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Risk Culture in Banking



Alessandro Carretta, Franco Fiordelisi,
Paola Schwizer



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Risk Culture in Banking

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1

Introduction

Alessandro Carretta, Franco Fiordelisi and Paola Schwizer

Corporate culture is a relatively new matter of interest for financial institutions. However, it deserves increasing attention within the more advanced academic debate, as well as among experts, professionals, and policy makers.

Banks are realizing that culture is a sort of “missing link” in the understanding and governance of individual and social behaviors within corporate organizations, and that it has been long overlooked or taken for granted. At the same time, regulators, and supervisors are convincing themselves that sounder banking culture and conduct represent

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important value drivers also for other relevant stakeholders. In fact, the financial crisis was seriously exacerbated by an inadequate risk culture in the financial sector. In other words, there was a deep cultural problem under the decisions and behaviors that brought to the crisis. And several cases of misconduct and scandals can be fully explained only in light of the same cultural weaknesses in banks and other financial companies.

We believe that the academic literature addressed with delay (with few exceptions) the topic of corporate and risk culture in financial institutions. This delay is due to perhaps the fact that this research field requires a multidisciplinary approach. Studies on risk and on risk culture followed for a long time two highly different paths, with few interconnections, because of the high level of specialization, which increasingly characterizes scientific knowledge.

This explains why many authors did not approach the subject at all or, when they did, started every time from scratch and referred only to their individual wealth of knowledge. We believe that an interdisciplinary approach adds value to the investigation of risk culture in banks. In the present economic and financial context, no regulator, no professional family, no discipline alone is able to assess beforehand and react to risks, as well as to social and individual misbehaviors, because these overcome the traditional boundaries of knowledge, best practices, and controls.

Our book deals with risk culture in the banking sector. We adopted a broad and thorough perspective, based on the academic research and field experience carried out by a large group of authors. All of them were involved for a long time in exploring the topics examined in this volume, which were also discussed at international level in academic and professional conferences and seminars.

The book is divided into two parts. Part I, “*General view: theory and tools*”, is dedicated to the theoretical grounds of risk culture and the tools aimed at assessing and measuring it. This part is composed of eight chapters.

In Chap. 2 “*Risk culture*”, Alessandro Carretta and Paola Schwizer explain why corporate culture matters. A suitable culture implies that people “make use” of the same assumptions and adopt behaviors inspired by the company’s values; this enhances the market value of the

company identity. The authors define risk culture, its scope, drivers, and effects. Risk culture is central to banks as it influences their risk-taking policies, and behaviors are a direct expression of it. But how can a really “new” culture be developed and spread in a bank today? Such an over-reaching process of cultural change involves several actors: bank shareholders, management, bank staff, parliament, the government, the legal system, supervision authorities, the media, the education system, and customers. They all have in some way contributed to the present unsatisfactory situation with small or large measures of responsibility or negligence. What is important today is that all these forces are involved in a joint effort to bring in a new banking culture, acceptable to banking authorities on the one hand, and to clientele on the other. And importantly, banks themselves need to take an active role in this new cultural change centered on them.

Marco Di Antonio, in Chap. 3 “*Risk culture in different bank businesses*”, highlights that the nature of the business is one of the determinants of risk culture and can lead to subcultures in large diversified financial institutions. Key factors in explaining business-driven risk culture are the two following: Structural factors, i.e., activities performed and their embedded risks, nature, and role of customers, the economics of business; and contingent factors, such as competition, regulation, strategic orientation, etc. The former are intrinsic and quite stable characteristics of the business. The latter instead can change over time, but indirectly affect risk culture and its evolution.

Alessandro Carretta and Paola Schwizer, in Chap. 4 “*Risk culture in the regulation & supervision framework*”, support and discuss the regulatory approach to risk culture. The increasing attention to risk-taking and effective risk management requires a regulatory intervention in order to promote the inclusion of strategic choices regarding risk appetite and risk tolerance, as well as risk culture among the elements being assessed by supervisors. The challenge for supervisors is to strike the right balance between carrying out a more intensive and proactive approach, while not unduly influencing strategic decisions made by the institution’s management. On the other hand, rules alone cannot determine a final change in corporate culture. Therefore, it is essential that authorities maintain a certain distance to banks’ strategic and policy

choices in order to support the growth and consolidation of an appropriate risk culture, tailored to individual business models and corporate characteristics.

Risk culture is a fundamental element of internal governance. Doriana Cucinelli, in Chap. 5 “*Internal controls and risk culture in banks*”, outlines that corporate culture was at the heart of regulation on the internal control system since the very beginning. Regulators moved from the concept of “control culture”, stated by the Basel Committee on Banking Supervision in 1998, to “compliance culture” (affirmed in the provisions issued in mid-2000) and recently, in the wake of the crisis, to “risk culture”. Only where a bank can define and disseminate values of integrity, honesty, and attention to the risks among all levels of the organization, can the internal control system effectively achieve its objectives.

Daniele Previati, in Chap. 6 “*Soft tools: HR management, leadership, diversity*”, discusses the main theoretical and empirical findings of different streams of knowledge that are directly or indirectly linked to the role of people in establishing and changing risk culture in financial institutions. He goes *back to basics* and identifies (both theoretically and practically) some key issues and research paths integrating risk culture, people, and organization design in the financial services industry. He finally draws a research agenda for the future, stating the need for a renewal of organizational and behavioral analysis about RC.

Nicola Bianchi and Franco Fiordelisi, in Chap. 7 “*Measuring and assessing risk culture*” develop a new approach to measure risk culture at the bank level and empirically analyze the link between their risk culture measure and bank stability. Although a weak risk culture was one of the drivers of the banking crisis, there is no empirical evidence about the relationship between bank risk culture and stability. Bianchi and Fiordelisi fill this gap: focusing on the FSB framework, they provide evidence that the Tone-From-The-Top feature is the most significant component of the risk culture and this is associated to a greater banks’ stability.

Chapter 8 “*Impact on bank reputation*”, by Giampaolo Gabbi, Mattia Pianorsi, and Maria Gaia Soana, presents an empirical analysis of the impact of risk culture on financial institutions’ reputation. The authors investigate how sanctions imposed by supervisors for risky behaviors (considered as a proxy of poor risk culture) determined abnormal returns

of two Italian banks sanctioned for misbehavior. The results show that the net impact on capitalization of the banks was larger than the impact of the sole operational losses, thus detecting a reputational effect.

Vincenzo Farina, Lucrezia Fattobene and Elvira Anna Graziano, in Chap. 9 “*The watchdog role of the press and the risk culture in the European banking system*”, show the role played by mass media in controlling banks’ risk-taking behaviors and in shaping their risk culture. They construct a media attention index based on the news coverage about banking risk issues, processed through the text-analysis technique. They relate this index to the asset quality of European banks, finding a positive although weak correlation with NPLs, which could, however, be only a reflex of some specific bank episodes in various countries.

The second part of the book, “*Good practices, experiences, field & empirical studies*”, includes a set of relevant contributions on risk culture focused on the individual business areas, measurement techniques, and categories of risk. The second part of the book is composed of nine chapters.

In Chap. 10, “*Influence of National Culture on Bank Risk-Taking in the European System*”, Candida Bussoli focuses on how different cultural values across the 28 EU countries affect bank risk policies and behaviors. She finds a weaker association between culture and risk-taking in large banks than in smaller ones. The study reiterates that culture may interact with the social, economic, and political forces to produce results and outcomes. Even in globalized financial systems, the formal observance of common rules is not sufficient to ensure a proper risk management; it is necessary to consider the relief of informal institutions, such as culture, to improve financial decisions.

Discussing a similar topic, Federica Sist and Panu Kalmi, in Chap. 11 “*Risk-taking of European banks in CEECs: the role of national culture and stake vs shareholder view*”, include an ownership effect (shareholders vs stakeholders). From the point of view of branches and subsidiaries, they find lower risk-taking if the power distance dimension is low. When the autonomy of subsidiary is lesser, as, in the case of higher level power distance, the procedures for risk assessment are less flexible. The results suggest that banks with cooperative BHCs in CEECs behave in the same way as commercial banks in facing cultural characteristics of a

host country, which can likely be caused by the homogenous instability of CEECs submitted to constant reforms.

A specific case study on cultural differences among bank business models is provided by Umberto Filotto, Claudio Giannotti, Gianluca Mattarocci, and Xenia Scimone in Chap. 12 “*Risk culture in different bank business models: the case of real estate financing*”. The research focuses on the relevance of cross selling to lenders exposed to the residential mortgage market. The analysis of the lending industry during the financial crisis scenario is a useful stress test for evaluating the business model reaction driven by corporate culture. The authors compare trends in cross selling and real estate loans for a representative set of European banks and show that some banking features, including size and real estate loan specialization, may affect the link between residential real estate loans and cross selling.

A further insight into business-driven subcultures is provided by Paola Musile Tanzi in Chap. 13 “*Supporting an effective risk culture in private banking & wealth management*”. One of the biggest challenges in this area is how to comply with the rapidly evolving regulatory environment, which implies being able to invest in terms of risk culture, risk management, and risk control, while maintaining an appropriate cost-income ratio. In her view, the choice of the proper business model is the strategic starting point. It is therefore important that risk culture becomes substantial, effective and able to push all the organization to become more risk aware, without losing entrepreneurial spirit.

Gianni Nicolini, Tommy Gärling, Anders Carlander and Jeanette Hauff, in Chap. 14 “*Appetite for Risk and Financial Literacy in Investment Planning*” empirically investigate whether and how a low financial literacy influences investment decisions. A lack of understanding of financial risk might cause a negative risk attitude with the consequence for optimal investment behavior that the positive relation between risk and return is not properly taken into account. Their results confirm that a lack of financial knowledge negatively affects individual risk attitude, and may seriously bias personal investments.

Turning back to credit risk, Doriana Cucinelli and Arturo Patarnello, in Chap. 15 “*Bank credit risk management and risk culture*”, present a survey on the structure and organization of credit risk management

and on the changing role of the credit risk officer in a sample of Italian banks. Effective risk management systems represent a prerequisite for promoting risk culture in banks and spreading its principles throughout the various levels of the organization. The results demonstrate that banks have established an adequate organizational design for their credit risk management system and have implemented a proper communication system. However, smaller institutions still maintain a more simplified risk management system and, consequently, a small team dedicated to credit risk management. Nevertheless, as expected, the credit risk culture has become a core issue for many financial institutions, and as a consequence, the role of the CRO within the bank's organization is designed to bear increasing responsibilities to ensure the effectiveness of risk management and communication flows between top management and the bottom levels of the organization.

In Chap. 16 "*Credit rating culture*", Giacomo De Laurentis presents a field research aiming at measuring rating culture of banks branch officers, professionals, and managers. The results highlight that mass media promote a misleading culture even among professionals. In general, it is difficult to find an adequate knowledge of the true and critical basic concepts behind credit ratings, as well as an adequate understanding of the key processes of rating assignment, rating quantification, and rating validation related to bank internal rating systems.

Alessandro Mechelli and Riccardo Cimini, in Chap. 17 "*Accounting conservatism and risk culture*", study the relationships between accounting conservatism, measured by the price-to-book ratio, and bank solidity, i.e., the tangible common equity as a percentage of total assets. Both variables have a close relation with risk culture, and they reflect the attitude of the risk manager to select the most proper bank capital to absorb losses due to risks manifestation. The results show that banks with a solid risk culture express a lower demand for conservatism.

In Chap. 18 "*Auditing risk culture*", Fabio Arnaboldi and Caterina Vasciaveo develop an audit approach for assessing risk culture based on the 91 indicators. This chapter covers the terms of the mandate assigned to the internal auditing function by the board of directors, the perimeter of the risk culture framework, the main audit techniques aimed at evaluating risk culture and reporting structure and content.

The volume draws a picture of risk culture that turns out to be very articulate and still in rapid evolution. A “general theory” on risk culture is maybe not yet available, but the way forward has been mapped out. The concept of “good culture” has been well defined, although it has to be further developed based on the expectations of various bank stakeholders and the differences among business models. Empirical evidence should be interpreted cautiously because risk culture is a delicate and complex phenomenon. For this reason, the correct measurement of risk culture is a distant goal yet to be achieved. And the impact of a sound risk culture on bank performance cannot be unequivocally assessed. Culture can thus not yet be satisfactorily “priced”. When this will occur, the theory will step forward as well. Banks are undergoing a significant evolution of their risk cultures, being at times protagonists of this change. Awareness has increased, but all key players shall also acknowledge that a change in bank culture might be appropriate and convenient as well. Supervisors could benefit, and the financial system as well, from the attention that is being given to risk culture in banks, especially, if they find the right balance between guidelines and rules and banks autonomy in pursuing them, toward an explicit recognition, in terms of regulatory requirements, of the “cultural wealth” of the individual banks. To reach this goal, supervisory authorities must be ready to investigate their own risk culture, which represents a further key issue influencing the effectiveness of cooperation and relationships between the various regulators and supervisors and the supervised entities as well.

In conclusion, we believe that risk culture is an extremely interesting and fascinating topic affecting the future evolution of the financial system. We are confident that our book provides many answers and food for thought, it is rich in analysis and proposals, but nevertheless raises some major questions which might stimulate further debate and research efforts on the subject.

Last but not least, we would like to thank all the authors for putting an outstanding effort and passion in their work and, especially, for being so patient with us (meeting all deadlines and our requests for changes). We would like also to thank Vladimiro Marini for his great assistance in helping us to meet the editorial tasks.

Part I

General View: Theory & Tools

2

Risk Culture

Alessandro Carretta and Paola Schwizer

2.1 Introduction

Studies on corporate culture have been carried out for a long time. Corporate culture has been a popular management tool since the early 1980s and, more recently, an intense activity of research on this subject (arisen from the failure of traditional cultural models) turned cultural explanations into a more valuable asset than a simple matter of “claiming the residuals” (Zingales 2015).

In the last decades, the market saw a clear evolution of the role of banks, passed from public institutions to profit-driven private entities. A new competitive environment, in terms of actors, rules, geography, and products, produced an evolution of corporate culture in banking. In this framework,

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risk culture can be seen as a subculture with a central role in financial institutions. This Chapter provides an introduction to the concept of risk culture, focusing on its definition, importance, and effects on bank competition and financial stability. It includes an in-depth analysis of the relevant literature and of good/bad practices. This Chapter is structured as follows:

- Definition and measurement of corporate culture and its impact on corporate behaviors;
- Presentation of the scope and alternative definitions of Risk culture;
- Analysis of drivers and effects of risk culture on sound and prudent management of financial institutions;
- Discussion on main challenges in deploying an effective risk culture.

2.2 What Corporate Culture Is and Why It Matters?

Literally speaking, there are many thousands of definitions of corporate culture, all sounding subtly different. Literature often refers to corporate culture as the missing link to fully understand how organizations act (Kennedy and Deal 1982). Culture is the result of shared values, basic, underlying assumptions and business experiences, behavior and beliefs, as well as strategic decisions. Culture is much more than a management style: it is a set of experiences, beliefs and behavioral patterns. It is created, discovered or developed when a group of individuals learn to deal with problems of adaptation to the outside world and internal integration. Individuals develop a system of basic assumptions proven to be valid by past experience. Members of the same group assimilate these assumptions, which become the organization's specific way to perceive, think, and feel in relation to problems (Schein 2010). Organizational culture deals with different approaches. One takes into account external outputs: environmental, architectural, technological, office layout, dress code, behavioral standards (visible and audible aspects), official documents (statutes, regulations, and internal communication), and symbols. Such an analysis is the necessary basis for investigating principles, knowledge, and experiences that guide attitudes and behavior. These

aspects reflect the internalized core values of the organization and justify the behavior of individuals. In fact, basic assumptions which underlie actions are often hidden or even unconscious: beliefs determine the way in which group members perceive, think, feel, and therefore, act but are difficult to observe from an outside perspective (Carretta 2001).

Culture is more complex than other organizational variables: it can be extremely effective and at the same time resistant to the need for change dictated by the environment (Fahlenbrach et al. 2012). Culture is, in fact, “what you do and how you do it when you are not thinking about it”. If well governed over time, it can be the glue that holds together a company.

Culture has always been considered a key tool affecting corporate behavior, but authors do not agree on *how* this occurs. Some consider culture as a fixed effect on firm performance, while others argue that it is a variable that can be managed over time. Viewing culture as a variable is a quite recent fact, and several institutions have developed proper management tools and frameworks to measure and manage it.

The discussion is still going on, but, in principle, a culture suitable for being applied to a business formula makes a significant contribution to business performance. A suitable culture implies that people “make use” of the same assumptions and adopt behavior inspired by the company’s values; this increases the market value of the company identity. In business, the importance of maintaining behavior consistent with corporate culture needs to be constantly stressed, especially by “leaders”, at all levels of the organization. The management should always remind the staff of the underlying cultural contents and their positive impact on individual and organization performance, by setting good example and communication. According to economic literature, culture is a mechanism in such a way that makes the corporation more efficient through simplified communication and decision-taking process. From this perspective, a strong culture has high fixed costs but reduces its marginal costs (Stulz 2014).

The fact that culture can be structured as artifacts, values, and assumptions implies different levels of analysis and assessment. The purpose of analysis requires a specific level of assessment and the most appropriate methodology. However, researchers should keep in mind that the study of only the visible manifestations of culture is likely to describe “how” but

not “why” (Carretta 2001). And as noted by Karolyi, there is a fragility in the measures of the cultural values available to us (Karolyi 2015).

