CHAPTER 4

Market Risk Disclosure in Banks' Balance Sheets and the Pillar 3 Report: The Case of Italian Banks

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1 Introduction

The topic of this chapter is market risk reporting in banking. Market risk is the risk of losses in on- and off-balance sheet positions arising from movements in market prices. In recent years, market risk has become increasingly important in banking. The role of market risk disclosure in today's banking business is enormous and has been accentuated during the ongoing financial crisis.

The main purpose of this chapter is to provide a methodology to assess the qualitative and quantitative profiles of market risk disclosure in banking. A hybrid scoring model based on analytical grids is used to assess the ability of banks to provide an adequate market risk disclosure. This chapter presents an empirical study on market risk disclosure on a sample

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of Italian banks. The study investigates market risk disclosure in banking with reference to the International Accounting Standards/International Financial Reporting Standards (IAS/IFRS), the Pillar 3 disclosure requirements of the New Basel Capital Accord, and the national regulatory framework for banks' annual financial statements.

Bank risk disclosure plays a pivotal role in strengthening market discipline and building trust in stakeholder relationships. Providing an adequate risk disclosure statement is indispensable for stakeholders to be able to assess potential risk and return linked to investment opportunities and evaluate the ability of the bank's management to create value in the banking business. In order to do so, an adequate flow of information on bank risk exposures cannot remain within the boundaries of a banking firm or a financial authority but should be made available to all stakeholders and, to a broader extent, to the financial markets. Bank stakeholders use risk report information when making decisions that affect financial stability. The proper functioning of financial markets relies on well-distributed information, and the bank's risk disclosure statement may be considered to be the instrument that regulates this setting.

The growing complexity of banking—especially that of larger, multi-business, and multinational banks—reduces the ability of stakeholders to assess and evaluate prudent, safe, and sound banking practices. The presence of hugely asymmetric information makes it difficult for stakeholders to monitor and evaluate the levels of risk assumed by bank managers. Today's investors are more sensitive to the complexity and opacity of banks' risk profiles. In this respect, investors and other stakeholders are demanding improved access to information on risk exposures in the banking industry. Banks are subject to stricter market discipline and the enhancement of bank risk disclosure statements will contribute to broader-ranging financial stability. Adequate and effective transparency of banks' risk profiles also strengthens confidence in the banking industry by reducing uncertainty in the assessment of banks. The risk disclosure statement has strategic importance for the efficiency of financial markets and overall financial stability. This explains the outstanding role of risk disclosure in capital market mechanisms.

The structure of this chapter is as follows. Section 2 provides the theoretical foundations of risk disclosure in banking, providing a brief discussion of the theories that examine notable aspects of risk disclosure. Section 3 introduces market risk disclosure in banking. It aims to provide

a framework for the specific nature of market risk, as well as a regulatory and accounting perspective of market risk in banking. Section 4 presents a hybrid scoring model based on analytical grids of risk disclosure parameters to assess market risk disclosure in banking. The study is conducted on a sample of the ten largest Italian banks. Section 5 analyses the main results of the empirical research on market risk disclosure in banking and discusses the research findings, as well as the potential implications, while Sect. 6 presents the conclusions drawn.

2 Theoretical Foundations of Risk Disclosure in Banking

Risk disclosure in banking is a complex issue that has significant implications at both the microeconomic and macroeconomic level and with respect to the economics and management of the bank, the economics of financial markets, the competitive dynamics and structure of the banking industry, the purpose of banking supervision and regulation, the regulators' policy of bailing out banks, and the content of accounting rules. For the purpose of this chapter, the main theoretical foundations of risk disclosure in banking are examined next.

2.1 Asymmetric Information Theory

The *Asymmetric Information Theory* sets the fundamental theoretical basis of risk reporting in banking and the functioning of the markets. It is a starting point for a comprehensive theory of disclosure. Asymmetric distribution of information can lead to the disappearance of a market due to Akerlof's description of "lemon markets" (Akerlof 1970). Almost all kinds of markets are characterized by different degrees of information asymmetries. Asymmetric information exists when some—or all—of the participants in an economic exchange do not have perfect knowledge or where knowledge is asymmetric. This means that the market participants are not able to correctly evaluate goods, services, financial instruments, or, in a wider perspective, firms. Within the context of banking firms, the existence of asymmetric information causes a number of problems: adverse selection, moral hazards, and market failure.

The asymmetric information theory has highlighted the strategic importance of accurate and effective risk reporting in banking for the effi-

ciency of financial markets and overall financial stability. As a result of the existence of asymmetric information, stakeholders suffer from important limitations and distortions in bank risk assessment, which also affect investors' willingness to fund banks' assets. Investor's uncertainty regarding the situation of the bank could lead to misallocation of financial resources, a reduction in financing activities, and, in the worst case scenario, the disappearance of the market.

Information asymmetries can be observed in the context of inside and outside stakeholders, who do not have the same amount of information. From this perspective, bank managers (inside stakeholders) have deeper knowledge about the risks that might affect future results in comparison to depositors, investors, and other outside stakeholders. Consequently, disclosing more about banking risks will result in a reduction in information asymmetry. An accurate assessment of a bank is facilitated through disclosure of information on risk positions. The final goal of risk reporting should be that of disclosing a satisfactory amount of qualitative and quantitative information to stakeholders. Disclosure to the market of this kind of information allows stakeholders to properly assess the bank's risk exposure profiles. The underlying assumption of information asymmetry implies there is a significant relationship between the market valuation and the risk assessment of a bank and its disclosure quality. Within this interpretation, the primary role of risk disclosure in banking is to provide accurate information to market participants on a timely basis.

The existence of asymmetric information is a structural condition of any financial market or firm. From this perspective of analysis, the voluntary and mandatory disclosure of information among market participants will reduce information asymmetry and its negative impact on markets. Information asymmetry reduction is a vehicle to integrate the efficiency of markets. Nevertheless, as pointed out by Grossman and Stiglitz (1980), such information asymmetry can only be reduced, though not entirely eliminated.

2.2 Agency Cost Theory

Another theoretical perspective on risk reporting in banking is offered by the *Agency Cost Theory* (Fama 1980; Fama and Jensen 1983; Jensen and Meckling 1976; Ross 1973), which proposes methods to improve the relationship between principal and agent in a context of asymmetric distribution of information. Jensen and Meckling's corporate governance

model is based on the principal-agent problem and the control of agency costs. It can be traced back to the seminal paper by Berle and Means (1932) that assigned a pivotal role to agency problems in corporate finance.

The agency problem arises due to the difference in interest between a principal and an agent. Applied at a corporate level, the negative potential consequences of the agent's actions can be reduced by improving the principal's knowledge. Risk disclosure on a voluntary and mandatory basis offers an opportunity to reduce information asymmetry and the divergence of interests (principal-agent problems). From this perspective, risk disclosure in banking is an incentive device (Milgrom and Roberts 1992) to align divergent interests and offers an opportunity to improve the functions of screening, selection, and monitoring (Diamond 1984) performed by depositors, investors, and other stakeholders. Disclosed information can be taken into account in their decision-making process. Risk disclosure also provides the opportunity to signal the quality and attractiveness of a banking firm, compared to other competitors in the industry. In other words, risk disclosure performs a signalling function for the market (Leland and Pyle 1977; Ross 1977).

In order to achieve this purpose, the agents (bank management) have to publish reliable information about banking activities and their risk profiles. Consequently, a minimum level of risk disclosure has to be established; otherwise, the quality and content of risk disclosure are affected by the "firm-specific" principal-agent problem and the dynamics of the demand and supply of disclosure in the economics of the banking firm.

