0	0	0	13	10	23	4,27	3,03	5,84
Historic sentences	300	297	517	15,00	14,85	25,85	0	1	2	54	51	55	15,16	12,30	17,72

Table IV. Descriptive statistics on the information attributes of total risk reporting (excluding the disclosure on financial risk factors and financial risk management)

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Table V. Wilcoxon signed ranks test for the quantity of information

	Obs	Mean rank	Sum ranks
Quantity 2005-Quantity 2003 [a]			
Positive ranks	12	10,79	129,5
Negative ranks	8	10,06	80,5
Ties	0	0	0
Total	20		
Quantity 2008-Quantity 2005 [b]			
Positive ranks	16	10,62	170
Negative ranks	4	10,00	40
Ties	0	0	0
Total	20		

Notes: [a] Test statistic: $z = 0,915$; $p - \text{value} = 0.360$; [b] Test statistic $z = 2,427^{**}$; $p - \text{value} < 0.05$

reporting excluding the disclosure on financial risk factors and financial risk management. The difference in the quantity of information between the 2003 and the 2005 is not significant. There is therefore no indirect effect of the new disclosure requirements regarding financial risks on other types of risk reporting.

The difference in the quantity of information disclosed in 2008 and in 2005 is statistically significant at the 5 per cent level ($p{-}value = 0,015$). Following the introduction of risk reporting requirements in the management commentary, most sample companies increased significantly the disclosure. However, in some cases the disclosure decreased.

These results provide moderate support for the hypothesis that mandatory requirements produce an increase in the quantity of information (*H1*). The management might opt for being compliant even with a reduced quantity of information.

Tables VI-VIII display the results regarding the information attributes of the sentences on non-financial risk reporting in the period considered.

The test statistics indicates that the number of qualitative risk sentences exceeds the number of quantitative sentences for all the sample companies throughout the period (with the only exception of one tie in 2003). The test also indicates that there is a significant difference between the disclosure levels ($p - \text{value} < 0.001$). This result supports *H2a*. The evidence implies that the amount of qualitative risk disclosures is significantly greater than the amount of quantitative risk disclosures in 2003. The introduction of mandatory disclosure on financial risk in 2005 does not influence the disclosure approach on other non-financial risk factors. Narrative disclosure continues to be the most frequent form of risk reporting, even in 2008 after introducing new disclosure requirements, directly aimed at improving such type of information.

The number of sentences classified as non-financial is also significantly greater than those classified as financial throughout the period considered. The difference between non-financial and financial number of sentences is statistically significant at the 1 per cent level in each period. This evidence supports *H2b*. In 2003 there are three negative ranks, signaling that some companies presented more disclosure on the financial impact of risk factors, rather than simple non-financial descriptions. In 2005 all the sample companies expressed the risk factors impact mainly in non-financial

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Table VI. Wilcoxon signed ranks test results for the information attributes – Qualitative – quantitative

	2003[a]			2005[b]			2008[c]		
	Obs	Mean rank	Sum ranks	Obs	Mean rank	Sum ranks	Obs	Mean rank	Sum ranks
Positive ranks	19	11	209	20	10,5	210	20	10,5	210
Negative ranks	0	0	0	0	0	0	0	0	0
Ties	1	1	1	0	0	0	0	0	0
Total	20		210	20		210	20		210

Notes: [a]$p - \text{value} < 0.001$; $z = 3,88^{***}$; $p - \text{value} < 0.001$[b] $z = 3,92^{***} p - \text{value} < 0.001$; [c] $z = 3,92^{***}$; $p - \text{value} < 0.001$

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Table VII.
Wilcoxon signed ranks test results for the information attributes – Non financial – financial

	2003[a]			2005[b]			2008[c]		
	Obs	Mean rank	Sum ranks	Obs	Mean rank	Sum ranks	Obs	Mean rank	Sum ranks
Positive ranks	17	11,61	197,5	20	10,5	210	19	11	209
Negative ranks	3	4,16	12,5	0	0	0	0	0	0
Ties	0	0	0	0	0	0	1	1	1
Total	20		210	20		210	20		210

Notes: Test statistics: [a] $z = 3,45^{***}$; $p - \text{value} < 0.001$; [b] $z = 3,92^{***}$; $p - \text{value} < 0.001$; [c] $z = 3,88^{***}$; $p - \text{value} < 0.001$