A number of survey methods and metrics are used, among others, by firms to investigate the mind-sets underlying culture (See Box 2.1).

Box 2.1—Measuring culture and cultural progress: Range of approaches used by firms

Employee engagement and culture survey

Most firms use annual employee engagement surveys, supplemented by culture and climate surveys or modules added to the regular engagement survey

Customer perceptions and outcomes

According to some firms, the real test of culture consists in the outcomes it generates. The focus is particularly on customer satisfaction scores, while other firms even try to test outcomes (e.g., mystery shopping or regular online panels of customers)

Indicator dashboard

Several firms use a range of indicators, sometimes consolidated into “culture dashboards”, including:

- Customers: satisfaction scores, complaints
- Employees: engagement scores, speaking up scores, turnover, absence rates, grievances, use of whistleblowing lines
- Conduct and risk: conduct breaches, clawbacks, material events, and escalations

Validation

Firms use a range of methods to validate progress or performance and confirm understanding:

- Consultancy firms’ benchmarking exercises
- Other external benchmarks
- Internal Audit assessments
- Triangulation across various data sources, e.g. staff and customer surveys

Source Adapted from Banking Standards Board (2016)

In academic literature, there are some relatively well-established approaches to measuring culture. Qualitative methods are the ethnographic analysis and the case study, which allow an in-depth investigation, but at the same time limit the comparability of results.

According to Schneider (2000), direct observation is the only way to understand culture, since many of its aspects are silent. In addition, people within an organization are not aware of how many assumptions affect their behavior and take for granted that it applies to everyone in the sector. Furthermore, cognitive beliefs of researchers may influence their evaluation capacity. As a consequence, a problem of objectivity prevents the possibility for other researchers to replicate the analysis and confirm its results.

On the other hand, quantitative methods use standardized approaches of analysis through statistical tools. These methods do not provide in-depth observations but are more objective and allow the comparison of different situations.

The goal should be to create a homogenous method within organizations or groups of intermediaries, capable of reflecting the needs of companies and of the environment. This would result in a comparable approach compliant with the regulatory environment. Quantitative methods have been primarily used to evaluate culture indirectly, by observing developments in risk governance and the link between risk governance and the company's risk-return combinations (Ellul and Yerramilli 2013; Lingel and Sheedy 2012; Aebi et al. 2012).

A new and dynamic environment, in terms of actors, rules, geography, and products has produced an evolution of corporate culture in the banking sector. In the last century the market saw a clear evolution of the role of banks, passed from public institutions to profit-driven private entities. For some countries, this shift was very difficult and driven by an incisive, market-oriented intervention by regulators, especially in Europe, where the final goal was the creation of a common market. Prudent regulation has increased the range of banking services offered and, indirectly, competition. In order to prevent excessive risk-taking, the Basel Committee has promoted the "self-regulation" of intermediaries, setting up a system of internal controls and a new compliance function. The new culture of supervisors is based on the collaboration with banks and this relationship may have positive effects in terms of bank performances (Carretta et al. 2015). The financial behavior of families and firms, traditionally the main banking clients, has also undergone rapid changes. Family propensity to save has decreased. Families today

tend to invest more in financial instruments inside or outside their home countries, while firms are adopting new forms of financing, by acting directly on the capital markets.

These underlying shifts demonstrate the importance of studying the effect of corporate culture on banks' performance and competitiveness. The literature on banking culture focuses on the existence of a specific culture and on how it reacts to the new paradigms, showing that culture creates value in firms, and especially in banks. In an ever-changing market, credit supply and screening remain the most important activities undertaken by banks and represent a basic know-how. This comes from experience and the «mutual commitment based on trust and respect» (Boot 2000), which are the expression of a specific bank's culture.

In some cases, culture in the financial institutions has demonstrated the ability to integrate companies' know-how and new market opportunities. For example, the entry of banks into the insurance business was difficult, due to limited experience with sophisticated products. On the other hand, insurers had limited experience with bank retail client requirements. The problem was solved through successful strategic alliances in which banks used their distribution capacity and insurers developed simpler products. Culture has also driven the creation of new approaches to answer increasing competition. A “culture of distribution” has replaced the pre-existing “culture of production”. Due to this change, management has shifted the focus from an efficient service development towards an effective selling system. This new perspective is centered on creating unique and personalized conditions to attract the highest possible number of clients.

In the new context, culture is a resource rather than a limitation. If adequately taken into consideration, it can ensure the success of complicated events such as mergers and acquisitions. The “one size fits all” solution is not valid anymore, and despite cultural integration is never easy, effective management is the only chance to make it successful (Carretta et al. 2007). Part of the literature considers culture as a static element to be developed only in the long-term, but many authors and practitioners highlight that culture may be used in order to improve firm performance and stability. Nowadays, it is particularly difficult to

develop and implement a strategy due to the intrinsic variability of the market, with controls becoming increasingly complicated due to a wider range of bank activities and functions. In this context, culture can create shared values to drive individual behavior in pursuing the organizational strategy and assisting the role of internal controls.

To conclude, a specific corporate culture exists in the banking sector and literature shows that, in specific contexts, it can change and help bank stability. Empirical studies confirm it (Carretta 2001): positive relations with the environment are linked with an open culture. Banks have overcome their previous specialization, developing various new internal competences: integration, teamwork, and interpersonal relations are the base for a new model of leadership. However, the results also show that this new culture is not yet widespread.

2.3 Risk Culture: Scope and Definition

The Oxford Dictionary defines risk as a situation that involves exposure to danger. Particularly dangerous exposure is called bad risk. But banks, as well as any other firm, have the same opportunities to take risks of an ex ante reward on a stand-alone basis. This risk is being called “a good risk”. One might be tempted to conclude that good risk management reduces the exposure to danger. However, this view of risk management ignores the fact that banks cannot succeed without taking risks that are ex ante profitable. Consequently, taking actions that reduce risk can be costly for shareholders when lower risk means avoiding higher risk valuable investments and activities. Therefore, from the perspective of shareholders, valuable risk management does not reduce risk in general, since reducing risk would mean not taking on valuable projects. If good risk management does not mean low risk, then what does it mean? How is it implemented? What are its limitations? What can be done to make it more effective? (Stulz 2014). These questions can be answered by looking at the concept of risk culture.

Some authors define risk culture (RC) as an element of corporate culture; it is what in the culture relates to risk (Power et al. 2013). It is a product of organizational learning concerning what has or has not

worked in past investments and procedures of a financial institution (Roeschman 2014). RC could be seen as a subculture with a central role in financial institutions. In fact, the culture of an organization is neither unique, nor uniform throughout the company (Schein 2010). The growing complexity of operations, roles, and activities performed by firms produces different subcultures at all levels of the organization; for example, the point of view on the environment taken by the risk management department can substantially differ from that taken by the business line. In this case, RC interacts with dominant corporate culture and subcultures to ensure a continuous balance between the need for integration and the opportunity for differentiation of these two perspectives. This balance is the basis for the adaptation to the environment and for business changes. Box 2.2 presents a selection of the existing definitions for RC in financial institutions; the main ones are by FSB, Institute of International Finance (IIF) and Institute of Risk Management (IRM). These institutions use concepts that are widely used in literature to define corporate culture, such as values, norms, ethics, and traditions. The FSB and IIF definitions are very similar; in fact, both define RC as norms and behavior related to how individuals identify, understand, discuss (risk awareness), and act (risk-taking and management) concerning the risks. The IRM definition, on the other hand, refers to values and beliefs, and is in line with previous literature, which asserts that *basic assumptions* (beliefs) are at the heart of culture (Schein 1990).

Box 2.2—Risk culture definitions

Risk culture can be defined as the norms and traditions of the behavior of individuals and of groups within an organization that determine the way in which they identify, understand, discuss, and act on the risks the organization confronts and the risks it takes (*Institute of International Finance 2009*).

«A bank's norms, attitudes, and behavior related to risk awareness, risk-taking and risk management and controls that shape decisions on risks. Risk culture influences the decisions of management and employees during the day-to-day activities and has an impact on the risks they assume» (*Financial Stability Board 2014; Basel Committee 2015*).

«Risk Culture is a term describing the values, beliefs, knowledge, and understanding about risk shared by a group of people with a common

purpose, in particular, the employees of an organization or of teams or groups within an organization» (*Institute of Risk Management 2012*).

«Barclays risk culture is the set of objectives and practices, shared across the organization, that drive and govern risk management (*Barclays PLC*).

Number of levers are used to reinforce the risk culture, including tone from the top, governance and role definition, capability development, performance management and reward» (*Lloyds Banking Group*).

«Risk culture is characterized by a holistic and integrated view of risk, performance, and reward, and through full compliance with our standards and principles» (*UBS*).

«It can be defined as the system of values and behavior present throughout an organization that shapes risk decisions. Risk culture influences the decisions of management and employees, even if they are not consciously weighing risks and benefits». (*Farrel and Hoon 2009*)

«The behavioral norms of a company's personnel with regard to the risks presented by strategy execution and business operations. In other words, it is a key element of a company's enterprise risk management framework, albeit one that exists more in practice than in codification» (*Smith-Bingham 2015*).

«Risk culture encompasses the general awareness, attitudes, and behavior of an organization's employees toward risk and how risk is managed within the organization. Risk culture is a key indicator of how widely an organization's risk management policies and practices have been adopted» (*Deloitte Australia 2012*).

Concluding, RC is composed of underlying assumptions and the way they turn into norms, values, and artifacts. Not all assumptions are relevant, but only those about risk or, more precisely, those that affect «the way in which they identify, understand, discuss, and act on the risks» (*IRM 2012*). So, RC is related to «risk awareness, risk-taking and risk management, and controls that shape decisions on risks», which act at all levels of the institution «during the day-to-day activities and have an impact on the risks they assume» (*FSB 2014*).

2.4 Risk Culture: Drivers and Effects

First of all, RC depends on national culture and environment. As far as culture is concerned, some countries are more homogeneous than others, even though sometimes, areas having a similar culture are part of

different nations. Despite these limitations, comparing national cultures is still a meaningful and revealing venture and has become part of the main social sciences. Research by Hofstede has shown that national cultures differ particularly at the level of habitual, unconscious values held by the majority of a population. According to Hofstede, the dimensions of national cultures are rooted in our unconscious values. Provided that these values are acquired in childhood, national cultures are remarkably stable over time; changing national values is a matter of generations. Instead, practices change in response to the changing circumstances: symbols, heroes, and rituals change, but underlying values are largely untouched. For this reason, differences between countries have such a remarkable historical continuity.

Similarly, culture is very much a product of the environment (Lo 2015). The International Monetary Fund has published empirical evidence covering about 50,000 firms in 400 sectors in 51 countries, according to which firms operating in countries characterized by lower aversion to uncertainty, greater individualism and sectors with a strong opacity of information such as the financial world have a more aggressive risk culture, and “even in a highly-globalized world with sophisticated managers, culture matters” (Li et al. 2013). Furthermore, these aspects will be discussed in the following subsections: the impact of regulation and its underlying culture (Carretta et al. 2015), as well as supervision pervasiveness of a company’s risk culture (Power et al. 2013). In the financial system, supervisors and supervised parties can collaborate in order to improve the culture of risk, fully aware that it is a sensitive area requiring time and resources (Senior Supervisors Group 2009; Group of Thirty 2008).

Culture directly impacts on corporate risk-taking not merely through indirect channels such as the legal and regulatory frameworks (Mihet 2012).

Risk culture also impacts on characteristics and behavior of a firm and at the same time is an expression of them. Over time (Fahlenbrach et al. 2012), it can regulate the possibility for businesses to adapt to the changing environment, but it may also change if it is no longer able to solve an organization’s problems (Richter 2014). Therefore, it will only affect the role of risk management in the organization; even in case of highly sophisticated and formalized risk governance,

risk culture is still in charge of deciding which rules and behavior are important (Roeschmann 2014; Stulz 2014). As a mechanism of control over behavior, risk culture can impact on results, and if it is strong and in a stable environment, it can become more persistent over time (Sørensen 2014).

The organization is perhaps the “elementary unit” for the analysis of culture (Carretta 2001) and risk culture, but the individual is the unit in terms of personal integrity and propensity towards risk. High levels of perceived integrity are positively correlated with good incomes, in terms of higher productivity, profitability, better industrial relations, and a higher level of attractiveness to prospective job applicants (Guiso et al. 2015), but individual behavior appears to be influenced by both context and professional identity which, once more, confirm the key importance of the organization (Villevall 2014).

Obviously, risk culture can appear in different forms as subcultures, or even conflicting countercultures, in the following areas: type of risk (i.e., credit or market), business functions and families in which it develops, prevailing business models, roles in bank’s overall corporate governance (i.e. shareholders, board of directors, management, and auditors).

Subcultures may exist depending on the different contexts within which parts of an institution operate (See Box 2.3). However, subcultures should adhere to the high-level values and elements that support an institution’s overall risk culture. A dynamic balance is required between the value generated by the differences in risk perception and that generated by a unitary risk approach.

Box 2.3—The Macquarie University Risk Culture Scale

The Macquarie University Risk Culture Scale was used to assess the culture in 113 business units across three large banks, two headquartered in Australia and one in North America.

The main findings were as follows:

- Strong risk culture was generally associated with more desirable risk-related behavior (e.g., speaking up) and less undesirable behavior (e.g., manipulating controls).
- Personal characteristics were also important. Long-tenured and less risk tolerant employees, and employees with a positive attitude towards

risk management were more likely to display desirable risk-related behavior. Those with high personal risk tolerance were more likely to display undesirable risk-related behavior.

- Good risk structures (policies, controls, IT systems, training, and remuneration systems) appeared to support a strong culture and ultimately a less undesirable risk behavior. Good risk structures did not by themselves guarantee good behavior. Early results suggested that structures such as remuneration were interpreted through the lens of culture.
- Senior staff tended to have a significantly more favorable perception of culture than junior staff. This highlighted the importance of anonymous and independent risk culture assessments where staff felt safe to reveal their true beliefs.
- There were statistically significant differences between the risk cultures of the three large banks analyzed.
- The majority of business units assessed (more than 95% of 113) had an internally consistent perception of culture, namely, there was a strong or obvious culture in the unit (i.e., not just the perception of an individual but a quality of the group). However, it should be noted that there might have been agreement on the fact that culture was good or poor.
- The most significant variation in risk culture scores occurred at the business unit level and seemed to be driven by the local team environment. This was consistent with the hypothesis that culture was a local construct highly dependent on interactions with close colleagues and immediate managers.

Source Adapted from Elizabeth Sheedy and Barbara Griffin, Empirical Analysis of Risk Culture in Financial Institutions: Interim Report, Macquarie University, November (2014)

2.5 Change and Challenge: Deploying an Effective Risk Culture

Risk culture is not a static thing but a formal and informal process continuously repeating and renewing itself. Risk culture, as well as corporate culture, evolves over time in relation to the events that affect an institution's history (such as mergers and acquisitions) and to the external context within which it operates.

Building a sound risk culture is a collective process, not simply a matter of improving technical skills. Risk culture shall be a part of a business and not simply of the supervision, which is not necessarily a good proxy. Therefore, it concerns decisions and actions on a daily basis, such as the way information is shared, the people being asked, when something went wrong, the capacity to represent risk inside the organization and the understanding and correct use of documents. It also includes what “worked” in the past. With the changing of both external and internal conditions, culture too changes along with a strategic change (See Box 2.4). Obsolete business culture is an obstacle to improving performance.

The Group of Thirty (2015) states that culture and behavior in today’s financial systems and institutions are inadequate. An important finding is that a suitable culture, with particular regard to risk, is not a critical success factor but is displayed only to meet the expectations of a public, customers or norms at particular times. It is not central to governance organs or senior management. It is not sufficiently rewarded in performance management and does not feature in bank personnel training. It does not dialogue with three lines of risk defense, (business, supervision and risk management, auditing). In the United Kingdom, the Banking Standard Board has been set up by seven big banks in response to the findings of a Parliamentary Commission. The Board aims to raise and spread behavioral standards inside the British financial system, thus contributing to the «continuous improvement in bank behavior and culture».

Box 2.4—“Using” culture

Although its influence on firm behavior has long been clear, culture has only recently been discovered as a dependent variable of planning by management literature. In theory, culture suited to the type of enterprise can make a significant contribution to firm success. This means that people “make use of” culture, that their behavior is inspired by company values, and that they have communicated company values to the market, emphasizing the positive aspects of its culture (Hofstede 1983). It is necessary for the “bosses” at all levels to continuously emphasize

the importance that behavior adheres to company culture, repeat and strengthen its basic contents and remind people that it has a positive impact on people and company performance.

The main changes since 2008 in the risk culture scenario are enforcement in legislation, growth of the risk function, introduction of balanced scorecards replacing sales staff performance indicators, shift in focus from compliance to conduct, and culture becoming a board issue (Cass Business School 2015).

So how can a renewed culture be fully developed and spread in a bank today?