2.3 Transaction Cost Economics

A third stream of research that sheds light on risk disclosure is that of *Transaction Cost Economics*, which can be traced back to Williamson (1975, 1985), who developed the concept of "transaction cost" originally formulated by Coase (1937). The literature has identified different types of transaction costs: search costs, selection costs, performance costs, and monitoring and auditing costs. Transaction costs are the 'cost of using' market mechanisms and are linked to the following drivers: uncertainty, bounded rationality, frequency, and information asymmetry. Higher uncertainty, bounded rationality, and information asymmetry increase transaction costs and opportunistic behaviour, which can lead to the disappearance of a market. From this perspective of analysis, risk disclosure can reduce the

transaction costs of using the market by reducing information asymmetry and uncertainty. By satisfying the disclosure demand of stakeholders, banks can reduce the transaction costs that arise from information asymmetry and uncertainty (linked to a lack or poor level of information disclosure).

2.4 Information Cost Theory

The *Information Cost Theory* likewise provides a valid perspective of analysis of disclosure in banking. This theory focuses attention on the balance between the costs and benefits of information disclosure. Cost-benefit analysis of information disclosure contributes to explaining the bank's strategy with respect to collecting and publishing information on banking activities. Cost-benefit analysis can be applied to voluntary and obligatory information disclosure (Dye 1986; Verrecchia 1990, 2001). Several factors influence the relationship between the costs and benefits of information disclosure. Costs may be direct or indirect: direct costs are linked to the process of collecting and publishing information, while indirect costs are related to the potential change in the behaviour of market participants with regard to the availability of information about the bank. These costs vary with the characteristics of banking activity; the size and complexity of the bank organization; economies of scale; the nature of the data; the available technology to collect, process, and publish information; the internal and external auditing processes that support the publication of credible information; and regulatory and legal constraints. The benefits of information disclosure are linked to the different objectives that banks pursue through the publication of information. These benefits can be listed as follows: improving the bank's reputation and corporate image; increasing and ensuring public confidence in the banking firm; meeting legal and regulatory requirements; reducing uncertainty and information asymmetry among investors, depositors, and other stakeholders; increasing the market value and attractiveness of the bank at the investor level; decreasing financing costs and the cost of equity capital; increasing corporate social responsibility; and obtaining a desired rating from rating agencies.

The theoretical framework assumes that a bank performs a cost-benefit analysis in order to decide on an appropriate level of information disclosure. This is a simplistic assumption, as the corporate decision on information disclosure is more complex and cannot be viewed solely from the information cost perspective. However, the information cost theory sheds

light on the various drivers that affect the cost-benefit trade-off of the information disclosure and, ultimately, on the private incentives of banks to disclose information. In brief, the theory contributes to establishing a private incentive scheme to explain voluntary and obligatory disclosure in banking.

2.5 Resource and Knowledge-Based Theory

Another useful theoretical framework is the *Resource and Knowledge-based Theory of the Firm* (Barney 1991; Grant 1991, 1996; Nelson and Winter 1982), which focuses on those factors that enable firms to gain a competitive advantage. It provides useful insights to analyse information disclosure behaviour in banking. Information disclosure can be interpreted within the broader-ranging processes of knowledge acquisition, combination, and creation that are the reasons why a firm exists. From this perspective, information disclosure can be seen as a strategic factor of competitiveness, that is, a competitive advantage that is difficult to imitate. This strategic approach emphasizes the ability of a bank to meet stakeholder demand for disclosure. The fulfilment of these expectations can be interpreted as an invisible asset (Itami 1987) and a durable competitive advantage in the economics and management of a banking firm.

2.6 Stakeholder Theory

Following Freeman's *Stakeholder Theory* (1984), risk disclosure in banking can be interpreted as a means to satisfy the expectations of different stakeholders, both internal and external. Several stakeholders act in banking, having different roles, interests, influence, and relevance for the banking business. They are not homogenous groups with a full alignment of interests. From the stakeholder theory perspective, risk disclosure in banking can be analysed in terms of the degree to which a bank meets the demands of multiple stakeholders. It implicitly recognizes the fact that the interests of the various stakeholders can hardly be satisfied with the same intensity. As previously pointed out by Amaduzzi (1957), a normal "conflict" exists among the several stakeholders' expectations. From this perspective, information disclosure has the function of reconciling the non-homogeneous interests of different stakeholders. It legitimizes not only voluntary disclosure and the differentiation of the ways of communicating with stakeholders but also the implementation of regulatory minimum requirements

regarding information disclosures, particularly risk disclosure. Regulation and the legal environment have a significant influence on the disclosure of voluntary information.

The combination of the stakeholder theory and the resource and knowledge-based theory provides a strategic approach to the analysis of risk disclosure: the different demands of stakeholder groups are relevant and the fulfilment of their expectations can give rise to competitive advantages.

2.7 Communication Perspective

From a *communication perspective* of analysis, information disclosure can be interpreted as a "system of symbols" that aims to show the company's situation and performance. This perspective can be originally traced back to the seminal paper by Ceccherelli (1939). Analysing information disclosure from this perspective implies the recognition of a relevant communication purpose. It highlights the importance of the ways in which the information content has to be communicated to stakeholders. Nowadays, the recent literature recognizes and interprets information disclosure as an essential instrument of economic and financial communication to a wide variety of stakeholders. The combination of the communication and strategic perspectives of analysis highlights the importance of corporate disclosure not only as an instrument of corporate value communication but also of corporate value creation.

2.8 Efficient Market Theory and Financial Stability

Another theoretical approach that plays a crucial role in the comprehensive understanding of risk disclosure in banking is the *Efficient Market Theory* (Fama 1970; Fama and Laffer 1971). Although the efficient market hypothesis is a question of debate in the economic and financial literature, this perspective clarifies the effects of company disclosure on financial market informational efficiency. It provides a theoretical approach to examine how financial market mechanisms are linked to corporate disclosure and how market participants deal with available information. According to Fama's hypothesis of weak, semi-strong, and strong efficiency, the availability of information influences market prices. The application of this approach leads to the conclusion that the risk assessment of investors

(and other stakeholders) is affected by corporate disclosure and risk disclosure in particular. Limited disclosure regarding banks' risk exposures contributes to the mispricing of risk and misallocation of capital. Financial markets function efficiently when participants have information that facilitates the accurate pricing of assets and risk, which will consequently be reflected in share prices, funding costs, and investors' decisions.

From a macroeconomic point of view, corporate disclosure reduces asymmetric information in the financial markets and contributes to removing obstacles that prevent market discipline. A logical consequence of this assumption is that the market should exercise a reasonable degree of discipline over bank management. Market discipline addresses issues of corporate transparency. The imperfect observability of bank risk profiles means that market discipline cannot perform well. This could be crucial for allowing potential investors to take rational and conscious economic decisions. Regularly publishing credible corporate information, on a voluntary and obligatory basis, reduces information asymmetries between corporate entities and their stakeholders, contributes to increasing the efficiency of market discipline, and, from a wider viewpoint, to increasing the allocative efficiency of the market. The quality of disclosure in banking is central to the efficacy of market discipline and non-market mechanisms in limiting banks' development of debt and risk overhangs and in mitigating the adverse consequences for the stability of the financial system (Acharya and Richardson 2009). Frankly, there is no consensus among researchers. An ongoing debate exists in the literature regarding whether bank opacity increases financial instability. The traditional view is that financial stability is positively affected by increasing publicly available information about banks' exposures and relevant economic conditions. Risk disclosures contribute to financial stability by providing investors and other market participants with a better understanding of banks' risk exposures and risk management practices (Acharya and Ryan 2016; Nier and Baumann 2006). Risk disclosure enables stakeholders to make informed decisions about the bank and such informed decisions discipline the bank's activities. Furthermore, high-quality risk disclosures should be viewed as a collective public good, given the systemic importance of banks (Financial Stability Board 2012). From the opposing viewpoint, bank opacity may be necessary to reduce the probability of bank runs that destabilize the bank and compromise financial stability.