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	2003[a]			2005[b]			2008[c]		
	Obs	Mean rank	Sum ranks	Obs	Mean rank	Sum ranks	Obs	Mean rank	Sum ranks
Positive ranks	19	11,52	208	20	10,5	210	20	210	
Negative ranks	1	2	2	0	0	0	0	0	
Ties	0	0	0	0	0	0	0	0	
Total	20		210	20		210	20	210	

Notes: Test statistics: [a] $z = 3,85^{***}$; $p - \text{value} < 0.001$; [b] $z = 3,92^{***}$; $p - \text{value} < 0.001$; [c] $z = 3,92^{***}$; $p - \text{value} < 0.001$

Table VIII. Wilcoxon signed ranks test results for the information attributes – historic-forward looking

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terms, with reduced information of the financial impact. This situation does not change after introducing mandatory disclosure in 2008 (just one tie in that year).

The findings also supports *H2c*. The number of sentences classified as historic is significantly greater than the number of sentences classified as forward-looking for all the sample companies throughout the period (with the only exception of one tie in 2003). There is therefore no influence of the regulation on the time orientation of risk disclosure and regulation does not produce more forward-looking information.

6. Discussion of the findings

Regulatory requirements for narrative disclosure are aimed at mandating company to provide private firm-specific information. To mandate the disclosure of firm-specific information, some discretion is to be allowed to issuers (Leuz and Wysocki, 2008). Discretion stems from allowing the possibility to vary both the quantity and the attributes of the information disclosed (Combes-Thuélin *et al.*, 2006). Discretion in compliance with new regulation can lead to disclosures similar to those observed in a voluntary disclosure regime, due to the effect of management incentives (Dobler, 2008).

Our empirical findings show that even in presence of an increase in the quantity of risk-related sentences following the new requirements, the information attributes of the disclosed information about risks remains unchanged throughout the period. In the period considered, risk reporting is substantially qualitative, with few forward-looking narratives and quantitative forecasts about probabilities and estimated impacts. Exploiting discretion, managers opt for the most "weak" form of compliance with the new requirements. The managers increase the narratives on the description of risk factors and maintain the same risk disclosure policy.

Prior research found that the mandatory adoption of new accounting standards does not influence the timely recognition of the economic income (Ball *et al.*, 2003). The researchers inferred that institutional factors, such as agency costs and political costs, provide incentives for income smoothing that are stronger than the regulatory requirements. In a similar way, we can infer that regulation is not able to overcome the incentives for managers to withhold private information about risks, such as the self-interest to protect themselves from litigation costs and the avoidance of disclosure competitive costs (Dobler, 2008; Lajili and Zéghal, 2005; Linsley and Shrives, 2006).

The findings of this paper can contribute to the literature:

- Integrating prior research on risk reporting by investigating the switch from a voluntary disclosure regime to a regulated one (Lajili and Zéghal, 2005; Linsley and Shrives, 2006).
- Contributing to the literature about the effect of new regulation on disclosure (Combes-Thuélin *et al.*, 2006; Dobler, 2008; Lofstedt *et al.*, 2011).

The results of this study also have practical implications, highlighting a key challenge for regulators and issuers. Recent literature found that qualified users, such the financial analysts, are skeptical about the usefulness of the current risk reporting practices (Campbell and Slack, 2008). Beside quantity, the type and the features of the information disclosed are crucial for the usefulness of narrative reporting. Effective requirements should be to able to produce more substantial changes on the disclosure practices, impacting not only on the mere quantity of information disclosed.

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The results of our study may suggest the issuance of more detailed requirements/standards for disclosure, especially in contexts with limited financial communication culture and broad regulatory requirements (such as Italy). The challenge for regulating bodies or standard setters could be to find a suitable compromise between allowing the discretion needed to provide firm-specific information and requesting more material disclosures for the users.

Finally, this study can also suggest the need for the issuers to take the users' information demands into greater account when drafting disclosures (Campbell and Slack, 2008).

7. Conclusions

In our research, we study the effect of new regulation on disclosure through a longitudinal study. We deliver a content analysis of the management commentaries of a sample of Italian listed companies. We study the 2003, 2005 and 2008 management commentaries. During the six-years period, regulation with new risk reporting requirements is introduced.

Overall, the empirical results support the hypothesis that incentives for management does not change when new regulation is introduced. Exploiting discretion in the compliance with regulatory requirements, the managers increased disclosure, but maintained their disclosure policy with regard to the risk information attributes. The management opted therefore for a "weak" form of compliance with the new regulation.