Theory and cross-industry experiences clearly demonstrate that three mechanisms are critical for achieving the cultural transformation of the banking sector. (1) Changing the culture of a complex organization like a bank is possible, but difficult and requires the awareness of the need for change, many resources, and a long time. In fact, relationships between management actions and culture are not necessarily linear, as there are multiple, complex issues relating to proportionality and accountability of individuals versus institutions that require consideration by enforcement agencies (Group of Thirty 2015). A major improvement in culture can be secured by focusing on values and conduct, which are the building blocks of culture. (2) Change necessitates a systemic approach to all subjects involved, by taking into account their mutual roles. A sustained focus on conduct and culture shall be carried out by banks (board and management), and the banking industry. All is needed to make major improvements in culture within the banking industry and individual institutions (Group of Thirty 2015). Addressing cultural issues must of necessity be the responsibility of the board and management of firms. Supervisors and regulators cannot determine culture, but the former has an important monitoring function. (3) In order to be successful, the new culture has to be profitable and create real value for all subjects, institutions, and individuals which present forms on their own motivations explaining their possibly diverging behavior (Lo 2015). The effect of all this should be the creation of a competitive advantage for firms with better cultures and conducts, with respect to client reputation and the ability to attract staff

and investors. Banks will only succeed if they accept that culture is core to their business models and if they decide that fixing culture is key to their economic sustainability (Dickson 2015).

The assessment of a bank's risk culture and the perception of its possible distance from a culture that can be considered adequate to context, business model, and government requirements are matters for the individual bank according to its characteristics. In fact, there is no doubt that risk culture is widely inadequate today and that there is a need to move from "form to substance". The attitude "I have complied with the regulations" needs to be replaced by "I have done everything possible to prevent and resolve problems". Just because it is legal it does not mean that it is right (See Box 2.5).

Box 2.5—Measures to reduce misconduct risk

Codes and standards of conduct have been in place across the industry for some time. The issue was not the development of codes or standards, but their effective implementation and enforcement across diverse business lines and jurisdictions. Official sector and private sector representatives noted that the effective implementation of conduct risk management involves fundamental changes in culture and behavior across the industry, involving firms and market stakeholders. Such changes take time.

Critical implementation challenges include:

- Integration in business decision-making. The integration of behavior and ethical considerations in business decisions (which could involve limiting or withdrawing from certain transactions or businesses) challenges the "prevailing consensus" on success; other stakeholders, including a firm's customers and shareholders, may need to be involved in supporting these changes.
- Consistency of messages and action. The "tone at the top" is not always supported by consistent actions that demonstrate that conduct and ethical considerations visibly determine hiring, promotions, professional standing, and success. This requires coordinated engagement of all parts of the organization; ethical and behavior considerations cannot, therefore, be segregated into compliance or human resources functions. Ensuring that senior level employees take responsibility for driving forward changes is important to success.
- Cross-border and cross-cultural issues. Supervisors, clients, and stakeholders have different expectations and perspectives of the role of financial services providers. As such, approaches to conduct risk management, as well as rules relating to permissible incentives regarding conduct, differ across jurisdictions. These differences pose challenges

for global firms seeking to establish consistent expectations across the institution.

- Common taxonomy for conduct risk. The integration of conduct risk in all aspects of a firm's business, in a manner that is consistent across the industry, requires the development of a consistent set of definitions, methods of assessment, and measurement of conduct risk. These risks vary across product lines and may vary with the organizational structure of businesses within firms.
- Grey areas. Actions that are not "illegal" but which, under particular circumstances, could be inconsistent with a firm's values are sometimes difficult to address because they are often dependent on facts and circumstances. Frontline employees are often called upon to exercise their discretion in fulfilling customer requests; these decisions are sometimes complex and can vary across business lines. Under these circumstances, it is difficult to make prior determinations on the best course of action or to define clear boundaries. Firms need to develop frameworks to address these questions in a consistent manner. A visible institutional leadership in resolving and sanctioning a weak management of conduct risk will be important. Engaging business lines in cooperative approaches to identifying conduct risk such as "reporting in the public interest" may help overcome limitations of "whistleblowing" approaches, which risk putting employees and the institution on opposite sides. It was however noted that there was a significant amount of regulation and case law in existence which should help give firms clarity on what constituted a breach of regulation or law.
- Role of directors. While board oversight of conduct risk is critical to the strengthening of conduct risk management, an appropriate balance should be established between the accountability of individual executives and the board, in particular, NEDs. It was acknowledged that boards are facing increased pressure and that there may be a risk that this could potentially create disincentives for experienced and qualified experts to serve on them.

Source Adapted from Financial Stability Board (2015)

A process of cultural change is ambitious as it involves many players. It is the case that bank shareholders, management, bank staff, parliament, government, legal system, supervision authorities, media, education system, and customers are responsible for the current unsatisfactory situation to various degrees. What matters today is that all

these forces are involved in a common effort to promote a new banking culture shared by both banking authorities and clientele. And, importantly banks themselves shall play an active role in this new cultural change.

Risk culture is a sensitive area and cannot be dealt with on the single dimension of lowering risk propensity by strengthening supervision. The most fundamental issue in the risk culture debate is the trade-off between risk-taking and control (Power et al. 2013).

As reported in the Financial Times, the CEO of UBS recently commented that: “Mistakes are ok... try to eliminate all risk-taking and threaten to punish all mistakes and the ensuing culture of fear will limit the pursuit of legitimate business.” The controversy caused by these comments showed that seeking to completely eliminate risk, which after all underpins all financial intermediation, is unrealistic. Instilling into the personnel the fear of making mistakes can only lead to immobility. In the context of a robust and sound culture of risk, mistakes are a management tool and need to be explained in detail for a correct balance between risk-taking and the maintaining of an appropriate level of control. “Bad apples” in a bank shall not be allowed to take the blame for specific behavior which reflects a weak risk culture. Rather than a lack of personal integrity or a “natural” tendency towards dishonesty, non-compliant behavior is, in fact, the outcome of exogenous environmental and company factors which deform the sound conversion of individual values into behavior and actions, which, in other words, reflect a firm’s unsatisfactory risk culture. An experiment recently performed on a sample of bank managers compared with other sectors aiming to test their propensity to lie yielded interesting findings. The propensity to lie is similar in different sectors and in normal conditions, but rises significantly for managers, whose work environment (in this case the bank) is mentioned (Cohn et al. 2014).

Risk culture is definitively 100% compatible with risk-taking and profit-making. A sound risk culture helps ensure that activities beyond the institution’s risk appetite are recognized, assessed, escalated, and addressed in a timely manner (Dickson 2015).

2.6 Conclusions

Culture matters. Risk culture is essential for a prudent and sound bank management, and needs to be central in any evaluation. Risks are an inherent aspect of bank function and are taken, transformed, and managed with competence and professionalism. In this sense, risk culture is central to banks and has an impact on risk-taking propensity and policies, types of risk assessment/performance ratio and final decisions. The behavior of banks and their personnel are a direct expression of risk culture.

Banks must develop their risk culture beyond regulatory guidelines, in order to support their corporate strategy and strengthen their core skills, and turn risks into opportunities. They are required to commit, to more effectively improving their culture. The banks which are successful at doing this with consistency, awareness, and determination in strategic decisions will raise and consolidate their market reputation.

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3

Risk Culture in Different Bank Businesses

Marco Di Antonio

3.1 Introduction

In this chapter, we will discuss the relationships between business and risk culture in financial institutions, particularly in banking.

Organisational culture is a complex construct. There are many factors that affect it. Some of them are shared by all the employees and lead to homogenous patterns of behaviours. They are unifying factors, such as the history of the firm, the country in which it operates, the market environment, the ownership model and the regulation. Other factors come from individual and group cultures and operate as differentiating factors. If they are shared by a significant group of persons inside the firm, they create what are called “subcultures”: functional cultures, regional cultures (in firms geographically diversified), professional cultures, business cultures (in firms strategically diversified).

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The nature of the business in which the firm operates is one of the main determinants of the organisational culture. Every business faces specific regulatory, competitive and economic problems and the employees strictly interact and develop successful ways to deal with them. If the firm operates in one single business, the business culture acts as a unifying factor. On the contrary, in the case of diversified, large and complex financial institutions, business culture works as a differentiating factor.

The scientific literature on this topic is poor, peripheral and we didn't find any systematic work on the subject. There are many studies on corporate culture and risk culture, without a specific reference to businesses and related differences. In the aftermath of the financial crisis, research centres, professional associations, consultancy firms and regulators have studied the risk culture of financial institutions. Often these inquiries refer to specific businesses; some of which regard single categories of financial intermediaries (Spicer et al. 2014; Salz Review 2013; Protiviti 2012; Ware and Robinson 2011). All these studies are descriptive and do not deal with the topic in a systematic way.

The research on organisational subcultures gives a helpful framework to study business culture (in diversified financial institutions, business culture may be defined as a subculture). It is possible to make a distinction between three organisational cultures: (a) those which are cohesive and unitary, or *integrated*, (b) those which are a collection of subcultures, or *differentiated*, and (c) those which are *fragmented*, ambiguous and open to members' multiple interpretations (Martin 1992).

Boisner and Chatman (2003) underline how organisational subcultures may be based on different sources: membership in various groups, such as departments, workgroups and teams; levels of hierarchies, such as management versus support staff; professional and occupational affiliations; physical location in the organisation; socio-demographic categories, such as sex, ethnicity, age or nationality; informal groups like those formed by friendships; and performance-related variables such as organisational commitment and work performance.

Schein (1988) makes a distinction between pivotal values and peripherals values. The former are central to an organisation's functioning and are shared by all employees. The latter are not essential and can be rejected by some parts of the firm. The subcultures share pivotal, but not peripherals values; the countercultures refuse also the former ones.

Tushman and O' Reilly (1997) explain how subunits can espouse some values that are fundamental for them but peripherals for the organisation, and at the same time, they can accept the core pivotal values.

Another problem in this area of research is the lack of quantitative data. It is very difficult to measure risk culture, and we did not find any statistical analysis about the relationship between risk culture and businesses. We are forced to rely on anecdotal evidence, case studies, qualitative self-evaluation by the practitioners (as in the case of surveys conducted by consultancy firms).

When exploring business risk culture, there are two main lines of research. The first one regards the characteristics of business risk culture, the second one is about the coexistence of different business risk cultures in the same organisation. Under the first point of view, the research questions are the following:

- Does a peculiar risk culture exist for every single business? Is the nature of the business one of the drivers of organisational risk culture?
- More specifically, what are the business-related determinants of risk culture?

The second line of research regards the study of diversified financial institutions. The relationship between the different business cultures can vary according to alternative models: an integration-model where the bank tries to form a common culture across different businesses; a fragmentation-model where businesses are kept separate and their different risk cultures coexist; a conflict-model where the different cultures fight to get leadership and become the dominating and integrating culture (in this last case, other business cultures can survive as subcultures). On this topic, the relevant research questions are the following:

- Is the coexistence of different business risk cultures possible inside the same organisation? When? What are pros and cons?
- On the basis of which factors does a business risk culture become dominant over others?
- Does a best model to manage different business subcultures exist? If so, is it integration, fragmentation or domination? What are the relevant factors to consider in order to make this choice?

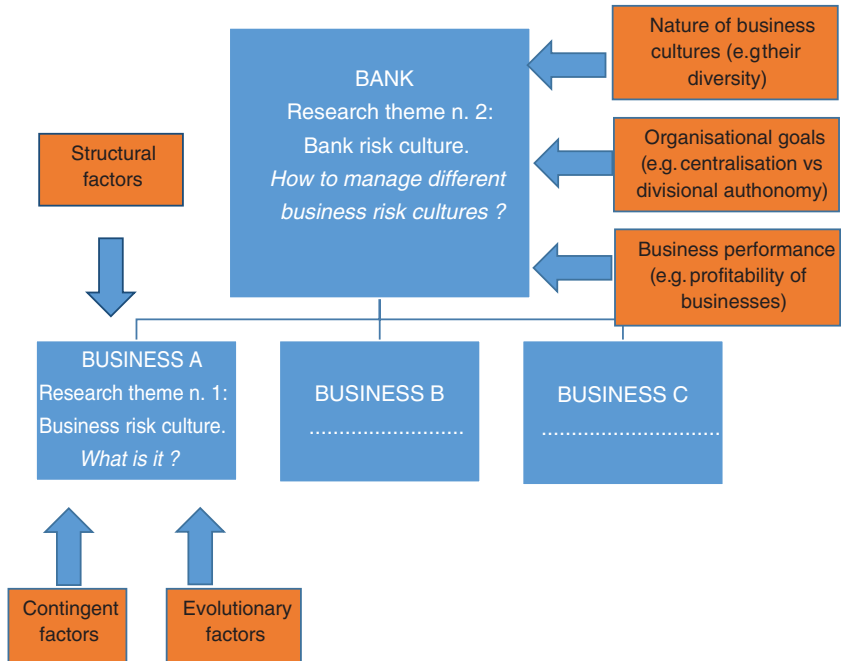


Fig. 3.1 A conceptual framework for studying business culture

The two lines of research, the categories of relevant variables and their connections are shown in Fig. 3.1 (for its comment, see § 3.2.).

In the present contribution, we will follow the first line of research. This choice is motivated both by editorial standards (length limits of every chapter) and by theoretical sequence (first, one needs to define the business cultures, and only after one is able to discuss how to manage their relationships).

The aims of the present chapter are:

- to present the available quantitative and qualitative evidence on business risk cultures (descriptive aim);
- to provide a conceptual framework, helpful to systematically investigate business risk cultures and to understand their main differentiating factors(theoretical aim); the lack of data does not allow at the

moment, to test the validity of the linkages between these factors and business culture, or to estimate their relative importance.

3.2 Introductory Concepts

Before starting our analysis, it is helpful to make clear some basic concepts and definitions about risk culture. We will discuss three issues: the relationships between corporate culture and risk culture, the definition of risk culture and the components of risk culture.

First, we consider risk culture as being a part of the general organisational and business culture. The corporate culture shapes the beliefs, attitudes and behaviours in all the different aspects of organisational life: purpose of the firm, performance, external relationships with customers and suppliers, internal relationships between units and individuals, risk, etc.

Second, we define risk culture as: “A bank’s norms, attitudes and behaviors related to risk awareness, risk taking and risk management and controls that shape decisions on risks. Risk culture influences the decisions of management and employees during the day-to-day activities and has an impact on the risks they assume” (FSB 2014; BCBS 2015). Or, alternatively: “Risk culture can be defined as the norms and traditions of behavior of individuals and of groups within an organization that determine the way in which they identify, understand, discuss, and act on the risks the organization confronts and the risks it takes” (IIF 2009).

Together with organisational rules and controls, the risk culture determines the effective capacity of the decision makers to understand, evaluate and manage risk.

Risk culture is a neutral theoretical construct; every organisation has a risk culture, the content of which may be different.¹ The risk can be viewed in a negative or in a positive way, as a problem to avoid or as an opportunity to get. Often, when we talk about risk culture, what we mean in reality is a “healthy risk culture” or “sound risk culture” (FSB 2014, p. 1) or “risk intelligent culture” (Deloitte 2012). In this case, the general construct is qualified with some prescriptive attributes, through

a process of judgment/evaluation. A healthy risk culture can be defined as a culture which: (a) it is aware of the risk and gives adequate attention to it and (b) orients organisational behaviours towards the optimal management of risk, in line with the objectives of the firm (risk appetite).

In this perspective, it is necessary to distinguish between a healthy risk culture and risk avoidance. The former aims to optimise the taking and the management of risk, not necessarily to minimise it.² A healthy risk culture favours the right setting of risk objectives, their sharing by all the personnel, an effective risk management, as well as a continuous and careful monitoring of the risk.³

Risk aversion is not synonymous of healthy culture, as demonstrated by too bureaucratic and conservative financial institutions, with a sluggish performance. In fact, they put at the centre of their values not the risk, but the controls and the compliance with procedures. They have, as a dominant culture, a “control culture” or a “compliance culture”, not a “risk culture”.⁴ Chase Manhattan Bank in the 1970s and 1980s is an example of this (Rogers 1993). The bank had a very risk-averse culture: it was bureaucratic, conservative, paternalistic, “gentlemanly and polite”; it refused conflicts, protected senior managers from bad news, was fearful of mistakes and hampered internal communication. This culture resisted to market changes and worked as an obstacle to the necessary adaptation of the bank. Maybe it helped to contain credit and market risks, but it generated a very high competitive risk and led to the decline of the bank.

At the opposite side, normally the risky businesses (e.g. insurance, securities underwriting and trading) have a strong risk culture. Investment banks introduced the advanced methods in risk measurement and risk control. Nevertheless, they assumed excessive risks in the years before the financial crisis and some of them failed or were bailed-out. Was it a problem of an unhealthy risk culture? Were some cultural artefacts advanced (risk management tools) while the risk culture was weakening? Or, differently, were these banks aware of the risks taken,

Table 3.1 The components of risk culture—A model of the three risk cultures

Type of risk	Domain	Subjects affected	Negative effects	Examples
Productive risk	Operational/ technical/ functional	Shareholders	Economic losses	Credit risk, counterparty risk, market risk, interest rate risk, insurance risk, liquidity risk, foreign exchange risk, operational risk
Customer risk ⁵	Ethical/com- petitive	Customers	Loss of reputa- tion, loss of customers	Mis-selling of financial products, lack of transparency, conflict of interest
Compliance risk	Legal	Public interest	Fines and sanctions, loss of reputation	Market manipulation, rigging of market benchmarks, fraud, money laundering, tax evasion

but their tools went wrong and undervalued risks? Was it a problem of culture or a problem of organisational instruments?

Third, for what concerns the components of risk culture, it is helpful to distinguish three main categories of risk (see Table 3.1).