The various research papers briefly examined earlier provide the main theoretical approaches to study and examine risk disclosure in banking. However, the complexity of corporate disclosure behaviour and the various potential determinants that might influence corporate disclosure cannot be fully explained within a single Conceptual Framework. Individual studies cannot fully describe and interpret such a complex issue. This complexity prompted the preceding outline of the most significant theoretical approaches that should be considered for research in the field of risk disclosure. The knowledge to be gained from the theories summarized earlier is presupposed in the context of this study. In the subsequent sections, I discuss market risk disclosure in banking in greater detail and describe the research design employed.

3 Market Risk Disclosure in Banking: Definition and Regulatory Framework

Market risk is one of the most important risks in the economics of banking. It is defined by the Basel Committee on Banking Supervision (1996) as "the risk of losses in on- and off-balance sheet positions arising from movements in market prices". This definition has been incorporated into the New Bank Capital Accord (Basel Committee on Banking Supervision 2006). Market risk thus indicates the market value fluctuation of an instrument or portfolio of financial instruments. It includes the risk associated with trading and non-trading portfolios. Hence, market risk is the result of changes in market factors that affect the value of banks' positions, such as interest rates, foreign exchange rates, share prices, commodity prices, and credit spreads. This empirical study adopts this broad definition of market risk.

Market risk in banking has taken on a great deal of importance in recent decades. It has become increasingly important to measure, manage, assess, and disclose the impact of market risk in the economics and management of banks. The growing securitization of financial systems, volatility of financial markets, internationalization of banking activity, financial uncertainty, size of banks and their trading portfolios, and the evolution of trading and risk management practices are increasingly important factors to be reflected in market risk disclosure. The ongoing financial crisis and the recent adoption of a bail-in regime in the European bank resolution regulation have enhanced the importance of overall risk disclosure in banking.

Market risk disclosure can be defined as the publication issued by the bank of reliable, meaningful, understandable, and timely qualitative and quantitative information that enables users to make an accurate assessment of its market risk exposures, risk management practices, and the impacts of these factors on the bank's performance. The disclosure of reliable, updated information on the bank's market risk exposures is the prerequisite to trigger the sequence of conditions that allows financial markets to fulfil their role of discipline effectively, in the sense that the market prices the risks of the bank more efficiently.

From this perspective of analysis, there is essentially a trade-off problem to be considered in dealing with market risk disclosure in banking: the trade-off between transparency and opacity. This implies that there are some pieces of information that are kept confidential within the boundary of a bank to preserve proprietary information and avoid speculative attacks or predatory behaviour on the part of stakeholders. In other words, it is the trade-off between the right of stakeholders to know whether the market risks their bank is exposed to are tolerable or not and the interest of a bank in avoiding disclosing details on market risk exposures in order not to undermine its competitive position, as some information might give competitors an advantage. From the economic efficiency point of view, all the information about market risk in banking should be publicly available, but from the bank's competitiveness point of view, there might be a need to keep certain information confidential.

This is the main reason why financial regulation imposes a number of minimum disclosure standards and transparency constraints in an attempt to balance this trade-off. The problem is complicated even more by the fact that banks' managers may have incentives to avoid regulatory constraints and accounting rules. Due to their more extensive power and information, bank regulators are generally in a better position than other stakeholders to overcome these difficulties.

The regulatory framework concerning market risk reporting in banking can be split up into three main parts: the requirements of the IAS/IFRS, the national regulatory framework for banks' annual financial statements, and the requirements of the Basel Capital Adequacy regulation. Most European banks have to draw up their financial statements in accordance with IAS/IFRS. Their main role is to enhance the comparability of banks' financial statements across space and over time. Unfortunately, the level of comparability across space is affected by national regulations, which differ slightly from one country to another.

Banks disclose many useful pieces of information about market risk in their financial statements, particularly in their Notes to the account. It is important to clarify that Notes to the account are characterized by a quantitative and qualitative approach that aims to integrate and complete the bank's balance sheet and income statement. The part which discloses the most valuable pieces of information about market risk is "part E". This part provides information on the different risk categories (credit risk, market risk, liquidity risk, and operational risk), the methodologies and models used to measure banks' risk exposures, and the hedging practices related to these exposures.

The Basel Capital Adequacy regulation provides a set of requirements for banks. Its main objective is to make the event of a bank bankruptcy less likely. In order to pursue this aim, the Basel Committee for Banking Supervision (2006) created a three-pillar regulatory framework. In particular, Pillar 3 represents a very important piece of regulation for market risk reporting. It aims to remove obstacles that prevent market discipline and inform the market about a bank's market risk exposures. In fact, the main aspect of this pillar is the requirement for banks to disclose better information about the risks they face and the ways they allocate the capital necessary to deal with stressed market conditions. The market discipline of Pillar 3 addresses the issues of transparency in banking.[1]

It should be noted that the time horizon of the present study runs from 2012 to 2015. This is the reason why the recently revised Pillar 3 disclosure requirements that have taken effect from year-end 2016[2] are not taken into account here. The next section presents the research design employed in the study.

[1] This pillar requires banks to prepare a Pillar 3 disclosure report. It gives banks the possibility to disclose a wide range of information on market risk, from both a quantitative and a qualitative point of view. Compared to the past, the new financial regulation requires banks to meet further disclosure standards, but this might not be sufficient to achieve the objective for which the greater disclosure has been requested, that is, the drive for an effective market discipline.

[2] The most significant revisions, with respect to the previous Pillar 3 disclosure requirements, relate to the use of templates for quantitative disclosure accompanied by definitions, some of which have a fixed format. The Basel Committee on Banking Supervision expanded risk disclosure requirements in order to promote consistency of reporting and comparability across banks and enhance market discipline. These requirements may increase the transparency of the information available to market participants and thus market discipline.

4 An Empirical Study on Market Risk Disclosure in Banking: Research Design

This section aims to examine the sample, time horizon, and methodology proposed here to evaluate market risk disclosure in banking. The *sample* of this research is made up of the ten largest Italian banks as regards book value of total assets (Table 4.1), most of which are listed on the Italian stock exchange. The sample represents approximately 60% of the Italian banking industry in terms of total assets (year 2015). This country-specific sample will reduce the difficulties in generalizing the findings obtained by analysing data that are affected by homogenous regulatory and accounting frameworks and facilitate comparability across banks. The *time horizon* of this research runs from 2012 to 2015. The aim is to understand whether a bank is characterized by a good level of comparability over time (for the same bank over different years) and across space (between different banks in the same year). Therefore, the analysis takes into account both cross-sectional data and time series data. This methodology enables capturing a much higher degree of information than a purely historical or cross-sectional approach. Qualitative and quantitative *data collection* derive from the meticulous analysis and evaluation of the three most important risk disclosure reports: the *Notes to the account* and *Management Commentary* from the Annual Report and the Basel Capital Accord's *Pillar 3 report*. These reports, all of which are available to the public, were

Table 4.1 Sample description

Bank	*Total assets (2015) (in million euro)*
Unicredit	860,433
Intesa Sanpaolo	676,496
Monte dei Paschi di Siena	169,011
Banco Popolare[a]	120,509
UBI Banca	117,200
Banca Nazionale del Lavoro	77,494
Mediobanca	70,710
BPER Banca	61,261
Banca Popolare di Milano[a]	50,203
Banca Popolare di Vicenza	39,783

[a]On 1 January 2017, the two former groups Banco Popolare and Banca Popolare di Milano merged to become Banco BPM Group

downloaded from the banks' official websites. In particular, the main focus regarding the *Notes to the account* is on "Part E". Nevertheless, other parts are also taken into account whenever they disclose useful information about market risk. This study analyses the text of the narrative and not narrative risk disclosure.

Data were collected via the application of qualitative and quantitative *content analysis* on the published disclosure reports. I reviewed market risk disclosure in the annual reports and *Pillar 3 reports* of the ten banks from 2012 to 2015 and, subsequently, constructed a disclosure quality index. A scoring model based on analytical grids was used for this purpose. In order to attenuate the subjectivity that affects this kind of analysis, I split the scoring model into two parts: the first is based on an objective evaluation and the second on a judgemental approach. The final result is a hybrid scoring methodology that incorporates the evaluation of key qualitative and quantitative information using an objective and subjective evaluation approach. This supports the adequateness of the scoring model used to this end.