The findings of this paper can:

- Integrate prior research on risk reporting by investigating the switch from a voluntary disclosure regime to a regulated one (Lajili and Zéghal, 2005; Linsley and Shrives, 2006).
- Contribute to the literature about the effect of new regulation on disclosure (Combes-Thuélin *et al.*, 2006; Dobler, 2008; Lofstedt *et al.*, 2011).

This research may also have some practical implications, suggesting the issuance of more detailed requirements/standards for disclosure, particularly in contexts with limited financial communication culture and broad regulatory requirements (such as Italy). It can also suggest the need for the issuers to take into greater account the disclosure users demands.

This study acknowledges some limitations. First, in-depth human-based content analysis imposed practical limitations to the sample size. Second, subjectivity cannot be wholly eliminated from content analysis.

Future studies could extent the researches to the introduction of requirements for other types of disclosure, either in the annual report or in other financial reporting means. International comparison among different regulatory environment could also be an interesting research avenue. Surveys could be interesting instruments in order to identify the users' needs, as well as the preparers' communication objectives.

Notes

1. We define voluntary disclosure as the information released to the outside, deriving from the management's insider knowledge of the company, which are not required to be published in regulated reports. Voluntary disclosure is therefore produced by a management's reporting

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decision (Healy and Palepu, 2001; Meek *et al.*, 1995). According to Meek *et al.* (1995, p. 555), voluntarily disclosed information is the "disclosures in excess of requirements, representing free choices on the part of company managements to provide accounting and other information deemed relevant to the decision needs of users of their annual report".

2. "In defining risk for this study disclosures have been judged to be risk disclosures if the reader is informed of any opportunity or prospect, or of any hazard, danger, harm, threat or exposure, that has already impacted on the company or may impact on the company in the future or of the management of any such opportunity, prospect, hazard, harm, threat or exposure" (Linsley and Shrives, 2006, p. 389).
3. Linsley and Shrives (2006) deliver a content analysis using the sentence as recording unit. The amount of disclosure is analyzed as well as some sentence characteristics adapted from Hackson and Milne (1996): time orientation (future/past/non-time specific), type of disclosure (monetary/non-monetary), news type (good news/bad news/neutral). Specific sentences about risk management are categorized as "non-monetary/neutral/non-time specific".
4. Although based on different classifications, we might try to compare these results with those of Linsley and Shrives (2006), working on UK 2000 data. Some categories are very similar, such as those dedicated to strategic and operations risks. If we exclude the sentences on risk management policy, Linsley and Shrives' results shows that strategic risks are the 58.02 per cent of the total (1957 sentences), operational risks represents the 26.65 per cent (899 sentences).

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Appendix

Tables AI and AII

Strategic risks	Macro-environment (political, social, economic)
	Industry
	Competitors
	Business portfolio
	Planning
	Product lifecycle
Reputation risks	Corporate image
	Business ethics
Operations risks	Customer satisfaction
	Product development
	Process management and infrastructures
	HR management (i.e. turnover, employees satisfaction)
	Information systems
	Stock obsolescence and shrinkage
	Product and service failure
Compliance risks	Employees safety law
	Environmental regulation
	Industry regulation (i.e. antitrust, fair competition)
	Crimes classified by Law 231/2001 (i.e. management and employee fraud, illegal acts).
Reporting risks	Financial accounting and reporting regulation
	Law 262/2005
Financial risks	Credit
	Market: interest rate, exchange rate, market prices (i.e. commodities)
	Liquidity
Risk management	Non-financial risk management
	Financial risk management
	General policy / Risk management system

Table AI. Risk disclosure categories

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Table AII.
Example of disclosure coding rules application

Company	Disclosure	Category	Classification
Caltagirone (2005)	"The advertising industry suffered from the overall low level of consumptions, in both the national and the local sub-segments" (p. 11)	Strategic risk	Qualitative/non-financial/historical
Saipem (2003)	"We expect a strengthening of the euro against the US dollar in 2004, with an average exchange rate raising from 1 to 1.15, this will determine a reduction of the margins generated from contracts in US dollars ('translation' effect) estimated in 30 million euros" (p. 73)	Market risk	Quantitative/forward-looking/financial
Acea (2008)	"We did not registered in 2008 significant technical failures, apart from the event that forced the stop of the group n. 1 of the Salisano power plant for more than one month" (p. 22).	Operations risk	Qualitative/non-financial/historical

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