Risk culture must be sound under all three aspects quoted in the table above. For example, the risk culture of some investment banks was healthy on the productive side (supported by advanced risk management systems), but flawed on ethics and on treatment of

customers. Moreover, the “mix” of strengths and weaknesses, along the three different kinds of risks, might be different in different businesses.

As an example of the usefulness of the three risk cultures model, we quote the empirical work of Cohn et al. (2015), which showed how bank employees took significant less risks in their investment choices when their professional identity was reminded to them. They invested more than 20% less in the risky assets, relative to the control group. Moreover, this risk aversion was higher for employees from core business units, i.e. those who worked as traders, investment bankers and wealth managers. These findings, therefore, contradict the conventional thinking that the culture of the banking industry encourages its employees to take higher risks. But the same employees, when their professional identity was made more salient, were ready to increase their earnings by behaving dishonestly (Cohn et al. 2014). “As the willingness to cheat and break rules for the sake of personal benefit could also be a potentially important determinant of excessive risk-taking, the combined results of both studies raise the question whether the problem of excessive risk-taking is associated with a problematic ‘ethical culture’ rather than a problematic risk culture” (Cohn et al. 2015).⁶

Another problem, in studying risk culture in financial institutions, is the difference between *espoused values* (what we say we do) and *practiced values* (what we actually do). The former are found in formal documents such as cultural manifestos, mission statements, codes of conduct. The latter reside in the heart and the brain of employees, and guide their behaviours. In the case of British retail banks, the values most quoted in official documents were customer centricity, transparency, integrity, benefit for the community and simplicity. Only one bank (Virgin Money) talked about making “fair but non excessive” profit. Unfortunately, the actual values that led the decision-making of managers and employees were quite different: “an aggressive sales culture which rewarded staff for aggressively promoting financial products, irrespective of risk and customer needs” (Spicer et al. 2014, p. 9).

3.3 Business Risk Culture: Are Business Risk Cultures in the Financial Sector Different? Why? How?

3.3.1 Does a “Business Risk Culture” Exist?

In recent years, the financial system has got through a difficult situation: excessive risk-taking and increase in credit, market and operational losses, growth in mis-selling and regulatory breaches, consequent rise in fines and worsening of reputation. These problems are not uniformly widespread, but depend on geography and businesses.

A Deloitte survey (2013) shows that in the banking industry the perception of cultural problems is higher for US and British banks than for Asian banks (European banks are in the middle). As far as the business is concerned, the situation is worse for investment banks, followed by universal banks. On the contrary, for retail banks and mutual banks (building societies and their equivalents), the cultural weaknesses seem to be lower.

Also, anecdotal evidence and case study analysis (see below, §4) demonstrate how the risk culture is strongly affected by the business in which the banks operate. A report from The Economist (The Economist Intelligence Unit 2013) lists the top ten fines incurred by banks in the USA, from 451 million dollars for Barclays (Libor manipulation) to 1.9 billions for HSBC (money laundering lapses). In all cases, the institutions involved are large and complex universal banks or investment banks. These kinds of banks show significant ethical weaknesses.⁷ Almost three-quarters (71%) of investment bankers interviewed in the survey think that career progression would be tricky without being “flexible” over ethical standards; instead, the average value for the total sample is 56%.

These evidences seem to confirm that in the forging of risk culture the nature of business matters. We expect business risk cultures to be different under three aspects: (a) importance, i.e. the attention given to risk and its role in organisational culture; (b) trade-off between return

and risk, i.e. the risk appetite and (c) nature of risks that are peculiar to the business, e.g. credit risk in commercial banking versus market risk in trading versus reputational risk in private banking.

The link between risk culture and business is also acknowledged by the regulator: “Supervisors should consider whether an institution’s risk culture is appropriate for the scale, complexity, and nature of its business and based on sound, articulated values which are carefully managed by the leadership of the financial institution” (FSB 2014, p. 2).

3.3.2 What Are the Determinants of Business Risk Culture?

We propose a general framework helpful to analyse in a systematic way the more relevant determinants of a business risk culture (see Fig. 3.1). We have selected the factors that are more strictly linked, directly or indirectly, to the nature of the business.⁸

We group these drivers in three general categories: structural, contingent and evolutionary factors.

Put in a simple way: business risk cultures are different because businesses are different (structural factors) and are exposed in different ways to some external factors affecting risk culture (contingent factors). Moreover, because of the changing of the contingent factors, business risks evolve through the time; they become more similar or more different (evolutionary factors).

3.3.2.1 Structural/endogenous factors

The first determinant of business risk culture is the nature of the business itself. Without pretending to be exhaustive, we list below some of the business-driven factors that affect risk culture:

- *the activities performed and their embedded risks*: Different activities imply risks that are different under many aspects: (a) nature, e.g. commercial banking is linked to credit and liquidity risks, asset management to reputational risk, trading to market risk, (b) time

horizons, e.g. market risk is very volatile and short-term, while credit risk is a medium term risk, (c) effects on financial results, e.g. productive risks generate economic losses of various intensity, conduct risk causes a loss of customers and compliance costs, and liquidity and reputational risks can rapidly lead to the failure of the institution. In the mass-market businesses with economies of scale and standardised processes (e.g. retail banking, payments), risks are different, compared to high-tailored and service-intensive businesses (e.g. investment banking, wealth management).

- *nature and role of customers*: the characteristics of customer relationships vary depending on the business. Customers are very important in corporate banking and wealth management, quite important in retail banking, and do not exist, or are simply counterparties, in securities trading and sales.⁹ By consequence, the relevance of customers, as well as compliance and reputational risks is different. Also, the optimal risk/return combinations that customers are looking for, are variable. In the asset management industry, high net worth individuals who address to hedge funds are more inclined to risk than retail customers who invest in mutual funds or pension funds;
- *the economics of business*: it is not possible to make profits in proprietary trading without taking substantial risks, nor to earn money in investment banking without innovation (and the related risks); on the other hand retail banking, with lower and more stable earnings, may require a more cautious approach.

Every business has its own hierarchy of priorities between risk and other performance dimensions. It looks for different solutions to the typical managerial trade-offs: e.g. short-term profitability versus ethical conduct, shareholder interests versus stakeholder interests, entrepreneurial spirit versus compliance to rules, flexibility versus control.

In one of the most important studies about bank culture, Rogers (1993) describes the three business subcultures in Citicorp:

1. Consumer banking culture: a mass-market culture (“MacDonald’s culture”), whose values were cost-control, bureaucracy, standardisation of products, stability and predictability;

2. Investment banking culture: deal-doing, anti-bureaucratic, short-term oriented, whose core values were innovation, entrepreneurship, speed, flexibility;
3. Institutional bank culture (wholesale business), in an intermediate position: it emphasised the long-term relationship with corporate customers, but at the same time shared with consumer banking culture the standardisation of products and processes.

The propensity to risk in investment banking was higher than in consumer banking. There were conflicts between the three risk cultures. The investment bankers were seen as greedy, lacking sense of loyalty to the bank. As a senior manager said: “They move too fast, without looking at risk. They don’t care that much about the bank” (Rogers 1993, p. 63).

We can generalise the results of Roger’s analysis and add some further considerations about retail and investment banking. To a certain extent, these two businesses are placed at the opposite side of the spectrum of risk cultures.

Traditionally, the retail business has been quite stable and static. It is a mass-market business, where size, economies of scale and process and product standardisation are critical success factors. Efficiency, stability and predictability are core values. At the same time, it is a “relationship business”, characterised by a personal and lasting relationship with customers, who belong to the same local community in which the bank operates (this is especially true for community and mutual banks). The approach to risk is quite conservative. The control of risk comes before innovation and entrepreneurship. The main risks are credit and liquidity risk; the culture of the bank is a “credit culture”. Retail banks are bureaucratic, “command and control” organisations; hierarchy and rules limit individual autonomy and mitigate risks.

Investment banking is a very complex industry that includes many lines of activities, with different productive processes, customers, economics and risks. Therefore, business cultures are very dissimilar.

Services to corporations (e.g. underwriting, corporate finance, M&A, securitization, IPOs, private equity and advisory) put at the centre the complex needs of the customers. Business models vary: in the American model of investment banking, the relationship with the client lasts as

long as the deal lasts; conversely, the traditional British model is centred on independent advices and long-term relationships (Augar 2010, p. 224). Customers are very smart, personnel competencies and skills very high, services are sophisticated, customised and innovative. The market is very competitive and dynamic; competitive and reputational risks are significant. The organisation is quite decentralised and appreciates flexibility, autonomy and problem-solving attitude.

The complexity of services requires teamwork. Many values are the same as in innovative companies: creativity, autonomy, innovation and related propensity to risk (Lyons et al. 2007).¹⁰ The control of risk is important, but it should not hamper the entrepreneurial spirit and the efforts to find innovative solutions. Organisational tools (such as advanced risk management systems) and performance measures and objectives are more important than rules and hierarchy as a risk control mechanism.

In proprietary trading, the direct counterparty of operations is the capital market; the customer does not exist; it is an impersonal business, transaction-based, with short time horizons. Risk-taking is the rule of the game and risk exposures are carefully measured and monitored. The main risk is market risk (and to a minor extent, counterparty risk). Traders are individually responsible for short-term results, that if attained trigger large bonuses. The organisational climate is very competitive.

In capital markets divisions of large US investment banks, salespeople work together with traders. But their risk culture is very different. Salesmen are customer oriented and risk-averse and this can create a cultural clash. Lewis (1989) and Smith (2011) illustrate well this cultural conflict. In the course of time, the relative power of organisational units shifted: thanks to its brilliant financial results, the trading department captivised the sales department. Placing products and earning commissions overcame customers' interests and bank's fiduciary duties towards them.

Ware and Robinson (2011) explore the common and the differentiating core values of the three subcultures of investment banking, that they call tribes: investment, operations, distribution.¹¹ The core of the investment banking culture (pivotal values) consists of four values shared

by all the three tribes: client satisfaction, ethical integrity, professional standing, collaboration and team approach. But the tribes differentiate themselves on peripheral values. Investment subculture is defined as “effective decision making in a meritocracy”; it has a strong sense of confidence (often shifting towards arrogance). The distribution subculture is defined as: “compete and win”: it is very competitive, driven by performance (market and financial results), exposed to the risk of mis-selling when the environment is very challenging. Operations subculture is defined as: “creating scalable processes and efficiency”; it is centred on attention to details, rationalisation of work, caution, compliance to rules and bureaucracy.

Difference originates conflict. Distribution and Operations staff expresses a sense of disempowerment or disrespect; they feel like the “lower class” confronting with the Investment tribe, considered as the “upper class”. Distribution and Operations collide also between them: competitive/win values contrast with efficiency/precision values. Distribution people are action oriented and driving for results; the Operations teams are required to be fully compliant.

In Barclays, a large and diversified institution with business cultures difficult to integrate with each other,¹² “the investment bankers tended to regard the retail bank as slow, indecisive and uncommercial. In contrast, the investment banking characteristics were hard-working, fast, competitive and well rewarded success” (Salz Review 2013, p. 87). The Barclays’ Corporate Bank, while quite distinctive and emphasising integrity, was described in the report as being relatively conservative, hierarchical and slow-moving, perhaps reflecting an emphasis on tenure and loyalty over performance. The culture of the Group central functions was described by business units as highly expert, but slow to respond and overly internally focused (Salz Review 2013, p. 87).

A theoretical framework useful to understand the different cultures in business is the “Competing Values Framework” elaborated by Quinn and Cameron (2011). It classifies cultures on two dimensions: (i) stability versus flexibility and (ii) internal versus external focus. We can apply this framework in the analysis of business risk cultures, obtaining alternative combinations (McConnell 2013). Hierarchy model emphasises stability and control, formalised structures and rules and internal

efficiency; it is a “bureaucratic culture”. In banking, it might be typified by credit card operations or a mortgage-processing unit. Clan model values collaboration, participation and teamwork; it expresses a “family” culture. It might be typified by a merchant banking group. The market model is based on values such as competition, market share and profitability; it represents a “results oriented” culture. It might be typified by trading units and sales functions. Adhocracy model values innovation, risk-taking and creativity. It is an “entrepreneurial” culture. It might be typified by a Mergers and Acquisitions (M&A) group.

3.3.2.2 Contingent/exogenous factors

The contingent factors are not intrinsically related to the business. They affect it indirectly and they can change over time. Moreover, they normally operate differently in various businesses and therefore they become a differentiating driver of the business risk culture. The most important are the following:

- Market competitiveness
- Regulation
- History and evolution of the business
- Size and diversification of the financial institution
- Ownership model
- National culture
- Strategic orientation
- Organisational systems and practices
- Employees’ individual culture.

The *market competitiveness* creates pressures to increase the level of performance. Increasing profits and improving market position (climbing up the bank ranking) become more important than managing the risk accurately.¹³ On the opposite side, an excessive exposure to misconduct risk is favoured by a lack of competition.

The limited choice of banks increases the risk of mis-selling and tacit collusion in highly concentrated markets makes easier to manipulate the

benchmarks or to charge predatory prices to customers (ESRB 2015). The degree of competition varies across businesses. Large universal banks and investment banks that compete in global markets face a more competitive market than community banks, or specialised institutions, or boutique investment banks. Also, the conjuncture of the market is relevant: when the economy is in a good shape, the attention to credit and liquidity risks decreases; when the capital markets are booming, the attention to market risk is lower than when markets are bursting.

The *regulation* affects risk culture with contradictory effects. More regulation contributes to a healthier risk culture: the risk-based supervision strengthens the banks' focus on risk and the regulatory guidelines underline the importance of the culture of risk; on the other hand, more regulation might weaken the risk culture, because it shifts the attention from the risk culture to the compliance with rules. Anyway, less regulated sectors are generally more risk-oriented than the more regulated ones. There are many examples: hedge funds versus mutual funds, shadow banking versus traditional banking, investment banking versus commercial banking. Moreover, protective regulation (e.g. deposit insurance schemes) can generate moral hazard and again, reduce the risk aversion of the firm.

The *history* of the business is important under at least two points of view. First, past success creates and consolidates culture. As the literature highlights (Schein 2010), culture is the sum of values and behaviours that are proved to be effective in solving problems and assuring results. Moreover, the success of the bank leads to "organisational optimism", a self-reinforcing cognitive bias that reduces attention to risk (Kahneman and Lovallo 1993). "A good risk culture can break down when times are good" (McConnell 2013, p. 40). The prudent risk culture of retail banking has been consolidated through a long period of relative stability of the markets and good financial results. The outstanding profit and growth outcomes of US investment banks at the beginning of the 2000s strengthened their aggressive risk culture. In the past, the majority of Italian banks were non-profit or state-owned and this deeply affected their risk culture. Second, in history, there are moments of change, gradual or disruptive. The strong forces towards deregulation, competition and free markets, common to all sectors of the

financial system, have changed the business culture, shifting it towards the acceptance of higher levels of risk.

Also, the *size and the degree of diversification* of financial institutions are important. In the case of large size and rapid growth, organisational cohesion is weakened. The headquarters are far from customers.¹⁴ The infrastructure of risk management and controls is put under pressure. The bank needs more people and the recruiting criteria loosen; the new employees may lack the necessary understanding of risks. Cultural changes are more difficult to implement: the messages about the importance of risk could get lost in their way from the top to the front office. According to Simon, the rate of expansion is one of the determinants of the level of risk assumed (Simon 1999). Highly diversified financial institutions have a more fragmented risk culture and struggle with cultural clashes between business units.¹⁵ The optimal size changes depending on the businesses. In some of them, the economies of scale and scope are more relevant, as it appears by comparing universal banking, asset management and payment institutions with community banking and private banking.

The *ownership model* is one of the main drivers of organisational culture. Public companies are particularly exposed to the pressures coming from financial investors. They are more inclined to assume risks in order to increase the bank's profits. This pressure is heightened by the shifting risk behaviours of the shareholders, consistent with the asymmetric incentive system of the limited companies: unlimited profits versus limited losses. Other ownership structures are more risk-averse: in a state-owned bank stability comes before profitability; in a mutual bank the owners have a long-term horizon and are also customers; in family-owned banks the shareholders have a large portion of their personal wealth invested in the bank.

Laeven and Levine (2008) find that banks with fragmented and diversified ownership and with more powerful owners tend to take greater risks. This is consistent with theories predicting that equity holders have stronger incentives to increase risk than non-shareholding managers and debt holders and that, large owners with substantial cash flows have the power and incentives to induce the bank's managers to increase risk-taking. The change in ownership structure, from a

partnership status to the stock exchange listing, is seen as an important reason for the weakening of the risk culture in US investment banks (The Economist Intelligence Unit 2013).

The role of the *national culture* is investigated by Hofstede (2004). At the macro-level, national culture can explain the institutional, legal and economic environment of a country and its influence on corporate risk-taking decisions. At the micro-level, culture affects individual risk-taking behaviours. Mihet (2010) finds that the impact of national culture on risk-taking is stronger in industrial sectors which are more informationally opaque, e.g. finance: financial institutions in countries with low uncertainty avoidance, high individualism and lower power distance take significantly more risk. The same findings are confirmed by Ashraf et al. (2016). Kanagaretnam et al. (2011) show how in the years before the crisis (1993–2006) national culture influenced the quality of banks' earnings: aggressive risk-taking activities were more likely in countries with low uncertainty avoidance and high individualism. Breuer et al. (2014) highlight that individualism is linked to overconfidence and overoptimism and has a significantly positive effect on individual financial risk-taking.