4.1 The Scoring Model

In greater detail, the first part of the scoring model is not influenced by any subjective evaluation. The analytical grid used for this purpose was developed by focusing on twenty meaningful market risk disclosure indicators (Table 4.2). These are key disclosure parameters, measures of market risk exposures (both backward looking and forward looking), and key information on market risk methodologies that have been used by banks. Those indicators that are mandatory to disclose have been excluded. In fact, the mandatory information is bound to be disclosed in one of the bank's documents and almost every parameter would get a score of 1 in this aspect; therefore, it would be useless doing something like this now. Obviously, this way of reasoning will be reversed in the second part of the scoring model, in which certain pieces of mandatory information will also be analysed from a qualitative point of view. The risk disclosure indicators were evaluated via the application of a binary scheme. Each indicator is assigned a score of "1" or "0": 1 means that the bank is disclosing the information; 0 means that the information is not disclosed.

The second part of the scoring model is based on a judgemental approach. The analytical grid used for this purpose was developed by focusing on several key disclosure parameters that drive the quality of

Table 4.2 First part of the scoring model: the analytical grid of market risk disclosure indicators (score 0, 1)

Market risk definition
VAR (*value at risk*) definition
ES (*expected shortfall*) definition
Back testing definition
Average VAR[a]
Average ES
VAR at the end of the year[a]
Limitations of VAR
Limitations of ES
Explanation of VAR models used
Explanation of back testing models used
Presence of graphs about annual VAR fluctuations
Stress testing explanations
Stress testing results
Market risk level of aggregation reported[b]
Risk-adjusted performance indicators
Market risk exposure limits
Market risk tolerance
Scenario analysis
Expected value fluctuations of assets and liabilities

[a]The disclosure of this information is mandatory only for banks that use internal models to measure market risk, in accordance with the Bank of Italy (2006), *Nuove disposizioni di vigilanza prudenziale per le banche. Circular n. 263*, p. 631. This is the reason for including these two indicators in the first part of the scoring model

[b]This indicator will return a score of "1" if at least two of the following market risk levels of aggregation are reported: aggregation for type of financial instrument, aggregation at the portfolio level, aggregation at the country level, aggregation for type of market risk factor, and aggregation for each company of the group

market risk disclosure in banking (Table 4.3). Different determinants of corporate disclosure are used to explain the reporting activities. As shown in Table 4.3, these parameters are grouped into the following subcategories: key aspects of market risk disclosure, market risk management decision disclosure, market risk types disclosure, securities portfolios disclosure, specific disclosure issues, and general disclosure issues. As to the evaluation of these key information parameters, they are assigned a score from "0" to "5", according to the following scheme:

– severe lack of information disclosure: score 0;
– very poor information disclosure: score 1;
– unsatisfactory information disclosure: score 2;

– satisfactory information disclosure: score 3;
– good information disclosure: score 4; and
– excellent information disclosure: score 5.

The detailed examination and evaluation of the different disclosure parameters (and the subsequent assignment of a score) will be carried out taking into account the following qualitative features: comprehensibility, relevance, comparability, reliability, and materiality. The score is assigned to each key disclosure parameter after having analysed and evaluated the

Table 4.3 Second part of the scoring model: the analytical grid of market risk disclosure indicators (score 0–5)

SECTION A: Key aspects of market risk disclosure
Explanation of market risk management strategies
Explanation of market risk management goals, procedures, processes, and policies
Explanation of market risk measurements
Explanation of market risk control systems
SECTION B: Market risk management decision disclosure
Information on market risk assumption and retention
Information on market risk prevention and protection
Information on market risk transfer
Information on market risk elimination and avoidance
SECTION C: Market risk types disclosure
Exposure to interest rate risk (*entire balance sheet*)
Exposure to interest rate risk of trading and banking book
Exposure to currency risk
Exposure to price risk (bonds, shares, and derivatives portfolios)
Model risk
Interdependence among different types of risks
Market risk aggregation and methodologies
SECTION D: Securities portfolios disclosure
Segmentation of securities portfolios
Derivatives: instruments, measurements, and strategy
Volatility measures for portfolios of securities
SECTION E: Specific disclosure issues
Organizational aspects of market risk management
Capital adequacy for market risk (*regulatory perspective*)
Economic capital for market risk (*internal and managerial perspective*)
Accuracy of VAR models
SECTION F: General disclosure issues
Backward-looking information (disclosure)
Forward-looking information (disclosure)
Provision of an integrated perspective on market risk

information published in the risk disclosure reports, with particular reference to the aforementioned qualitative features. This will improve the scoring model significantly. These qualitative characteristics are outlined in the Conceptual Framework for IAS/IFRS by the International Accounting Standard Board and the Financial Accounting Standards Board (2010). These qualitative features of banks' financial statements are extremely important for market risk reporting purposes. I assume that an appropriate balance among such qualitative characteristics of information is crucial to provide a faithful and effective market risk disclosure to stakeholders.

In order to provide an in-depth explanation of the methodology, the aforementioned qualitative characteristics must first be defined and illustrated. *Comprehensibility* refers to the fact that the information should be presented as clearly as possible, so as to make it easy to understand, with an appropriate balance between qualitative and quantitative information. It refers to the capability of the reader to comprehend the appropriate meaning of the text. However, *readability* refers to the ease of understanding of a text and was considered as an indicator of comprehensibility. A narrative explanation of the main implications of a bank's market risk profiles is necessary in order to benefit not only sophisticated users but also less specialized ones. Descriptions and terms should represent the substance of a bank's activities, operations, processes, and procedures fairly and how a bank identifies, measures, and manages market risk. Market risk reporting should be well organized, so that key information is prioritized and easy to find, and should be supplemented by the main underlying assumptions and a sensitivity or scenario analysis so as to demonstrate the effect on selected risk exposures or metrics of variations in these main underlying assumptions. Such information comprehensiveness enables stakeholders to gain an understanding of a bank's market risk position and market risk management operations.

The information is *relevant* to the decision-making process of stakeholders when it helps them to assess the expected risks of and returns on investments. It also has to show sufficient details to enable stakeholders to understand the nature and extent of a bank's market risk exposures, its risk appetite, the manner in which it manages its market risks, including stress conditions, and the changes in the bank's risk profile that have occurred from one reporting period to another. It is not always the case that the more information a bank discloses, the better off the potential investor will be. Sometimes, certain pieces of information confuse users. This is the reason why it is necessary to disclose all the necessary information for users

to take their decisions, not just superfluous information. What is important is the significance of the information for a proper assessment of risk profiles inherent in various banking activities.

Comparability over time and space is a crucial condition to provide meaningful comparisons of market risk profiles between different banks. The comparability of bank disclosures, both across banks and over time, has been recently enhanced by the process of harmonization of the accounting languages that has commenced with the IAS/IFRS and the worldwide spread of basic measures of market risk, such as Value at Risk. Financial analysts and investors can use Value-at-Risk disclosures, for instance, to compare the risk profiles of banks' trading portfolios. Comparability is affected by the fulfilment of the consistency principle. Changes in risk practices, measurement methodologies, accounting, and regulatory requirements may noticeably attenuate information comparability over time and across space.

Information is reliable (*reliability*) in the sense that it reflects the economic substance of events and transactions, and not merely their legal form, and is verifiable, neutral, prudent, and complete in all material respects. In some instances, mainly for forward-looking information, banks may balance relevance and reliability. Moreover, given the fact that banks rapidly change their market risk profiles, timelines are critical for reliability.

Information is material (*materiality*) if its omission or misstatement could change or influence the decision or assessment of a stakeholder relying on that information. Accordingly, banks should avoid disclosing immaterial or redundant information that does not add value to existing information or reduce uncertainty among users.