Individualistic cultures emphasise self-orientation, autonomy and individual achievements (Hofstede 2004). Managers are evaluated and rewarded based on their short-term financial performance. In countries with individualistic cultures, the concern for other stakeholders and public interest is likely to be low; by consequence, customer and compliance risks are higher. National culture is linked to business risk culture because some businesses are more widespread in specific countries. As an example, the business culture of investment banks has its roots in the US economic culture: meritocracy, focus on performance, efficiency, optimism, self-esteem (sometimes arrogance) and risk propensity. On the contrary, European retail banks (apart from UK) share "social market economy". In almost all Japanese financial institutions, it is difficult to rely on mechanisms such as speak up and whistle blowing; this is due to the collectivist culture, the respect for the hierarchy, and also a tendency to hide the bad news in order to avoid the shame. When analysing the culture of asset management industry, Basile (2001) finds differences between Anglo-Saxon, European and Japanese institutions.

We use the term *strategic orientation* with regard to the main trade-off choices that must be taken at a strategic level. First trade-off: short-term versus long-term perspective of the business; in the first case, the attention to risk decreases. Second trade-off: shareholder versus stakeholder orientation; in the first case, customer and compliance risks are probably higher. Third trade-off: transaction versus relationship approach to business; in the first case, the attention to customer risk is lower. Fourth trade-off: innovation versus stability; in the first case, the propension to risks is higher. Fifth trade-off: profitability versus risk; in the first case, the risk appetite is higher. These choices depend on the business in which the financial institution operates. As an example, a stakeholder approach is more widespread in community or mutual banks; a shareholder approach in global universal banks. A relationship approach is more common in corporate banking, private banking and retail banking; a transaction approach in trading, some sectors of investment banking and product specialists. Investment banking is innovation-oriented; retail banking is stability-oriented.

The *organisational systems and practices* have a two-way relationship with business culture. First, they should be an expression (artefact) of the business culture, and as such they should reinforce it. But they also might work in the opposite way: if they are not consistently designed, they forge a practiced culture that is different from espoused culture. In this sense, the importance of performance measurement and compensation systems should be stressed. For instance, if the risk culture statements underline the attention to risk, but the pay for performance systems are based on short-term profitability indicators, the organisational risk awareness weakens. The described effects vary according to the business: e.g. the importance of “pay for performance” systems is by far higher in investment banking than in other financial industries. Another relevant organisational choice is between teamworking and internal competition. The latter lowers the peer control and increases the pressure for individual financial performance. Some businesses are more oriented towards teamworking, e.g. investment banking; other to individual competitiveness, e.g. securities trading and sales.

The *employees’ individual culture* is one of the cultural layers in the firm, that interacts with the culture of working groups, organisational

units, businesses, headquarters.¹⁶ When using culture as a risk governance mechanism, we assume that corporate culture can influence individual culture. On the reverse side, the culture of personnel affects corporate culture. An organisation composed by young men is more risk-oriented than one with more aged personnel or more women. Partly, culture is vehiculated top-down, through leadership, “tone from the top”, the design of organisational mechanisms such as incentive systems. Partly, it is created from the bottom-up, by the people who work inside the organisation.¹⁷ People prefer to work in a business that better reflects their own values. In doing that, they strengthen the existing organisational culture. People who apply for a job in a community or retail bank are less aggressive, less competitive and less risk-oriented than individuals who search for a job in investment banking. The latter are more materialist and less inclined to social values (Augar 2014).¹⁸ The social sensibility is even more pronounced in ethical banking, ethical funds and mutual banking. The ethnographic study by Ho (2009) shows how in the 1980s the Wall Street investment banks addressed for hiring “the best and the brightest” recent graduates of elite schools (in particular Harvard and Princeton). These recruits went to Wall Street by bringing with them their social norms and values: individualism, ambition, competitive nature, high-risk propensity, often greed and low moral integrity. As newer hires were promoted and older members departed, a new culture developed within investment banks, replacing the old one.

3.3.2.3 Evolutionary factors

In the life of a financial institution, risk culture changes. Some events may weaken it: difficulties in producing satisfactory financial results, together with increasing competitive pressures; cost-cutting programmes to improve cost/income; rapid growth; efforts to fulfil organisational integration in M&A operations; high recourse to outsourcing without monitoring the risk culture of the partner; arrival of a new chief executive officer more risk inclined, and so on (Smith-Bingham 2015).

Also, the contingent factors above described change over time. In this case, they operate as evolutionary factors of the business risk culture. Some of these changes may affect all the businesses (convergent evolutionary factors), others might affect only one or a few businesses (divergent evolutionary factors).

In the years before the financial crisis, the contingent factors operated as convergent factors, leading a process of cultural transformation towards a weaker risk culture. At the same time, quite paradoxically, the risk management tools became more advanced and the regulation on risk became more stringent: think of Mifid, Basel 2, rules on internal controls, compliance, anti-laundering and corporate governance. In this conflict, as often happens, culture wins: if the risk culture weakens, people can always find some ways to circumvent internal and external rules. The evolutionary factors made riskier the risky activities of investment banks and made less prudent the more prudent commercial banks. The most important of these factors are described below.

- The growing *competition of the market* made more difficult for a financial institution to survive and increased the importance of the comparison between banks' performance. As an example of this new environment, one can quote the "famous" interview of The Financial Times (2007) to the former CEO of Citigroup, Chuck Prince. Referring to the loans provided by the bank for financing private equity deals, he said: "When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you've got to get up and dance. We're still dancing".
- The *deregulation* removed many constraints on risks. The principle-based, light touch regulation was based on two assumptions: self-control by cautious financial institutions and self-correction by efficient capital markets: both these assumptions were flawed. We remind only a few examples of this deregulation: the allowance to adopt internal models for the calculation of capital adequacy (Basel 2); and, in US, the removal of the net capital rule for the largest US broker-dealers (2004), the end of separation between investment and commercial banking (1999), and the amending of Community Reinvestment Act as to liberalise the sub-prime loans.

- The *bank ownership* changed under at least four aspects: (a) from state-ownership to private ownership for European commercial banking sector; (b) from concentrated ownership, with an industrial and long-term approach, to a fragmented ownership (public company), with institutional investors adopting a short-term financial perspective¹⁹; (c) from partnerships to listed joint stocks companies for US investment banks; (d) from cooperative to limited companies for UK building societies. All these changes led to a more risk-oriented culture (Goldstein and Burditt 2015; The Economist Intelligence Unit 2013).
- As a consequence of the previous factors, the *objectives* of the financial institutions shifted towards a higher emphasis on financial results and a lower attention to customers, personnel and social dimension. Growth, profitability and efficiency became the main goals of financial institutions. In many retail banks, the more prudent risk culture was replaced by a “profit culture”, with an excessive exposure to productive risk and by a “sales culture”, with excessive exposure to customer risk. In British banks, the aggressive sales culture has been acknowledged as a major driver of bank failure (Spicer et al. 2014). It led banks to promote financial products, irrespective of risk and customer needs, to make riskier loans and to engage in bad practices.²⁰ Also, the poor outcomes of Barclays have been seen as a consequence of a corporate culture too biased towards commercial and competitive features, with little regard for other elements, such as the interests of the customers and of the overall society (Salz Review 2013, p. 79).²¹
- The *success story* of more aggressive investment banks, with impressive profitability and growth in the years before the crisis, became the benchmark to emulate for largest commercial or universal banks.²² The investment banking divisions were by far the most profitable part of the financial conglomerates. The capital markets too went through a long period of stability (the Great Moderation) and risky securities seemed to be less risky. Through the selling of risky products such as the credit default swaps, AIG could achieve high-growth rates in the traditionally low-growth insurance industry.²³

- *Growth and diversification*: as said before, the mainstream business model required a bank to grow, to expand internationally, to diversify and to become more complex and interconnected. As a consequence, the risk management became more difficult and more bureaucratic, the risk culture lost homogeneity, the distance from customers increased and the relationship with them became more impersonal.²⁴ Risk controls were put under pressure and they were seen negatively, as a limit to growth and profitability. In the diversified financial conglomerates, the risk culture of retail banking clashed with that of investment banking. In many cases, the latter prevailed, given the better financial performance. At Barclays the old retail and commercial bank culture, with its emphasis on strong relationships with customers, was challenged. The new bank's leadership, put in charge in 2007, tried to mimic the performance of the investment bank division, with an aggressive growth, less focus on controls and risks, and a shift from customer orientation towards size and financial performance (Salz Review 2013).

Another example is UBS: investment banking was allowed to dominate group activity, which led to massive losses on US sub-prime mortgage-backed assets (The Economist 2009). Spicer et al. (2014) describe the diversification process of UK retail banks. They had traditionally been relatively conservative institutions, with a simple business model and an important role played in their community. During the 1980s, they moved from a branch banking model to a universal banking model, by expanding their riskier activities on the wholesale side of the market. As the banks extended beyond the relatively simple business model of the past, retail divisions faced increasing pressure to high rates of profit. To address this challenge, they developed aggressive sales cultures. They refashioned themselves as machines for aggressively marketing new financial products to customers. As a result, "tellers" within bank branches started to see themselves as "sellers".

- The *product complexity* grew; culture is also knowledge, and the increased opaqueness of products undermined the ability to understand and to manage the risks involved; often, the difficulty to grasp

the complicated technical features of new products went together with a sort of arrogance and an overestimation of the effectiveness of risk management systems.

- Some *organisational practices* contributed to lessen risk awareness. A key role was played by incentive systems, that over time accounted for a rising share in the employees' compensation, and in all sectors of the financial system.²⁵ They were based on financial indicators that were flawed: not risk adjusted, backward looking, easy to manipulate. They relied too much on short-term financial results and neglected other factors, such as the quality of service to customers, the sustainability of the business, the compliance with rules and controls. They sponsored a "profit culture" and a "sales culture", instead of a "risk culture".
- Also, the *individual culture of the personnel* changed. Gordon Gekko became the idol of the new graduate generation, whose appetite for risk was accurately described by the "greed is good" motto. An "adverse selection" process came out: aggressive and risk lovers people started to flow towards the more successful and dynamic sectors of the financial system.
- In more general terms, it was the *economic culture* that changed. It leaned towards a quite extreme interpretation of the free-market model, with an emphasis on the efficiency of capital markets, their ability to spread and reduce risk, and the usefulness of financial innovation. The overvaluation of these virtues went hand in hand with the undervaluation of risks.

3.4 The Rise and Fall of Risk Culture in Investment Banking: The Great Detachments

As described in the previous paragraph, some evolutionary trends in the financial sector have determined a process of weakening of the risk culture in all financial institutions, independently from the particular business in which they operate. To some extent, the largest US investment banks represent an interesting case study, for many reasons: they were at

the root of the financial crisis, they paradoxically had the more sophisticated risk management systems, they were seen as very smart in assuming and controlling risks, they represented to some extent a successful business model to imitate...and they failed spectacularly. And this failure probably has more to do with risk culture than with effectiveness of the organisational tools.

Literature describes the flaws in the risk culture of these institutions, particularly in the capital markets business and trading and sales departments. The approach is anecdotal, consisting of narrations drawn from the personal experiences of former employees. It resembles the ethnographic methodology of research, particularly useful to study organisational culture, where the conclusions are drawn from participant observation.²⁶ In fact, the true culture of the organisation is not described by official documents, rules or data. It is revealed by the choices made by the people in their sphere of autonomy, by their ways to gain social appreciation, by their reactions to unexpected problems or, at the opposite, by their routine behaviours in the ordinary course of business. All these aspects can be better caught by sharing the experience (working at the bank), by direct observation of employees' behaviours, or by interviewing people and reading stories. Based on this literature, we will describe below the factors that are responsible for the "risk culture failure" in US investment banks. This failure can be linked to a rising separation between elements that otherwise should be strictly connected. The great divides:

- *Between finance and real economy: "It's only mathematics!" "It's only a poker game!"* Finance is an economic infrastructure designed to serve financial needs of economic agents. If it loses this touch, it becomes self-referring, "unproductive" and risky.²⁷ When in 2005, for the first time, she met JPMorgan derivatives traders, Gillian Tett, author of *Fool's Gold*, could watch them with the lens of her former studies in social anthropology. She could better understand their rituals: "The PowerPoints the bankers presented on topics such as the CDO waterfall, did not merely convey complex technical data; they also reinforced unspoken, shared assumptions about how finance worked, including the idea that it was perfectly valid to discuss money in

abstract, mathematical, ultra-complex terms, without any reference to tangible human beings.” (Tett 2009, p. xii).

Serving-someone’s-need culture is replaced by a betting culture that permeates the trading floor. “Traders would wager on anything: Wimbledon, the Masters, how many White Castle burgers a first-year analyst could eat” (Smith 2011, p. 50). Traders love risks. Also, managers do. The risk is good in itself. Lewis’ book starts with the challenge that the CEO, Gutfreund, threw out in the trading room to the best player in Liar’s poker (a sort of poker game practiced by people at Salomon Brothers): “One hand, one million dollars, no tears”. “What Gutfreund said has become a legend at SB and a visceral part of its corporate identity” (Lewis 1989, p. 14). Gutfreund wanted to show to everybody, as an example, his courage and his risk propensity: “No fear for the risk”.

- *Between material and human/social sides: “Money, money, money!”* Money is the core value of business culture. It is the final measure of success. For young trainees, most successful traders are the business heroes. Managers have power and earn impressive amounts of money, they are feared and envied, but they are not the organisational heroes, because they “did not make the money for Salomon. (They) did not take risk.” (Lewis 1989, p. 16). Traders are the most respectable people because: “(They) were the people closest to the money. The firm’s top executives were traders. There were even occasional rumours, probably started by the traders, that all the salespeople were going to be fired, and the firm would simply trade in a blissful vacuum. Who needed the...customers anyway?”(Lewis 1989, p. 85).

This power becomes a tyranny, that is socially accepted: the “tyranny of the trader”. “Some of the men who spoke to us (trainees) were truly awful human beings...They didn’t have customers. They had victims. The point is not that...(a very successful trader or salespeople) was intrinsically evil. The point is that it didn’t matter one bit whether he was good or evil as long as he continued” (Lewis 1989, p. 86).

The nicest place to aspire to work at is where money comes from; e.g. fixed income securities, in the early 80s at Salomon Brothers. When a trainee makes a silly question, the classmates blow up: “You should sell equity at Dallas!” (a very traditional and not so profitable

business). Not only equity trading, but all the other businesses are despised because they are not so much profitable: “Corporate financiers are considered wimps by traders” (Lewis 1989, p. 23); “We all knew never to admit to an investment banker that we were also applying for jobs with commercial banks, though many of us were” (Lewis 1989, p. 32).

Money means profits for the bank, but it also means bonus for bankers. For traders, the yearly bonus negotiation is the most important deal of the year. Chasing for the bonus creates an organisational climate of internal competition, which damages risk culture by stimulating cheating and reducing collaboration and information sharing (Smith 2011, p. 315). To get bonuses, people steal each other’s ideas (e.g. about a new financial product; see Lewis 1989, Chap. 9). A manager can steal a part of the bonus of his salespeople, by crediting on his own account the commissions earned from trades (Smith 2011, p. 307). In 2005, Goldman Sachs changed its compensation system: it eliminated the subjective component related to how well traders did their job and how good they were for the organisation. The system became largely mathematical and exclusively related to how much business has been brought in. At the end of the year, a trader or a seller was paid a percentage of the amount of revenue next to his name. And everybody started to do anything that was possible to pump up the numbers next to his name (Smith 2011, p. 313).

The pivotal role of money, of course, is not explicitly stated. Money’s mastery is not an espoused value, but a basic assumption, implicit and shared (Schein 2010). When Lewis, in a job interview with Lehman Brothers, answers with honesty that he wants to become an investment banker because he wants to make money, he is kicked off. Later on, he knows from a friend working at LB the reason: “It’s taboo. When they ask you why you want to be an investment banker, you are supposed to talk about the challenges, and the thrill of doing deals, and the excitement of working with such high-caliber people, but never, ever mention money...Learning a lie was easy. Believing it was another matter. From then on, whenever an investment banker asked for my motives, I dutifully handed him the correct answer: the challenge; the people; the thrill of the deal.” (Lewis 1989, pp. 35–36).