A crucial consideration of the content analysis based on a hybrid scoring model is that both qualitative and quantitative data are examined. The first part of the methodology deals with just a small subset of quantitative and qualitative data (such as the definition of market risk, the definition of VAR, etc.), whereas the second part deals with both qualitative and quantitative data that are not analysed in the first part and evaluates such data using a judgement-based scoring model linked to some qualitative features of risk reporting. Consequently, the evaluation process is much more complex in the second part of the methodology.

As to the first part of the scoring model, the maximum score a bank can obtain is 20. In the second part of the scoring model, the maximum score is 125. A weighting scheme is used to give different weights to the two

parts of the scoring model, assigning a weight of 0.4 to the first part and a weight of 0.6 to the second part. Within the second part of the scoring model, every section has equal weight. Lastly, the summed weighting scores were rescaled in order to express the final score (disclosure quality index) on a 0–100-point scale. These normalized scores equate raw scoring gathered via different measurement techniques. The use of a common scale makes more sense when interpreting the sum of scores in a scoring model.

4.2 A Comparison to Other Methodologies

In order to better appreciate the methodology proposed here to evaluate risk disclosure, it is useful to compare it to other methodologies proposed by other researchers. The relevant literature on evaluating risk reporting in banking can be divided into two major categories: academic research (Beattie and Liao 2014; Core 2001; Dowd et al. 2008; Healy and Palepu 2001; Kissing 2016; Linsley and Shrives 2005; Linsley et al. 2006; Ryan 2012; Verrecchia 1990, 2001; Woods et al. 2009) and research conducted by audit firms, standard setters, and financial policymakers.[3] Furthermore, academic research is mainly characterized by two methodological approaches. According to the first, a purely objective approach is sufficient. Certain indicators are identified that should be able to capture all the information necessary to evaluate the risk reporting. In particular, this approach uses a binary evaluation scheme: a score of 0 or 1 (a score of 0 means that the information is not disclosed, whereas a score of 1 means that the information is disclosed). This is the main limit of this kind of methodology. In fact, it does not provide any evaluation about the degree of completeness and comprehensibility of the information disclosed by the bank. For this reason, a purely objective approach was discarded in the present empirical analysis. The second research approach is based on a qualitative method that is able to consider many qualitative characteristics of the information provided by banks' financial statements, such as their relevance, degree of completeness, comprehensibility, and so forth. Moreover, qualitative approaches are also able to take quantitative data into account. Unfortunately, qualitative approaches are characterized by a

[3] These studies usually aim to evaluate the level of user satisfaction of the bank's risk disclosure and are based on users' perspectives on the usefulness of risk disclosure, employing interview and survey techniques.

severe drawback: the evaluation is influenced by the subjectivity of the researcher. Nevertheless, this approach has certain advantages and, with some adjustments, could become a useful tool for market risk reporting evaluation purposes. In short, different approaches can be used for measuring risk disclosures.

The preceding considerations are fundamental for the hybrid scoring methodology proposed here. This empirical study provides insights for both levels of analysis: qualitative and quantitative. Several parameters have been compiled to investigate the quality of market risk disclosure. In order to attenuate the subjectivity of the evaluation process, I propose assigning a score (from 0 to 5) to each determinant or parameter that drives disclosure quality, with reference to a combination of qualitative features of disclosure. The appropriateness of these qualitative elements has been affirmed in the IAS Board's Conceptual Framework for IAS/IFRS. Additionally, it should be noted that subjectivity may be reduced but not entirely eliminated. It is essentially a necessary feature of any judgement-based scoring model. Notwithstanding, the results of this empirical research provide a comprehensive overview of market risk reporting in banking. A more detailed discussion of the research findings and their implications is provided in the following section.

5 Research Findings: Discussion and Implications

This section aims to analyse and discuss the research findings of the empirical study and draw meaningful conclusions about risk disclosure in banking. As stated previously, the overall objective of this study is to link qualitative and quantitative data through a scoring model in order to assess market risk disclosure in banking with the aim of adding new academic insights and providing practical implications. A scoring model is applied to investigate several key risk parameters that affect the overall market risk disclosure.

Primarily, market risk disclosure reflects institutional and firm-specific characteristics, such as regulatory and accounting constraints, changing economic conditions across the cycle, financial market fluctuations, bank size, the structure and composition of the bank's balance sheet, ownership structure, governance, and reporting strategy. The qualitative and quantitative content of the market risk disclosure implies a comprehensive analysis of banking risks, which are related to the characteristics of banking activities, corporate decisions, and pursued aims (competitive, commercial,

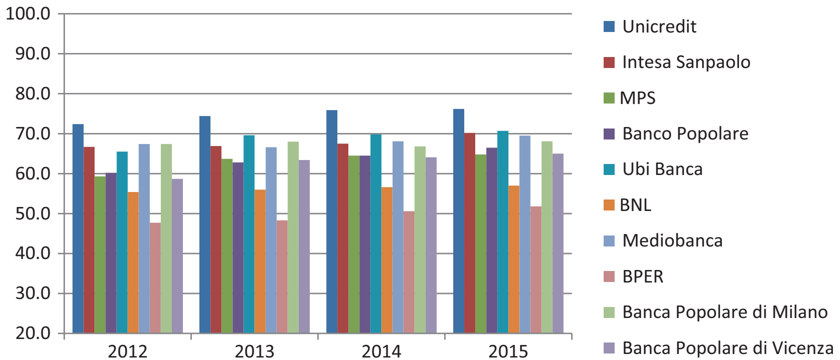

Fig. 4.1 An overview of the disclosure quality index

economic, financial, etc.). Bank performance cannot be fully analysed through traditional accounting results; it is necessary to examine it with reference to the risk profiles that characterize banking activities, strategies, and policies (Bastianini et al. 2005; Bisoni et al. 2012; Rutigliano 2012, 2016; Tutino 2009, 2013).

A description of the research findings follows. Despite the fact that Italian banks are subject to similar regulatory requirements and accounting standards, this empirical study found several differences in market risk disclosure across banks. As a whole, the research findings show that market risk disclosure improved from 2012 to 2015 for all banks in the sample (Fig. 4.1), and that there is a high comparability of disclosure, both over time and across banks. It is unusual to observe radical enhancements between two subsequent years. However, if we consider the entire time horizon of the research study, it can be seen that there have been substantial improvements, both qualitative and quantitative. At the same time, the research findings show that there is room to improve several aspects of market risk disclosures. The information content and its presentation in banks' risk reporting show room for significant improvements.

5.1 *Key Aspects of Market Risk Disclosure*

The changing financial and regulatory conditions in the banking and financial industry urge placing much more emphasis on risk disclosure, and market risk disclosure in particular, as regards the following crucial

aspects of disclosure: bank risk strategies, bank risk management, bank risk measurements, and bank risk control systems. Although banks have increased the quality and quantity of market risk disclosure in recent years, the present research findings suggest that banks need to improve such crucial dimensions of market risk disclosure.

More precisely, the explanation of the banks' market risk strategies implies the disclosure of expected management scenarios, expected economic and financial conditions, risk propensity, and greater emphasis on prospective analysis. In short, how significant bank management decisions and economic or financial developments would affect bank performance and how significant risks can affect the bank's business. In contrast, the explanation of the bank's market risk management implies the disclosure of the goals, procedures, processes, and policies of risk management; a description of the business operating processes; an analysis of the funding and investing decisions and their impacts on bank results; an examination of critical business units; a description of the main results of the market risk management; details of hedging strategies; details of hedged and unhedged risk exposures; and the nature and purpose of derivative instruments used. Risk hedging policies are crucial for assessing whether a bank is really protected against market risk and for evaluating the effectiveness of the chosen hedging strategies. There should be disclosure of the integration of market risk exposures and risk management policies. This strategic and management approach recognizes the relevant importance of the disclosure of the following risk management decisions: assumption and retention, prevention and protection, risk transfer, and risk elimination and avoidance.

Compared to the first two crucial aspects of market risk disclosure, the third aspect (risk measurement) is mainly quantitative and implies the disclosure of market risk exposures, the measurement of current market risks, the expected and unexpected losses, and the economic value of bank capital. It also implies the disclosure of the interrelations between different types of market risks, the underlying assumptions and methodologies used to quantify market risks, the bank's risk tolerance and risk propensity, and an illustration of how the market risk measures impacted on corporate and business decisions, performance, and current and expected bank capital.

The last crucial aspect of market risk disclosure (bank risk control systems) is mainly based on internal reports used for management purposes. It implies the disclosure of the internal activities and control procedures that are managed by a bank with regard to legal and regulatory constraints,

the aims and results of the internal control systems and the units that show high level of criticality, the measures implemented by the management to monitor and control risks, and the link between the performance of the internal control systems and the overall corporate performance of the bank.

The research findings of this study indicate that poor or insufficient market risk disclosure is particularly predominant with respect to a number of critical dimensions of bank risk strategy and risk management, derivatives used and hedging strategies, quantity and quality of internal controls, and expected results. It is not possible to gain any perception of the bank's acceptability of further risks. Without a full disclosure of a bank's risk strategies and the effectiveness of its risk management policies and practices, stakeholders will be unable to evaluate the bank's potential risks and its expected future outcomes.

5.2 Backward Looking Versus Forward Looking

As a whole, the research findings show that market risk disclosure is much more backward looking than forward looking. There are just a few key pieces of information that are related to future and expected market risk exposures and bank risk management. Consequently, it is not possible to forecast future market risk exposures or gain knowledge of the real capacity of the bank to assume and absorb further market risks or its risk propensity level with respect to the available economic, financial, capital, and human resources. It is widely agreed that risk disclosure is fundamental to drive investors' decision-making, enabling them to make a more informed decision. Bank stakeholders' understanding of market risk is influenced by the overall quality of the risk disclosure. By disclosing reliable, forward-looking information, stakeholders could be able to assess potential losses and bank capital adequacy to absorb not only current losses but also expected and unexpected future losses. In a broader sense, considering several scenarios that could arise from recent economic developments would improve the ability of stakeholders to identify the bank's strengths and weaknesses, especially with respect to market risk exposures.

The predominant narrative nature of the market risk disclosure statement, devoid of in-depth analysis, does not allow the strategic aims and expected performances of banks to be linked to their capital needs and capacity to absorb further risks. Rarely do bank business and risk projections offer an adequate understanding of future management dynamics.

The relationships between internal control activities, risk management, risk governance frameworks, business strategy, and strategic management are not well disclosed, making it challenging for external users to evaluate the bank's overall market risk profiles. These aspects could be enhanced by additional disclosures.

5.3 *Qualitative Versus Quantitative Data*

Sometimes, the qualitative disclosed data are excessively general to the point that they seem useless and uninformative for a full understanding of the underlying activities described and of the bank's current and future performance. There are also certain limitations in the quantitative data section. In some cases, this section merely contains calculations based on accounting results, while in others it provides estimates and measures that have been carried out for bank supervisory purposes. The combination of qualitative and quantitative risk disclosure is not sufficiently informative. Often, risk measures are very difficult for users to understand and incorporate into their decision-making process due to a lack of a complete, comprehensible definition and explanation of underlying methodologies. This is especially true for market risk disclosure, as it is inherently complex to understand for a general audience. In this respect, qualitative disclosure could be essential to shed light on quantitative disclosure and explain risk measurements.

5.4 *Fragmentary Presentation*

On analysing the research findings of this empirical study, market risk disclosure in banking seems partially disorganized and subdivided into different published documents that are neither fully nor adequately integrated nor cross-referenced. This is due to its fragmentary presentation. Sometimes these statements are not adequately comparable because they have been drawn up with differing depths of analysis. Banking regulatory and accounting frameworks, at both national and international levels, have developed over time and have assigned growing contents and scopes to risk disclosure.

Moreover, the representation and measurement of market risk mainly adopt a building-block approach (based on risk types). The interconnectedness which exists between different market risk factors and the interaction of different risk types (market risk, credit risk, liquidity risk, operational

risk, etc.) are often not well disclosed. Consequently, risk disclosure lacks an integrated and unified point of view on bank market risks. In other words, it does not offer a picture of the bank's overall risk position or risk management, nor does it convey the correlation and diversification effect on gains or losses due to the interaction of different risk factors. This fragmentary representation and inadequate integration increase the difficulties for stakeholders to correctly evaluate entity-wide risk exposures and how effectively these exposures are managed by the bank.

Furthermore, an information overlap was found among risk disclosure statements. The Basel Capital Accord's *Pillar 3 report* is part of a bank's financial reporting and is published at the same time as its financial report for the corresponding period. It is mainly a narrative report with reference to the bank's balance sheet and presents a number of repetitions and information overlap, as briefly described below:

- *Pillar 3 report* and *Management Commentary*: information on policies and goals of risk management, risk assumption, and risk hedging;
- *Pillar 3 report* and *Notes to the account*: information published in section "E" of the Notes to the account. Disclosure areas covered by the Pillar 3 report coincide to some extent with disclosure required under the Notes to the account. It seems that the Pillar 3 report's information content is a subset of section "E" of the Notes to the account, with the exception of the "glossary" that is usually added to the Pillar 3 report; and
- *Pillar 3 report* and Balance sheet: book value and fair value of financial instruments, losses and gains of financial trading, and so on.

5.5 Market Risk Factors, Model Risk, and Economic Capital

The research findings also show that the market risk factor that is primarily analysed and described in the risk disclosure statement is the interest rate, in comparison to exchange rates, share prices, and commodity prices. Banks generally do not describe their market risk modelling in detail in their reports and often do not describe it at all. The model risk is not well analysed or disclosed by banks. Most of the information relating to model risk is disclosed in the fair value hierarchy section, although often not adequately. This disclosure is often limited to a list of financial pricing models that are used to evaluate derivative instruments. It lacks sufficient information on the characteristics and methodology of these financial

pricing models. Consequently, external users are not able to appreciate the robustness, adequateness, or impacts of these pricing models on market risk management, bank accounting, and performance.

Banks do not adequately disclose information on the internal estimate of the economic value of bank capital for market risk. Most banks pay close attention to the regulatory capital requirements, instead of value-based measurement of bank capital. As a result, it is often difficult for investors and external users to assess the banks' economic capital adequacy to support all the risks in their business, its measurement or use for market risk management purposes.

5.6 Policy Implications: Forward-Looking Disclosure

As noted previously, despite the widespread use of regulatory and accounting disclosure requirements, market risk disclosure is often inadequate. A number of policy implications for practitioners, bank regulators, and accounting standard setters emerge from the analysis of the research findings of this empirical study. First, I propose improving and developing the forward-looking information on market risk through a higher quality disclosure of the following:

- perspective scenarios of bank management and business;
- integrated and dynamic analysis of the undertaken and expected corporate and business decisions;
- scenario analyses and simulations to assess the impacts of risks on banks' aggregate exposures and expected performance results that are related to changing business, environmental, competitive, and strategic conditions;
- variation of key market risk factors and its impact on the profit and loss statement;
- potential loss of securities portfolios from adverse market moves (value at risk measures);
- stress test results[4];
- market risk sensitivity analysis;

[4] Goldstein and Sapra (2014) show that disclosure of banks' stress test results to the market has both advantages and drawbacks.

- risk exposure limits and remedial actions that are necessary when these limits are violated;
- expected decisions to ensure a bank capital adequacy over time;
- capacity of bank capital to absorb further risks;
- banks' willingness to tolerate higher market risk exposures and its effects on banks' regulatory capital ratios;
- interdependence among different market risk factors and other risk categories;
- key risk-adjusted performance indicators;
- forecasts of future gains and losses based on factors such as risk management decisions, financial markets fluctuations, and management's evaluation of the economic cycle;
- potential losses (expected and unexpected) of derivative exposures;
- expected market risk exposures related to off-balance sheet positions;
- sufficient and meaningful disaggregation of current and expected market risk exposures;
- description of short-term and long-term market risk exposures; and
- description of hedged and unhedged market risk exposures.