- *Between the bank and the customers: "Who do you work for?"* The only interests to serve are those of the bank. "(The manager's) trademark response to any e-mail that had even a whiff of a client trade was a three-character e-mail back: 'GC (Goldman Commissions)?' No other words; no question about why the client had done the trade, what the trade was, or anything else about it. Just how much money was made on the trade" (Smith 2011, p. 308). Once SB launched a CDO divided in two tranches, one backed by the principal of securitised bonds (POs, principal only) and the other one by the interests (Ios, interest only). It sold the first one to the customers and kept in the book the second one. The reason was that SB expected the market to crash, a situation in which the POs plummet and the Ios appreciate (Lewis 1989, p. 182). When a salespeople complains to a trader who lied to him and forced him to sell a bad security to his customer, the trader replies: "Look, who do you work for, this guy or Salomon Brothers?" (Lewis 1989, p. 207). Not only are the customers deceived, they are also despised. This is why a trader can humiliate a trainee who failed in impressing him by saying: "You are proof that some people are born to be customers". And all the (other) trainees think it is the "funniest thing they had heard all day" (Lewis 1989, *ibidem*, p. 213). At the London trading office of GS, the informal organisational language calls the less sophisticated customers "muppets". "Within days of arriving in London, I was shocked at how many times I heard people – both very senior and very junior, refer to their clients as muppets. Where, I wondered, had this adversarial viewpoint come from – the idea of the client as someone much less smart than you, someone you could try to take advantage of?" (Smith 2011, p. 296). Augar (2010) describes the changing model of investment banking in UK, since the Big Bang on: the City's traditional culture of independent advice and long-term relationship was replaced by the American model, in which the relationship with clients lasts no longer than the deal. "The client-banker dialogue ceased to be about trust and the client's long term interests and became more about today's profit" (Augar 2010, p. 224). As said before, this is shown also by the corporate language of investment banks: "They categorized (the customers) by 'size of wallet', a crude but telling

description of what really mattered to them” (Augar 2010, p. 224). The time horizon in managing the relationship with the customer becomes shorter and shorter: “Bond traders tend to treat each day of trading as if it were their last. This short term outlook enables them to exploit the weakness of their customers without worrying about the long term effects on customer relations. They get away with whatever they can.” (Lewis 1989, p. 131). After all, serving customers’ interests is hampered by conflict of interest, a situation that worsened when the investment banks decided to enlarge the range of their activities and to be involved in proprietary trading alongside brokerage. In trading activities the bank acts for the buyer, for the seller and for its own portfolio. In M&A or private equity deals, the bank advises at the same time the buyer and the target company. “Under that scenario how can you possibly put the client first? Which client do you put first?” (Augar 2014, p. 2).

- *Between bank and employees: “You want loyalty, hire a cocker spaniel”.* Employees’ interests are separate, sometimes in conflict, with that of the organisation. Human Resources policies of investment banks can be simply described by the motto: “hire-and-fire”. “You’re a number. That’s the deal you make when you go to work in finance: you are a commodity” (Luyendijk 2015, p. 86). The dismissal procedures are quite famous: you get a call from HR, you are denied the access to your PC, you pack your stuff and you are out of the door in 5 min. Nobody feels safe, never. “Every day you’re getting closer to getting fired”, as one boss uses to say (Luyendijk 2015, p. 88). In the corporate idiom, sudden dismissal is called “executions”, or “the cull” (the term used when infected cattle have to be destroyed). All this creates a climate of fear, a “toxic culture” (Luyendijk 2015, p. 93), where the internal cooperation is hampered (kill or be killed) and politics is very important. “You need to say hello to the right senior people at the right time. Team members co-operate but they are also in competition for a better ranking in the review. As you would expect, friend will give friend good reviews” (Luyendijk 2015, p. 89).

If the bank is disloyal to its employees, employees are disloyal to the bank. Loyalty is not a core value; maybe it could be an espoused value, supported by senior management, but not a practiced value,

shared by people. When SB tries to dissuade a manager to leave the bank, in the name of the loyalty to the firm, his answer is: “You want loyalty, hire a cocker spaniel” (Lewis 1989, p. 254). The only link that bounds the employee to the employer is money; if a competitor offers more money, it’s time to go. The weakening of the ties between bank and employees is also an effect of the success and the rapid growth of the organisation. The urgent recruiting needs loosen personnel selection criteria. Wrong people were selected, with low competencies, different personal values, low loyalty. “But that they let me – and other drifters like me – in the door at all was an early warning signal. Alarm bells should have rung. They were losing touch with their identity. They had once been shrewd traders of horseflesh. Now they were taking in all the wrong kinds of people.” (Lewis 1989, p. 47). In three years, 75% of the trainees in the class of Lewis (that of 1985) would leave the bank, compared with 15% in the past.

This lack of loyalty, from both parties, shortens the time horizons of the employees’ decisions; the weight attached to present results (profits) overcomes that of future results (potential losses coming from risk). “If you can be out of the door in five minutes, your horizon becomes five minutes. That was the essence of the stories about zero job security...How realistic is it to expect ‘internal controls’ to do their jobs in such a context?” (Luyendijk 2015, p. 99).

- *Between bank and shareholders: “No more skin in the game!”* The ownership structure of investment banks changed, from partnership to listed public companies. This separated ownership and control, reduced commitment of partners, who lost “skin in the game” and exposed bank’s governance to the short-term and profit-oriented interests of shareholders.
- *Between productive and control functions: “What do they want again? Tell them I’ll call back”.* Controls and control functions are seen as obstacles to the business. Large investment banks have strong control systems, but a weak control culture. In the values’ hierarchy, profit, growth and bonuses come before risk control. “To illustrate the point I reiterate the example of when I was a trader in a bank. The call had come through from a member of the compliance team inside the bank, they were after the desk-head of the trading team

I was working for. The desk-head, from whom they were seeking a response to a number of questions they had asked, replied. ‘What do they want again?’ followed by ‘Tell them I’ll call back’. A few days later the call came again, and again the same response. This charade was repeated several times over the next couple of weeks. Finally, with patience running out, a terse email to the desk-head head was sent stating that they wanted a response by the end of the day or the matter would be escalated. The desk-head responded by sending back a short email with an attachment displaying his and the desk’s trading P&L for the year, both were exceptional and far in excess of budget. He added a very short message saying ‘Over to you’. The matter was not heard of again. I share this little vignette, not because there was any serious compliance breach, at least not in the context of the early 2000s, but to make a point about the attitude and mindset which was becoming prevalent in banks through the 90s and early noughties” (Goldstein and Burditt 2015). In JP Morgan Chase, a bank with an outstanding reputation in risk management, “the whale trades exposed a bank culture in which risk limit breaches were routinely disregarded, risk metrics were frequently criticised or downplayed, and risk evaluation models were targeted by bank personnel seeking to produce artificially lower capital requirements.” (Permanent Subcommittee on Investigations 2013, p. 7). “We are tigers”, said another flow trader. “You want traders to be aggressive as they can and make the bank as much money as possible”. The risk limits that he had to stay in were his cage (Luyendijk 2015, p. 72). The Great Detachments just decried became wider and entrenched in the organisation because they found confirmation in the outstanding financial performance. The extraordinary results of investment banks in the bullish years before the crisis triggered a deadly imitation game and infected all the businesses. When CEO of Morgan Stanley, Philip Purcell, tried to follow a low-risk strategy, he was dismissed by shareholders who wanted a more aggressive approach (Augar 2010, p. 227). But Purcell was an exception, because no CEO wanted to be considered as a laggard and to be pushed down in the investment banking league tables. Success generated a corporate culture of hubris, overconfidence and underestimation of risk. First and

foremost, it was not a failure of some executives, nor the failure of some organisational tools (e.g. risk management systems). It was a failure of the business risk culture.

3.5 Conclusions

The nature of the business is one of the determinants of the risk culture in financial institutions. The direction and the intensity of this relationship depend on structural and contingent factors. The former are intrinsic and quite stable characteristics of the business, such as the kind of activities performed, the customers served, the economics.

The latter are factors that might change over time and that affect risk culture indirectly. We analysed the most important of them: market competitiveness, regulation, history and evolution of the business, size and diversification of the financial institution, ownership model, national culture, strategic orientation, organisational systems and practices, employees' individual culture.

In the years before the financial crisis, these factors moved along a common trend that led to a weakening of the risk culture in almost all financial institutions. This process was more pronounced in some sectors, such as investment banking. The analysis of the risk culture of the financial institutions in general, and of the US investment banks in particular, has highlighted its flaws. The weakening of risk culture caused both the adoption of wrong risk management practices, at the micro-level and the bursting of the financial crisis, at the macro-level.

As a consequence, the key role assumed by a healthy risk culture in the governance of financial institutions is strongly confirmed.

Notes

1. Similarly, every company has a customer culture, the content of which may vary: some companies see customer as a contractual counterparty (a competitor, as Porter suggests in his "Five Forces model"), others as a partner.

2. This distinction is particularly relevant for financial institutions. They receive from the society the mandate to assume the risk on behalf of the economic agents and their productive function essentially consists in the managing of financial risks. They should not avoid the risk, for at least two reasons: they earn money from the taking of risk (in the case of speculative risks) and they are asked to keep the risk to free the economic agents from it.
3. “A *sound* risk culture consistently supports appropriate risk awareness, behaviours and judgements about risk-taking within a strong risk governance framework. A sound risk culture bolsters effective risk management, promotes sound risk-taking, and ensures that emerging risks or risk-taking activities beyond the institution’s risk appetite are recognised, assessed, escalated and addressed in a timely manner” (FSB 2014, p. 1).
4. Culture is an internal motivator that drives behaviour “when nobody sees it”. It helps individuals make discretionary decisions and act inside their sphere of autonomy. A healthy risk culture stimulates proactive behaviours (e.g. reporting issues of concerns, whistle blowing and suggesting improvements to risk management), activates social control, dissuades from exploiting controls’ loopholes to heighten performance. Instead, rules and controls are external motivators; they are organisational mechanisms, and not embedded values.
5. Some components of customer and compliance risk are grouped in the (mis)conduct risk, a relatively new area of concern for the regulator. According to ESRB, “Misconduct risk refers to risks attached to the way in which a firm and its staff conduct themselves. As such, it includes how customers and investors are treated, mis-selling of financial products, violation of rules and manipulation of markets” (ESRB 2015).
6. Cohn et al. separate the “ethical culture” from the “risk culture”. Our “three risk cultures model” is based on a wider definition of risk, that includes not only the more traditional financial risks (“productive risks”), but also the compliance, reputational, conduct and ethical risks (“customer risk” and “compliance risk”).
7. The data quoted in the Report are limited to legal and compliance risk. They exclude productive and customer risks.
8. We neglect many factors, affecting risk culture, but not steadily related with specific characteristics of the businesses: e.g. quality of corporate

and risk governance, commitment of top management (tone from the top), horizontal information sharing, active learning from mistakes, openness of communication, role of risk management and control functions, compensation systems, etc. Some of them are explicitly considered by regulatory authorities.

9. See Tarullo (2014): “This second concern recalls the much-discussed issue of whether a trading mentality has migrated to other parts of large financial firms, so that the position communicated by management to both employees and others is that the firm has no ‘customers’ or ‘clients’, but only counterparties. While such an attitude is typical for trading in anonymous markets or with equally sophisticated institutions, it hardly seems designed to engender trust on the part of those who have ongoing relationships with the firm”.
10. “The notion of significant interaction with one’s clients is considered a best practice in investment banking, and this extends to other professional service businesses. At many investment banks, the concept of anticipating client needs is sacred. For example, one business principle at Goldman Sachs states that: we consistently strive to anticipate the rapidly changing needs of our clients.” (Lyons et al. 2007).
11. They are described as follows: (a) Investment professionals: Portfolio managers, analysts and other strategists who are making the investment decisions; (b) Distribution professionals: marketing, client service and PR experts who are dealing with all the client-facing and distribution efforts; (c) Operations professionals: accounting, finance, compliance and all support functions within the firm. When employees are asked, “Are the cultures of operations vs. distribution vs. investments more different or more alike in your firm?” The overwhelming answer (75%) is: “different”.
12. The cultural integration efforts were made more difficult because of the rapid growth of the bank, the multiple reorganisations and the extensive external hiring.
13. The positive correlation between the degree of competitiveness and the risk propensity has some exceptions. In the 1990s, the asset management industry in UK was very competitive, with a transparent confrontation between the investment performance of the fund managers. They later became scared of underperforming and started to adopt more imitative and risk-averse investment behaviours (Augar 2010, p. 20).

14. “We found small and medium sized institutions had better cultures. Instead of struggling with “turning around the supertanker” their senior management were mainly focused on reinforcing more customer cultures. These smaller banks seemed to have significantly different cultures from the largest institutions. Big banks have made progress, but in terms of culture change the smaller players are still out in front” (Spicer et al. 2014, p. 10).
15. “We should also note that there is a significant challenge to instilling shared values in a universal bank like Barclays. Cultural compatibility is difficult to achieve across businesses which may attract very different employee profiles, and where the business model and objectives are different. It takes a great deal of finesse to translate the same common values into credible expectations of a trading floor and of a retail branch network. This task is made harder when, as at Barclays, rapid growth (which propelled it from a family bank to a leading universal bank), multiple reorganisations and extensive external hiring (particularly in the investment bank) create a less stable cultural base” (Salz Review 2013, p. 80).
16. Empirical works indicate that risk preferences are partly genetically determined (Cesarini et al. 2009; Barnea et al. 2010), and partly learned through cultural transmission by parents and peers during childhood and adolescence (Dohmen et al. 2011; Booth and Nolen 2012; Eckel et al. 2012). Individuals’ risk preferences may also be shaped in adulthood, by significant life events, such as natural disasters (Eckel et al. 2009), economic conditions (Guiso et al. 2015) and violent conflicts (Voors et al. 2012; Callen et al. 2014). Cohn et al. show how individuals’ risk preferences are also malleable through the work environment. (Cohn et al. 2015, p. 6).
17. Lo (2015) describes this effect, which he calls the “compositional effect”.
18. “However, you have to think what is the product of investment banking? The product is money. And I think there is something different about a business where the product is money. I think that it attracts a different kind of person and I think that it breeds a different kind of behaviour. That presents the industry with a real challenge if it is going to change the culture. It has to recognise that it is dealing with a different kind practitioner, a different kind of professional to, say, the architect or the lawyer. It is not insurmountable but I think it is a really very high barrier” (Cfr. Augar 2014, p. 6).

19. Haldane (2011) shows how, between 1998 and 2008, the average holding period of bank stocks for US and UK banks' investors fell from almost 3 years to 3 months.
20. The incentive systems were a key driver of this cultural change. "Increasing sales were reinforced through incentive systems which rewarded shop-floor staff for up-selling. Staff performance was typically made public through whiteboards which displayed employees who were leading sellers and who were laggards. Achievements in sales were publicly celebrated. Not achieving sales targets was punished...In one Halifax branch, there was a weekly 'Cash or Cabbages day'. Employees who exceeded their sales were publicly rewarded cash. Those who missed their bonuses were given cabbages" (Spicer et al. 2014, pp. 20–21).
21. "In our view, Barclays did not, until recently, have a clear statement of a common purpose across its businesses. It rather emphasised growth and financial success...Over the period studied by the Review, the push for growth in the Investment bank and Wealth, coupled with the need to increase returns in Retail, seems to have replaced the Group's sense of purpose and its customer focus" (Salz Review 2013, p. 79).
22. "Over the past 35 years it has seemed as if everyone in finance has wanted to be someone else. Hedge funds and private equity wanted to be as cool as dotcom. Goldman Sachs wanted to be as smart as a hedge fund. The other investment banks wanted to be as profitable as Goldman Sachs. America's retail banks wanted to be as cutting-edge as investment banks. And European banks wanted to be as aggressive as American banks. They all ended up wishing they could be back precisely where they started" (The Economist 2009, p. 18).
23. "Paradoxically, the moral hazard of past success may have led AIG to make much riskier investments than a company with a poorer track record of risk management" (Lo 2015).
24. "The bigger the bank, the greater the distance from the customer... the detachment of bankers from the clients they were serving was extremely important in creating the cultural problems we see in the banking industry" (Deloitte 2013, p. 14).
25. Many inquiries have proved the role of perverse remuneration schemes as a cause of the financial crisis; e.g. IIF (2008), FCIC (2011), ICB (2011).
26. Our main sources are Lewis (1989) about his experience at Salomon Brothers (SB), Smith (2011) about Goldman Sachs (GS) and Luyendijk (2015), who interviewed over 200 people working at City's investment banks.

27. “Many jobs in a competitive arm’s-length financial system are problematic for two reasons. First, like the worker on an assembly line, the broker who sells bonds issued by an electric power project rarely sees the electricity that is produced: she has little sense of any material result of her labours. (...) Second, the most direct measure of a financial sector worker’s contribution is the money – the profits or returns – she makes for the firm. (...) The trader who shorts the stock does not see the workers who lose their jobs or the hardship that unemployment causes their families: all he sees are the profits he will make if he turns out to be right in his judgment” (R. G. Rajan 2010, p. 124).

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4

Risk Culture in the Regulation and Supervision Framework

Alessandro Carretta and Paola Schwizer

4.1 Introduction

Risk culture deserved increasing attention by regulators and supervisors in recent times, along with the awareness that weaknesses in risk culture were at the base of the global financial crisis and misconduct of many financial institutions.

This Chapter focuses on how regulation affects bank risk culture and risk-taking behaviors and how this has an influence on supervisory styles. This Chapter is structured as follows:

- The first and second Section provide an analysis of the progressive inclusion of cultural issues in financial regulation and supervision.

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- The third Section describes how supervisors assess and monitor risk culture.
- The fourth Section illustrates the changes in the regulatory and supervisory styles, towards an increased forward-looking approach to risk management, based new tools and methods such as intense contacts with bank management and in-depth assessment of bank governance and corporate culture.

4.2 Risk Culture: A New Challenge for Regulators and Supervisors?

Historically, culture has not been a big part of banking regulation (Thakor 2016). Other variables like capital, liquidity, formal procedures, and executive compensation are more tangible and visible and therefore easier to comprehend, assess, measure, and monitor by regulators and supervisors.

Furthermore, for a long time regulators assumed that increasing competition in the banking sector would inevitably lead to better behaviors and better customer service. This is only partially true. Competition is not the whole story. First of all, there has been a lack of competition in many banking systems for many years. Second, it appears that customer inertia is a major barrier, even when better offers are available, clearly marked out, and easy to access. Finally, it is not clear whether increased competition will actually lead banks to become more ethical. This leads to the conclusion that increasing competition is important, but by no means enough.

To promote a sound and efficient banking and finance system, a special focus shall be put by regulators on good conduct and a healthy corporate culture. As mentioned above, a major reason for the lack of “good competition” is customer inertia, reflected in the low level of switching from one bank to another. However, this inertia stems to a large extent from the maintenance of a high information asymmetry and opacity in the market. All that suggests that regulators need to carefully monitor banks’ internal processes which

might cause negative social impacts. Although all banks statements and official documents, as well as top management speeches, proclaim a customer-centric or even a stakeholder-oriented mission, based on values of integrity, transparency, and accountability, practices at branch level can look very different on a day-to-day basis (as an example, see Box 4.1). If the regulator hopes to pick up issues before they become large scale problems, they need to go beyond listening to the voice of senior management and consider what is concretely happening at the business unit level, where the dynamics of customer relationships take place. This should help regulators to develop a more rounded perspective on what is happening within banks (Cass Business School 2014).

Box 4.1 The Deutsche Bank Case

In September 2016, the U.S. Justice Department proposed that Deutsche Bank AG pay \$14 billion penalty for mis-selling behavior surrounding the subprime mortgage crisis, a number that would rank among the largest of what other banks have paid to resolve similar claims and is well above what investors have been expecting.

However, Deutsche Bank's mission statements say that:

"Through our economic success and competitive international presence, we create value for our shareholders, our clients, our employees and society at large while upholding stringent environmental and social norms to support a sustainable future.

Applying high standards of ethics and integrity, we strive to be a reliable partner to our stakeholders at all times. We also engage in open dialogue with the public in order to foster understanding on topics of mutual interest."

As regards the banking sector, weaknesses in risk culture are often considered a root cause of the global financial crisis, headline risk, and compliance events (Financial Stability Board 2014). A financial institution's risk culture plays an important role in influencing the actions and decisions taken by individuals within the institution and in shaping the institution's attitude toward its stakeholders (Financial Stability Board 2014).

Risk culture affects individual and social behaviors within corporate organizations: it is an integral part of bank management by enhancing the effectiveness of risk-taking policies, reflecting on decision-making and the quality of decisions, and influencing firm performance and even being the main driver of serious misconduct (Liu 2016). As such, it is not surprising that regulators and supervisors have the highest interest in this phenomenon and in an in-depth understanding of the same (See Box 4.2).

Box 4.2 “Unacceptable risk culture.”

The Monetary Authority of Singapore (MAS) has served BSI Bank with a notice to withdraw its status as a merchant bank in Singapore after unveiling a number of issues including an unacceptable risk culture, poor management oversight, and gross staff misconduct.

After a series of investigations in 2011, 2014, and 2015 failed to rectify these lapses, MAS decided (2016) to withdraw the bank’s status due to a “gross dereliction of duty and failure to discharge oversight responsibilities on the part of BSI Bank’s senior management.” This then led to a poor risk culture amongst employees who prioritized questionable customer demands over anti-money laundering regulations as well as the bank’s internal policies.

Regulators already affected bank risk culture in recent times, although indirectly. For instance, banks had to define their risk appetite framework according to the FSB guidelines (2014). This forced them to reflect on the links between corporate strategy, risk, and capital adequacy, driving a cultural change in strategic planning.

The number and typologies of risks to be considered has been progressively extended to cover risks not typically related to the bank core business, but likely to influence its success or failure in the long run, such as operational risks, IT risks, conduct risk, and reputational risk. This approach leads to an integrated vision which highlights the strengths and weaknesses of the business models.

In addition, remuneration policies have been redesigned according to new regulatory provisions, in order to align expected behaviors with the risk appetite, values, and long-term interests of the institution.

4.3 Towards a New Regulatory Style?

The importance of corporate culture has been highlighted by regulators since the late 90s, along with the increasing relevance of internal governance issues (Schwizer 2015; Basel Committee on Banking Supervision 2015). It then arouses again during the last decade, when the new rules on compliance and risk governance emphasize that effective corporate governance and internal control systems shall rely on a culture based on honesty and integrity. A bank should at all times strive to observe the spirit as well as the letter of the law (Basel Committee on Banking Supervision 2005).

Corporate governance provisions set by the CRD IV Directive and the CRR, aimed at reducing excessive risk-taking by firms and ultimately the accumulation of excessive risk in the financial system (Schwizer 2016), introduce specific requirements in terms of “honesty, integrity and independence” of bank directors (further detailed as “fit&proper conditions” in EBA 2012 and ESMA/EBA 2016), and of behaviors (time commitment, active participation to meetings, challenging attitude towards bank management, etc.).

The attention to culture has been consolidated, more explicitly, in recent times, along with the awareness that weaknesses in risk culture have been at the base of the global financial crisis and incorrect behavior (misconduct) of many financial institutions. This has led to the introduction of specific corporate culture and risk culture indicators, within the SREP framework at European level and the disclosure requirements of Pillar III, respectively, by EBA and the Basel Committee.

In its new principles on corporate governance (2015), the Committee underlined that the revision aimed at emphasizing “key components of risk governance such as risk culture, risk appetite and their relationship to a bank’s risk capacity” and affirmed (Principle 1) that “a fundamental component of good governance is a corporate culture of reinforcing appropriate norms for responsible and ethical behavior.” These norms are especially critical in terms of a bank’s risk awareness, risk-taking behavior and risk management (i.e. the bank’s “risk culture”).

Moreover, EBA revised its guidelines on internal governance in 2016 (consultation paper), in order to include additional aspects that aim to foster a sound risk culture to be implemented by the management body,

to strengthen its oversight over the institutions' activities and their risk management framework (EBA 2016).

EBA states that a sound and consistent risk culture should be a key element of institutions' effective risk management and should enable institutions to make sound and informed decisions. A sound risk culture—measured according to the FSB (2014) approach—shall be based on full understanding and a holistic view of the risks they face and how they are managed, taking into account its risk appetite. The development of risk culture requires policies, communication, and training.

In summary, since the global financial crisis, supervisory approaches are increasingly becoming more direct and more intense to promote the resilience of the financial system through a direct monitoring on risk-taking behaviors. The challenge for supervisors is to strike the right balance between carrying out a more intensive, proactive approach and not unduly influencing strategic decisions of the institution's management. Risk culture is an area where a growing number of supervisory authorities are playing a more active role, and the range of supervisory approaches toward assessing risk culture varies.

This focus can be seen in the overall regulatory framework since the new rules aim at changing behaviors of all market participants.

In this regard, the debate (Dudley 2014; Lagarde 2015) on the penalties imposed on financial companies for misconduct, emphasizes the responsibilities of senior management and material risk takers, for pure wilful misconduct or negligent behavior, as well as that of the entity as a whole, which is liable, not only for legal reasons, but also for not having promoted a sound risk culture within the organization.

Furthermore, the new regulation calls for an intensification of supervision, that needs to prevent the unintended consequences of new rules, in the field of calibration and with special reference to the transition period that follows new rules.

Consequently, risk culture is also relevant from the supervisors' perspective, because they are in charge of monitoring behaviors of supervised entities and compliance with the rules. In this regard, risks of inappropriate behavior shall be identified in advance, when "everything else" (risk implicit in the assets, capitalization level, economic balance, etc.) still looks "in order."

4.4 How Can Supervisors Assess and Monitor Risk Culture

Assessing risk culture is a complex task. But given its importance, attention must be paid to it. There are several indicators or practices that can be indicative of a sound risk culture. Institutions and supervisors can build awareness of the institution's balance between risk-taking and control by considering such factors. These indicators can be assessed collectively and are mutually reinforcing; looking at each indicator on a stand-alone basis could undermine the multifaceted nature of risk culture.

Following the Group of Thirty (2015), supervisors and boards should apply a short list of simple descriptors of culture, both “good” and “bad.” Using this kind of taxonomy helps boards identify their own firms’ unique culture, better understand its benefits and risks, and assess whether mitigants are in place. Boards (and supervisors) should not take it for granted that they know what the culture of the institution is or that desired behaviors are well understood by staff. Boards and supervisors should recognize that assessing culture is about assessing people, individually and collectively, and try to catch the so-called “soft” skills (that is, effective leadership and values). Independent board members are uniquely placed to judge culture because of their senior-level experience in other businesses and different walks of life that they bring to the organization. Supervisors can also assess risk culture if they have the right skills, communication ability, and approach.

Financial Stability Board, after a long preparatory work, published in July 2014 detailed policy recommendations for supervisors from different countries, in order to monitor the state of progress in risk culture of supervised entities.

The assessment of risk culture by supervisors, as suggested by the FSB (Table 4.1), also aims at enhancing the quality of the interaction with supervised entities, which can benefit from this dialogue in order to reach and maintain an adequate cultural level.

Supervisors should consider whether an institution's risk culture is appropriate for the scale, complexity, and nature of its business based

Table 4.1 Sound risk culture indicators (FSB 2014)^a

Indicators	Subindicators
Tone-from-the-Top	<p>Leading by example</p> <ul style="list-style-type: none"> • The Board and Senior Management (B&SM) have a clear view and monitor RC; they <i>proactively</i> address weakness. • B&SM promote through behaviors, actions, and words RC. • B&SM promote through behaviors, actions, and words a healthy skepticism, challenge, and open communication • B&SM establish, monitor, and support Risk Appetite Framework (RAF), which is integrated in strategy • Talent development, succession planning, and 360-review process, etc. are in place to avoid the dominance by small groups • B&SM is subject to the same expectation for integrity, risk governance, and RC as employees • B&SM systematically assess whether the advertised values are communicated and proposed by management and staff (tone-at-the-middle) • B&SM assess if risk appetite framework and business strategy are clearly understood
	<p>Assessing espoused values</p>
	<p>Understanding and awareness</p> <ul style="list-style-type: none"> • Appropriate mechanism ensures risk appetite, risk management, and strategy are alighted and embedded in decision-making at all levels • B&SM have clear views on business lines more challenging in the risk management (e.g. business lines with doubt results or with nonfinancial risk that cannot be quantified) • B&SM monitor if management addresses risk issues raised by board, supervisors, and control functions
	<p>Learning from past experiences</p> <ul style="list-style-type: none"> • Root courses of processes' risk management weaknesses are reviewed at appropriate levels • Assessment and communication of lessons learnt from past events, both failures and successes, are seen as an opportunity to enhance RC

(continued)

Table 4.1 (continued)

Indicators		Subindicators
Accountability	Ownership of risk	<ul style="list-style-type: none"> • Clear expectations are set with respect to the monitoring and reporting of, and response to, current and emerging risk information • Mechanisms are in place for the sharing of information on emerging, as well as low probability and high impact risk (vertically and horizontally) • All the members of the organization are held accountable for his or her actions not aligned with institutions values regardless the financial result
	Escalation Process	<ul style="list-style-type: none"> • Appropriate escalation process with clear consequences of noncompliance • Systematic assessments on employees' awareness and environmental openness • Mechanism for employees to report concerns when they feel discomfort about products or practices • Whistleblowing procedures
Effective communication and challenge	Clear consequences	<ul style="list-style-type: none"> • Consequences are clearly established, articulated, and applied for anyone supporting excessive risk-taking relative to RAF, whether positive revenue or net income was generated • Nonadherence is understood to have a potential impact on an individual's compensation and responsibilities, career progression, or termination. It may result in termination
	Open to alternate views Stature of control function	<ul style="list-style-type: none"> • Alternative views are encouraged, valued, respected, and occurred in practice • Mechanisms are in place as well as alternate views. • Control function (CF) shares the same stature as the business line and it is proactively involved in decisions. • CF operates independently and has access to the B&SM. • CF has sufficient stature to effectively exert control tasks

(continued)

Table 4.1 (continued)

Indicators	Subindicators
Incentives	<p>Remuneration</p> <ul style="list-style-type: none"> • Compensation structure supports core values and sound risk-taking behavior • Compensation structure is supported by a well-documented process • Remuneration and performance metrics consistently support desired risk-taking behaviors and encourage employees to act in the interest of the greater good of the company, rather than for themselves or their business line • Annual performance review and objectives setting are linked to promote values and desired behaviors • Incentive compensation programs systematically include individual and group adherence to the financial institution's core values, risk culture, and cooperation with internal control functions and supervisors and respect of risk limits <p>Succession planning</p> <ul style="list-style-type: none"> • Succession planning processes for key management positions include risk management experience and not only revenue-based accomplishments <p>Talent development</p> <ul style="list-style-type: none"> • Understanding key risks, essential elements of risk management, and the institution's culture is considered a critical skill set for senior employees • Job rotation between control functions and business lines • Training programs are available for all staff to develop risk management competencies

^a The table is an elaboration of the authors which does not report the exact contents of the FSB's document but sums-up some of the main concepts

on sound, articulated values which are carefully managed by the leadership of the financial institution (FSB 2014). In this regard, supervisors should set expectations for the board to oversee management's role in fostering and maintaining a sound risk culture. This requires supervisors to effectively articulate these expectations to the board and senior management and ensure ongoing follow-up on whether these expectations are being met.

The supervisors' intervention on the banks risk culture can have various forms.

In the US financial system, for instance, the New York Federal Reserve promotes and monitors best practices that support the integrity and effectiveness of financial markets, through the improvement of a culture in which people are motivated to follow those good practices.

The US Financial Industry Regulation Authority (FINRA) is reviewing how brokerage firms establish, communicate, and implement cultural values, and whether cultural values are guiding business conduct (See Box 4.3). As part of this review, they plan to meet with executive business, compliance, and legal and risk management staff of the firm to discuss cultural values. They would also like to discuss how the firm communicates and reinforces those values directly, implicitly, and through its reward system. They are particularly interested in how firms measure compliance with their cultural values, in what metrics, if any, are used and in how firms monitor implementation and consistent application of those values throughout the organization.

Box 4.3 Establishing, Communicating, and Implementing Cultural Values.

The experience of FINRA in brokerage industry

The Financial Industry Regulation Authority (FINRA) is reviewing how brokerage firms establish, communicate, and implement cultural values, and whether cultural values are guiding business conduct.

The brokerage firm may have its own definition of "firm culture" that it can be used to prepare for a meeting with FINRA and respond to it.

This inquiry is not an indication that FINRA has concerns about a firm's culture or has determined that it violated any rules or regulations. Rather, the goal is to better understand industry practices and determine whether firms are taking reasonable steps to properly establish and implement

their own cultural values within the firm. Knowing firms' practices in this area, and the challenges they face will help FINRA develop potential guidance for the industry and determine other steps that could be taken. In preparation for the meeting, FINRA request that firms submit the following information:

- A summary of the key policies and processes by which the firm establishes cultural values.
- A description of the processes employed by executive management, business unit leaders, and control functions in establishing, communicating, and implementing firm's cultural values.
- A description of how firm assesses and measures the impact of cultural values (to the extent assessments and measures exist) and whether they have made a difference in achieving desired behaviors.
- A summary of the processes the firm uses to identify policy breaches, including the types of reports or other documents the firm relies on, in determining whether a breach of its cultural values has occurred and a description of how the firm addresses cultural value policy or process breaches once discovered.
- A description of the firm's policies and processes, if any, to identify and address subcultures within the firm that may depart from or undermine the main cultural values.
- A description of the firm's compensation practices and how they reinforce cultural values.
- A description of the cultural value criteria used to determine promotions, compensation, or other rewards.

In UK, both the Prudential Regulation Authority (created as a part of the Bank of England by the Financial Services Act in 2012 and responsible for the prudential regulation and supervision of around 1700 banks, building societies, credit unions, insurers, and major investment firms) and the Financial Conduct Authority (FCA), (the conduct regulator for 56,000 financial services firms and financial markets in the UK and the prudential regulator for over 24,000 of those firms, established in 2013) explicitly promote in supervised entities the strengthening of a corporate culture aimed at encouraging sound and prudent behaviors, by using their formal powers and influence. The PRA, for example, has the power to nominate, approve, or appoint a skilled person (an independent expert who can provide an oversight of aspects of a firm's activities) to produce a report to gain a deeper understanding of identified

concerns, to determine whether they result from serious failings in culture, and possibly propose recommendations for the management to address them.

The Banking Standard Board (BSB) was established in 2015 on the initiative of six of the largest banks and the largest building society in the UK to help raising standards of behavior and competence across the banking sector, after the recommendations by the UK Parliamentary Commission on Banking Standards (2013). The BSB's chairman was appointed by the Governor of the Bank of England. The new organization opened its doors to membership across the banking sector and the building societies in January 2016 (See Box 4.4).

Some supervisors went further. The Dutch Central Bank (Kellermann et al. 2013) has undertaken since several years a supervision on banks' "behavior and culture," which "has proved to be a valuable supplement to the more traditional forms of supervision, as it addresses the causes of behavior that impacts on the performance and risk profile of financial institutions and consequently on financial stability" (De Nederlandsche Bank 2015). Monitoring implies also a regular field activity, which consists, e.g., in the participation to official meetings (such as Committees, Board meetings, etc. in order to observe and evaluate group dynamics and decision-making). This activity is carried out, since 2011, by a dedicated expert center within the Central Bank, comprising experts from a wide range of backgrounds—psychologists, change experts, and governance experts. In the first 5 years, it covered almost 50 supervised institutions (banks, insurance companies, mutual funds, and trusts) with respect to decision-making, corporate governance effectiveness, risk culture, capacity for change, search for yield, and root causes of supervision problems. Monitoring culture is a difficult task and obviously, it has to follow a risk-based approach. Culture is a soft area and it requires an organizational analysis of soft variables: these are very different from traditional forms of financial supervision (self-assessment, interviews, attendance at meetings, climate, and employee satisfaction analysis, etc.).