I assume that forward-looking disclosure requirements enable a superior market risk disclosure in banking that is positively associated with banks' understanding of their market risks. This is particularly challenging for market risk exposure, which banks need to incorporate into risk reporting in a timely manner. Furthermore, more forward-looking information might help investors to focus on a longer-term rather than a short-term perspective.

5.7 Policy Implications: Management Commentary

The aim of enhancing forward-looking information on market risk disclosure could be pursued by the Management Commentary. The Italian Management Commentary is a mandatory report intended to complement and supplement annual financial statements. It might overcome the shortcomings that affect the bank balance sheet. This report is mainly narrative, as it should display the objectives and strategies of the banks, in addition to providing outlook information. It outlines some qualitative aspects that the Notes to the account do not and cannot take into account because of their different purposes.

The communicative effectiveness of the risk disclosure in the Management Commentary has a high potential, for both qualitative and quantitative data. Nonetheless, the findings of this empirical study provide evidence that banks do not exploit all the relevant disclosures potentiality of the Management Commentary. I argue that most banks do not use its "predictable management dynamics" section appropriately. They disclose a poor level of information, with few comments on market risk. Furthermore, many banks make a lot of cross-references to section "E" of the Notes to the account without adding any new current or future perspectives on market risk. Briefly, banks do not exploit the full potential of the Management Commentary for their risk disclosure.

The Management Commentary can offer the opportunity to enhance the strategic and management perspectives on market risk disclosure, particularly with regard to the expected risk dynamics, their impact on the development and implementation of bank strategies, bank business opportunities, bank performances, and the expected value fluctuation of assets and liabilities. It may provide meaningful information to comprehend the main business trends, the specific factors affecting them, the future evolution of bank strategies and their consequences on risk dynamics and performance, for both positive and negative scenarios, and risk exposures and risk management policies in the context of the bank's business models. The forward-looking disclosure perspective that could be provided by the Management Commentary, for both short- and long-time horizon, is evident. Moreover, the management discussion that is provided in this report could be essential to shed light on qualitative and quantitative risk disclosure and overall risk management strategies and policies.

The Management Commentary also covers bank risks that are different from those that it is mandatory to analyse in the Notes to the account (e.g. strategic risk, commercial risk, operational risk, reputational risk, etc.). Consequently, it can illustrate not only the interdependence between different market risk types but also the relationships with other bank risk categories. Potentially speaking, it may offer an integrated disclosure perspective on bank risk strategies, risk management, risk measurement, and internal risk controls. This, in turn, is likely to enhance the quality of market risk disclosure.

However, the Management Commentary is affected by a lack of information standardization with potential negative consequences in terms of comparability—both across banks and over time—and latent semantic dimensions of the texts. I found many differences in communication and

writing styles of the Management Commentary among the analysed banks. Current accounting rules impose a minimum content for the document but do not provide any specific configuration or structure. Despite the continuous raising of requirements for the preparation of the Management Commentary, the regulation is still not detailed.[5] Most notably, the information to provide has to be relevant for the investor's assessment of future bank performance and objectives. Thus, the bank's management has a certain degree of discretion in terms of presentation and the level of detail of the information to provide. Consequently, the market risk disclosure in the Management Commentary might not be adequately comparable and may also purposely suffer from a lack of depth.

It is essential to ensure the appropriate use of the report and avoid a misrepresented disclosure of bank performances and bank market risks. By using textual complexity, broad and vague definitions, generic descriptions of risk management, in addition to the discretion employed in deciding the issues to be provided to the external users, the Management Commentary may obfuscate the bank's poor performance, to the extent that it might not represent a faithful and accurate statement of the bank's risk exposures and risk management. It is likely to exacerbate bank opacity and foster misperceptions of the bank's relevant economic conditions. This means that more information is not always better and does not necessarily imply an increase in risk transparency provided to external stakeholders. Disclosure is not always a synonym for transparency.[6]

5.8 Policy Implications: The Adoption of a Holistic View

In order to enhance the capacity of the risk disclosure to represent the overall risk position of the bank, an integration of different risk reports (the Pillar 3 report, Management Commentary, and Notes to the account) is advisable. An integration of the different risk disclosure reports can provide an overall view on bank market risk. This highlights the need for a

[5] It should be noted that International Accounting Standards Board (IASB) published the Practice Statement Management Commentary in 2010 to assist management in presenting a useful Management Commentary that relates to financial statements that have been prepared in accordance with International Financial Reporting Standards (IFRS). This framework is not an IFRS. Consequently, banks applying IFRS are not required to comply with the Practice Statement.

[6] See Beretta and Bozzolan (2004, 2008) for a discussion of the idea that the amount of disclosure is a sound proxy for the quality of disclosure.

more holistic approach that encourages banks to prepare and publish an integrated risk report within their financial reporting. This integration could lead to the provision of a single risk report that conveys a coherent and global portrayal of risk in banking. The adoption of a unified view on risk disclosure might also provide the opportunity to integrate accounting and management-based information on banking risks. The regulation of banks still regularly employs accounting measures of their capitalization and risk exposures.

Accordingly, the adoption of a more holistic view on risk disclosure could eliminate the information overlap and redundancy between risk disclosure documents, as well as improve the quality of risk disclosure by reducing disclosure volume, increasing its desirable attributes (comprehensibility, relevance, and materiality), and providing a parsimonious presentation. It would be advisable to provide overview sections that contain all the important information, comments to enable external users to correctly understand quantitative data and risk measurements, and key risk indicators to synthesize the bank's market risk exposures and their impacts on bank performance. It will thus make the market risk disclosure less burdensome for investors and other users.

As to the analysis of the existing interconnectedness between different market risk factors, it is worthwhile to consider differentiating the distinctive risk factors, their interdependencies, and their correlations. A risk disclosure statement that outlines this kind of breakdown could facilitate the understanding of the interaction of different market risk factors, the potential impact of change in market risk variables, the effectiveness of risk management policies and instruments, the provision of more specific information and details on sensitivity analysis, market risk exposures, risk management policies, and risk exposures matched to hedging instruments. It is thus likely to enhance the informational value of the market risk disclosure statement.

5.9 Policy Implications: Sophisticated Financial Products

Derivative use and hedging strategies are two critical dimensions of market risk disclosure that are not sufficiently or adequately analysed or conveyed by banks. The growing complexity of derivative instruments, other sophisticated financial products, and trading and hedging strategies require a well-structured and well-presented disclosure statement that should be integrated with other risk disclosures. This statement should include

details on the following aspects: the nature and purpose of the derivatives and other sophisticated financial products used; the risk exposure of derivative instruments, including embedded derivatives; disaggregation of the portfolio of derivatives and sophisticated products; underlying risk factors; hedged and unhedged risk exposures; linkages between market risk exposures, and hedging instruments and strategies; trading derivatives and hedging activities, objectives, costs, and benefits; the distinction between speculative derivative trading and hedging activities; macro-hedging and micro-hedging strategies; gains or losses related to derivative activities; the disaggregation of gains or losses due to different types of hedging strategies; potential losses of portfolios of derivatives; derivatives counterparty credit risk; an explanation of the effectiveness or ineffectiveness of hedging strategies; the impacts of derivative activities on current and future income and cash flow statements; an explanation of the inherently complex methodologies used to evaluate derivatives; a distinction between mark-to-market and mark-to-model valuation approaches; the impacts of either temporarily or persistently illiquid derivative markets on derivative valuation and bank performance; the impacts of derivative activities on the overall current and future bank's risk profiles; and an explanation of risk management policy and hedging strategies. An integrated and faithful presentation of qualitative and quantitative data on these operating, accounting, and strategic aspects of derivatives and other sophisticated financial products improves the overall quality of risk disclosure.

Despite the significant increase in derivative disclosure requirements under IFRS and the complexity of hedging strategies, the present empirical study provides evidence that there is still room for significant further enhancements, at both the voluntary and mandatory disclosure level.[7] In particular, voluntary disclosure of useful information can integrate and complete mandatory disclosure, increase transparency, and reduce bank opacity. The quality and reliability of derivatives and financial innovation disclosure are essential to avoid or minimize the likelihood of a mispricing of banking risks and an underestimation of risk exposures; discern the use of derivative instruments, their risk exposures, and the relationships with

[7] It is worth noting that IFRS 9 (Financial Instruments), which is to come into effect in January 2018, will enhance derivative disclosure with better information about risk management, derivative instruments and hedging strategies, and the effect of hedging activities on financial statements. It will enable banks to better reflect derivative instruments and strategies in their financial statements, with enhanced disclosures about risk management activity.

other types of risks (mainly liquidity and credit risk); link derivative instruments to the underlying risk exposures and assess the extent of hedging activities; predict the future impact of hedging on the bank's performance; evaluate the hidden loss potential of derivative instruments and the overall loss absorption capacity of the bank; provide a full understanding of market risk exposures, hedged and unhedged balance sheet amounts, and the effectiveness of risk management strategies to stakeholders; and increase investor trust in banking.

5.10 Policy Implications: A Summary

A detailed examination of the different parameters of the total disclosure score leads to some interesting insights that should be mentioned to enhance the quality of the provided market risk disclosure information. First, the excessive degree of subjectivity in risk reporting may provide a non-comparable and incomplete risk disclosure statement. Second, the description and analysis of the market risks should be linked to the bank's core business, market segments where the bank operates, the business growth perspective, and the value creation process. Third, market risk reporting should be linked to the bank's strategic and operating goals in order to increase the comprehensiveness of risk management decisions (e.g. hedging, risk transfer, and securitization) as well as the effects of banking risks on corporate strategic decisions and organizational structures. The assessment of bank market risks requires a preliminary goal setting and a measurement of bank performance. The disclosure of the effects of hedging strategies on financial statements should be enhanced. Fourth, the risk disclosure should have a forward-looking perspective for external users. Qualitative and quantitative data and indicators can be used to represent future bank management decisions, future dynamics of banking risks, current and future risk exposure limits, corrective actions to be implemented when these limits are violated, and expected risk mitigation policies that aim to avoid excessive risk exposures. Fifth, the standardization of the content of market risk disclosure statement and their presentation is a critical aspect for accurate comparability across banks and over time. Standardized disclosure statements are required to improve comparability. Sixth, the disclosure of underlying assumptions and limitations of market risk measurements are really important to evaluate their reliability and robustness. Seventh, the complexity of the text and the nature of the narrative of risk reporting, as well as the discretion of bank management

may induce banks to window dress their financial and economic conditions and performance. Eighth, an integrated messaging on the bank's overall risk exposures and risk management is required. There is scope to improve the integration of disclosure of market risk factors, risk categories, risk exposures, and hedging policies. Ninth, a disclosure statement related to derivative exposures and activities, risk exposures arising from derivative instruments, and their impacts on bank performance is crucial to be able to evaluate the effectiveness of a bank's risk management strategies and market risk exposures meaningfully. Market risk disclosure in banking should cover all financial instruments, including all derivative instruments and other sophisticated financial products. Notwithstanding the variety, complexity, and importance of derivatives in banking, this study shows that the disclosure on derivatives and financial innovation is often inadequate. Lastly, banking and supervisory authorities that regulate the degree of disclosure obligations might improve requirements in order to provide an informative and integrated perspective on market risk and achieve a higher level of market efficiency, seeing as risk disclosure is used by stakeholders as part of their valuation and risk analysis process.

In conclusion, the regulatory and accounting constraints of risk disclosure in banking can be transformed into opportunities to create value, at both the firm and industry level. In order to achieve this goal, I believe it is essential to adopt a holistic perspective on risk disclosure that focuses on communication and not just on mere compliance. The incomplete, opaque, and fragmentary nature of a risk disclosure statement may restrict the stakeholders' ability to make analytical assessments of a bank's market risks. By appropriately combining mandatory and voluntary disclosure, banks should provide reliable risk information to stakeholders to facilitate a complete and holistic understanding of various quality and quantity profiles of market risk exposures and risk management strategies, policies, measurements, and controls.

In brief, the market risk disclosure statement cannot be assessed in isolation. It should be considered in conjunction with the regulatory environment, accounting rules, bank's strategies and policies, and other prominent factors. This empirical study contributes to the literature, as well as provides a relevant contribution for practitioners, accounting standard setters, and policymakers. I have discussed the main research findings and their implications that could lead to enhancing the quality of market risk disclosure in banking.

6 Conclusion

The banking industry has made significant progress in recent years in identifying, measuring, and disclosing market risk. Banking regulation, international accounting standards, and financial market constraints have been putting pressure on banks to increase the quality and quantity of market risk disclosure to stakeholders. This empirical study focuses on Italian banks and outlines some important aspects related to market risk reporting. Even though banks are subject to similar regulatory requirements and accounting standards, they still present some differences in their market risk reporting. I argue that Italian banks are still in search of a more holistic way to disclose information on risk exposures and risk management. These research findings provide an opportunity for banks to move towards comprehensive and holistic market risk disclosure.

The objective of this study was to investigate market risk disclosures. This research supports the development of a comprehensive understanding of market risk disclosure in the Italian banking industry. It contributes to the development of a hybrid scoring methodology in the field of risk reporting that covers qualitative as well as quantitative factors. In brief, this methodology was found to work well and provide comprehensive results regarding the analysed disclosure. This research extends the boundaries of the existing literature on market risk disclosure in banking and provides relevant contributions for practitioners, accounting standard setters, and financial policymakers.

Nevertheless, it is important to underline the fact that this empirical study suffers from certain limitations that need mentioning. First of all, the length of time interval of the study is quite short. Some changes in the reporting models were observed, but it would be interesting to extend the evaluation period in order to understand whether or not the changes observed during these few years are representative of the changes that have occurred over a larger period of time. It is not unlikely that some improvements could disappear from one year to another. Moreover, it would be difficult to generalize findings obtained in changing economic conditions across the cycle. In addition, the sample may be criticized as it consists of a group of the ten largest Italian banks. The sample size might also be enlarged, taking into account small and medium-sized banks.

Another potential limitation of this empirical study could be the subjectivity of the content analysis. However, the methodology used in the context of this research is split into two parts. This mitigates any concerns

regarding the subjective evaluation that affects the content analysis. In fact, the first part of the methodology is objective, but it is unable to capture a number of quantitative and qualitative aspects disclosed by banks. The second part of the methodology is judgement based and is very useful in capturing those elements that are not considered by the first part. Consequently, the drawbacks of a purely quantitative or qualitative analysis are diminished in the hybrid methodology proposed in this research study. Furthermore, it should be noted that a major issue exists related to the difficulties in combining the qualitative features (comprehensibility, relevance, comparability, reliability, and materiality) used to evaluate the risk disclosure. In addition, further research may extend the research design by increasing the number of market risk disclosure parameters and their measurability.

In conclusion, this empirical study is important to understand how the largest Italian banks address market risk reporting. These findings could stimulate further research in this field. To continue along this line of research, increasing the sample size and the time interval would constitute good ways to improve the analysis. Risk reporting regulation and risk reporting itself are an ongoing process. The Basel Committee recently expanded risk disclosure requirements under Pillar 3 to strengthen market discipline. The recently issued IFRS 9 will improve the reporting of financial instruments. Also for these reasons, the evolution over time of the hybrid scoring model could likewise be an ongoing process. This aspect represents a promising area for future research and poses a number of questions that researchers may develop with further empirical analysis.

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