Box 4.4 How to communicate values and behavioral expectations to staff

According to the Banking Standards Board (2016)

Providing clarity on values and behavioral expectations

- From face-to-face learning or “off-sites” to which culture is explicitly linked, to strategic aims, so that managers have the opportunity to explore ethical dilemmas in a practical way.
- Leadership development programs which incorporate a clear articulation of behavioral expectations.
- Support for line-managers in explaining and implementing strategic and cultural priorities, recognizing the pressures faced by staff, particularly in middle management grades.

Personalized communication from leaders

- Regular email and intranet updates from the CEO.
- Q&A phone sessions with the CEO.
- Video diaries from executive team members.

Interactive methods

- Collaboration sessions via internal social media platforms.
- Regular leader-facilitated meetings, discussion-based breakfasts, and events for staff.

Organizational media

- Formal memorandums and bulletins.
- Use of the intranet.
- Use of employee magazines.
- Digital screens in lobbies.
- Regular e-learning.
- Promulgation of decision-making tools.

Cascade processes

- Cascade from leadership team to managers and then to employees.
- Monthly team briefings to help managers communicate key messages.
- ‘Town Halls,’ roadshows, and other events.
- Employee-led networks.

Ultimately, the belief that a corporate culture, consistent with the business strategy and the risk appetite of the bank, is a key asset of the bank and can “make a difference” is growing even among regulatory and supervisory authorities.

In this regards, two issues remain open for further debate.

First, it can be stated that the “cultural capital,” which is as important as the economic and regulatory capital, is a fundamental line of defense towards excessive risk-taking.

Capital adequacy and risk culture adequacy can, in fact, be considered as complementary and both necessary for the stability and efficiency of individual banks and the financial system as a whole.

The EBA 2015 Risk Assessment highlighted that banks, on the one hand, strengthened their capital position but, on the other hand, showed a growing exposure to unorthodox behavior, of which, however, they are always more aware. Regulatory pressure on bank capital may therefore not lead to the desired results if the banks concerned are characterized by an inadequate risk culture, making capital allocation inefficient.

Some empirical evidence recently emerged (Fritz-Morgenthal et al. 2016) on the fact that a proper risk culture characterizes banks with the best operational and financial balances, with particular reference to capital adequacy and risk exposure.

Banks with adequate “cultural capital” should thus be able to operate with lower regulatory capital.

Second, regulation and supervision are going to be undoubtedly (and in some cases have already been) a big driver of risk culture change programs. Risk culture features in many regulatory speeches. Frustrated organizations complained about an excessive demand for production of documents, about how regulation was interfering with business decisions and how it was crowding out attention to the softer dimensions of risk culture. Cooperatively disposed organizations accepted the new regulatory climate and sought to work with this more actively. A key issue is whether financial organizations understand the extent of the regulatory footprint on their business. The trade-off between their own approach to risk culture and that of the regulator is not even visible to many organizations. It also becomes apparent that there is a regulatory subculture in the sense of a network of spanning parts of regulators, represented by financial organizations and advisors who share common values. Evidence should be gathered from the full range of supervisory

activities in order to avoid that the assessment of risk culture is perceived and managed as a pure compliance-driven exercise.

Therefore, it is essential that authorities maintain a certain distance from banks' strategic and policy choices in order to accompany the growth and consolidation of a risk culture, tailored to individual business models and corporate characteristics. In other words, the new culture cannot (only) be a matter of compliance with regulatory requirements, especially if these are particularly invasive. A "regulatory risk culture" could prove to be ineffective over time in supporting a sound and prudent management of financial institutions, because it is not sufficiently internalized and therefore not very persistent. It would only create a cultural mainstream in several banks, fed by the influence of regulation, and prompt conduct and behavior in line with the supervisors' expectations, which does not necessarily result virtuous from the standpoint of the financial system as a whole (for example, in the case of a common reaction to external events, which might amplify procyclicality and systemic risk).

4.5 Risk Culture of Regulators and Supervisors

The financial crisis has highlighted the need to accelerate two trends that have long been observed in financial supervision: the gradual harmonization of supervisory styles and the change in supervisory tools and techniques.

The first trend is the gradual harmonization (not always "minimum") in the regulation and supervision of financial systems, which in the case of Europe has also taken the form of the Banking Union.

There is no doubt that the supervisory styles of the different national authorities—defined as the behaviors that supervisors adopt in their activities, combining tools, resources, information, and reports available, often to monitor compliance with the same regulatory provisions—can be and in fact often are quite different. In this perspective, the SSM was the first concrete attempt to uniform supervisory styles, taking advantage of the unified institutional reference represented by the ECB.

Main differences in supervision styles around the world concern:

1. focus on compliance vs risk management;
2. role of the supervisor in corporate governance (hands-off approach vs direct observation/participation in meetings);
3. recourse to consultants and external auditors vs only in house staff work;
4. styles of oversight (private vs public meetings, disclosure vs privacy);
5. attention paid to issues different from capital (business models, board, culture, strategy).

In the awareness that the completion of a true regulatory uniformity is still ongoing, a progressive and rapid convergence towards a new common style of supervision is needed, and Europe can be facilitated (and urged) by the integration and coexistence of a single European supervisor and many national supervisors cooperating together.

The features of the new supervisory style, which is still affected by the differences between various countries, are related to the approach to supervision, the instruments used, behaviors and attitude of supervisors towards the controlled entities.

The new approach is characterized by a greater focus on risk management, rather than on just a certification of compliance.

Supervisors are forward-looking, and they take care of the consequences of banks' decisions on risk issues.

The analyses carried out are followed by timely action, based on intense contacts with bank management, and a consequent communication to the public.

Supervisors perform an in-depth assessment of bank governance, covering issues such as the sustainability of business models, the selection and appointment of board members and key managers, and the adequacy of the organization's corporate culture (De Polis 2015).

The second trend, autonomously arisen from the first one but then gradually strengthened by the same, regards the change in management and organizational tools used by supervisors, often driven by the changing role of central banks. This raised particularly complex governance issues, especially related to the nature and multiplicity of the functions performed (Frisell et al. 2008).

The combination of rules and supervisory oversight and judgement is critical (Dickson 2013). Further, if regulation rather than supervision becomes the focus, a riskier system may be created. Rules often have unexpected consequences: it is not easy to get rules right (Nouy 2013). At the same time supervision is difficult to assess as it is typically carried out behind the scenes. It is much more time consuming to change supervision or build supervision capacity than it is to change a rule.

A more intense and effective supervision remains a core element on the supervisory and regulatory agenda. It allows supervisory authorities to promote best practices, and identify and address risks before they become serious problems for financial institutions. The experience of the crisis showed that there was room for improvement in supervisory practices in many areas. The sharing of supervisory experiences and the advancements of some supervisors in selected areas have acted as catalysts for other supervisors to improve their practices and explore new approaches and tools. Enhancements in risk governance practices need ongoing focus as does supervisory interactions with boards, particularly on more difficult topics such as risk appetite and risk culture. Many supervisors believe it is time to take stock of progress and ensure that changes made to date, including new tools and approaches, are effectively integrated into their “steady state” processes and assessments. This is a difficult process, which requires changes at many levels within supervisory authorities (Financial Stability Board 2014).

The new supervisory framework requires a renewed “toolbox.” The organizational structures of regulatory authorities and supervisory agencies show increasing flexibility and change frequently, and that was formerly unthinkable. New internal and external communication policies are experienced, to encourage the exchange of knowledge and learning and facilitate the decentralization of decision-making. In some cases, the highest levels of the institutions elude operational management, to devote themselves to strategic governance. Cross-functional teams are set up and external consultants are more and more contracted, not only to deal with very specialized issues but also for wide-ranging collaboration.

Research activity involves external partners and the available databases are shared. Operating systems adapt to change, promoting new selection policies, incentives, and empowerment. A more intense job rotation is carried out, and the phenomenon of revolving doors, that is, the transition of managers from and to the financial industry, is no more seen as a taboo (as it was often in the past) but as an opportunity, precious and valuable, if accompanied by an explicit management of the incompatibilities and conflicts, to promote cross cultures and skills.

Supervisors need to develop a broader experience and a set of appropriate skills to interact with the institutions' senior management on the role played by risk culture. Authorities should ensure that supervisors in charge with the assessment of corporate culture are adequately trained and able to apply experienced judgement and clearly articulate these judgements. Failure by an institution to remediate findings related to poor risk culture should lead to the application of intervention measures proportional to the size of risk exposures and materiality of the risks involved. Supervisors should be aware of the unintended consequences when trying to influence risk culture.

In this scenario, characterized by the comparison between different regulatory approaches undertaken in various countries, since a long time in rapid evolution, and the progressive creation, in the European case, of a new style of supervision led by the ECB, corporate culture of the supervisory authorities plays an important role, for reasons similar to the ones discussed above with reference to the supervised institutions.

Essentially, the main traits of this "new" culture of regulators are the following (Momani and St. Amand 2015; Dickson 2013):

1. an orientation towards learning and knowledge sharing, passing by an intense collaboration between functions and people;
2. the ability to effectively communicate with other authorities, markets, supervised institutions, and people;
3. the emphasis on the selection, development, and retention of human resources;

4. excellence in research, carried out within the institution and open to cooperation with external resources;
5. creation and consolidation of a shared vision of values, objectives, and organizational behavior.

As regards risk culture, SSM is in fact also representing the first attempt to achieve a sufficient “levelling” between supervisors and controlled entities. In this perspective, it is important to keep in mind that, in order to ensure that banks make progress in their risk culture, it is necessary for the supervisor to put in place an own attitude towards risk which is consistent with the base scenario and its own objectives, management, and organizational characteristics. At the same time, if this culture results inadequate, relevant stakeholders might be negatively affected. The issue was raised by the investigations carried out by the GAO (US Government Accountability Office) on the conduct of the SEC, as a result of the Madoff case, and in the related controversy in the case of Carmen Segarra, an official of the New York Fed, who pursued the Institution for having been too complacent towards a major supervised bank (See Box 4.5). Control culture is also, paradoxically, more difficult to change than the rules, since cultural changes are more rare and slower than those in legal institutions and norms.

In other words, the implementation of an “appropriate” risk culture has a high relevance for supervisors as well.

This challenge is as important as the change in bank risk culture. Provided that self-regulation and market control, by themselves, have proved to be unable to maintain stability and efficiency in the financial system, a “good” supervision can be much more effective, and even more a well-designed regulation, since it can directly affect individual and social behaviors (Barth et al. 2007). The right balance between general principles and detailed rules, interventions on supervised entities based on judgments and perceptions as well as on formal inadequacies, mix of transparency in market communications and data protection, and ability to influence banks’ behaviors without feeding conformism, testify that, even in the case of the supervisors, a proper risk culture can make a difference.

Box 4.5 Regulatory Culture is Hardly Immune to Challenges..

The SEC formally charged Madoff with securities fraud on December 11, 2008; the day after Madoff's sons turned him into the Federal Bureau of Investigation. On March 12, 2009, Madoff pleaded guilty to all charges. However, although the verdict was rapidly announced, the SEC's internal Office of Investigations discovered that the SEC itself had acted too slowly. The Office of Investigations learned that the SEC had received six "red flag" complaints about Madoff's hedge fund operations, dating as far back as 1992, presented in two reputable articles in the trade and financial press from 2001 that questioned Madoff's abnormally consistent returns. An extensive study of the SEC by the government agency in charge of performing audits and investigations for US Congress (Government Accountability Office – GAO) in 2012 and 2013 found systemic problems throughout its organizational culture: based on the analysis of views from Securities and Exchange Commission (SEC) employees and previous studies from GAO, SEC, and third parties, GAO determined that SEC's organizational culture was not constructive and could hinder its ability to effectively fulfill its mission. In describing SEC's culture, many current and former SEC employees cited poor ethics, distrust of management, and the compartmentalized, hierarchical, and risk-averse nature of the organization. Apparently, the SEC's hierarchical culture was hardened into "silos," which not only prevented the flow of information from one division to another but also hindered the flow of information between management and staff. The GAO concluded its report with seven specific recommendations for changing the SEC's culture. These included improvements in coordination and communication across internal departments and other agencies—presumably to prevent future cases like Madoff's one from slipping through the cracks—and changes in personnel management practices to better align job performance with compensation and promotions. The SEC agreed with all seven recommendations. On its own account, it has made significant progress in addressing each of them, from that time on. For example, based on GAO's recommendations, SEC has made significant efforts to improve communication and collaboration. In an effort to optimize communications and collaboration, the SEC has benchmarked and implemented a variety of best practices used both within the public and private sector, including cross-agency working groups, an agency-wide culture change initiative, and a more robust internal communication strategy.

More recently, GAO has opened an examination into the Federal Reserve's supervision of large banks to determine if the central bank is overly influenced by the institutions it oversees. Regulatory capture refers to the phenomenon of a regulatory agency falling under the sway of the industry or companies that it is in charge of supervising. The inquiry may cover other financial regulatory agencies. In July 2016, GAO decided it would also probe the Office of the controller of the Currency, the Federal Deposit Insurance Corp., and the National Credit Union Administration.

4.6 Conclusions

If risk culture is an essential driver of bank performance and risk-taking, it must be subject to banking supervision.

The devastating experience of the financial crisis has led to more stringent rules with smaller spaces for exercising discretion. A process for the integration of risk measures in business plans and in remuneration and incentive schemes has been promoted by regulators. At the same time, risk management and control functions have been moved to a higher level within the bank organization, and involved in relevant decision-making processes, with significant power of influence. From now on, risk must, therefore, be at the heart of each strategic policy and decision.

The increasing focus on risk management processes led to the inclusion of strategic choices regarding risk appetite and risk tolerance as well as risk culture among the elements being assessed within the Supervisory Review and Evaluation Process (SREP). Banks had to follow this approach and engage actively and visibly in an improvement of their risk culture. And those who managed it better, proving consistency, awareness, and determination in their strategic choices, are certainly benefiting of a better reputation in the market.

But rules alone cannot determine a final change in corporate culture. And it is hard to believe that form can be synonymous with substance in this field. Both supervisors and banks must undergo a fundamental evolution of their cultural models, in order to restore trust in the financial system and develop a common view on a sound and prudent management policy able to support bank performances over the long term and ensure the stability of the financial system as a whole.

The table is an elaboration of the authors which does not report the exact contents of the FSB's document but sums-up some of the main concepts.

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5

Internal Controls and Risk Culture in Banks

Doriana Cucinelli

5.1 Internal Controls and Culture Evolution

In the last 30 years, regulators and academics have focused their attention on different topics related to the corporate culture of banking.

During the late 1990s, control culture was considered the most important aspect of enterprise culture in financial institutions and a fundamental driver of the effectiveness of the internal control system (BIS 1998). In the next phase, attention shifted from control culture to compliance culture. BIS (2005) defined compliance risk and issued guidelines on the compliance risk function, a new component of the internal control system. In BIS (2005), the Basel Committee also made recommendations on the responsibilities of Boards of Directors (BoD) and Senior Management in defining ethical and integrity values and behavioral models for staff. It also made recommendations on the relationship between compliance function and the other control functions,

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such as the Internal Audit function. It emphasized that compliance should be part of the culture of any organization. Compliance should start at the top and is most effective if corporate culture emphasizes standards of honesty and integrity. The compliance function should be independent and the Internal Audit should monitor it regularly.

During the financial crisis, authorities and institutions realized that risk is a key component of a bank's business. In this third and current phase, one of the most important goals is to identify the main risks and draft risk mitigation plans. It has become widely recognized that "risk culture" can be defined as "*the values, beliefs, knowledge, attitudes and understanding about risk shared by a group of people with common purpose, in particular the employees of an organization*" (Institute of Risk management 2012). Risk culture and Risk management are closely related, and risk culture is a critical element of risk management efforts.

In a fundamentally altered landscape, the Financial Stability Board (FSB 2014) issued Guidance on Supervisory Interaction with Financial Institutions on Risk Culture. This identifies elements underpinning a good risk culture in financial institutions and aims to assist supervisors in assessing the strength and effectiveness of the culture of financial institutions in risk management.

The BoD and senior risk management play an important role in the dissemination of risk culture. Because the rest of the institution will emulate top managers' behavior, it is critical that senior management demonstrates adherence to sound risk management and high standards of integrity.

In order to investigate and develop their risk culture, banks often focus on tangible aspects such as Risk Appetite Statement, Mission Statement, the proxy system, and the approval limits. These, however, do not capture the complex behaviors and skills that make up the risk culture of a bank, and which are often the most difficult to change. It is, in fact, necessary to go beyond the "tools" of risk culture, and it is crucial that banks learn new methods of doing this. Risk management skills are the key to successful risk management.

Culture is the most important determinant of behavior, and the financial crisis has highlighted the great importance of a sound risk culture as an element of the internal control system. But even when an

internal control system is in place and compliant with regulations, there is no guarantee that it is applied and followed by the whole organization. It can be the case that the fundamental principles of control are not “embedded” in the enterprise culture. The Board of Directors may define a good internal control system, but if they fail to disseminate the culture of risk, bank employees may not adopt the ideals of the organization.

This chapter describes the evolution of banking culture, from the culture of control, to the culture of compliance, up to the culture of risk prevailing today. It describes the relationships between the different “lines of defense” existing in a bank and the role of the BoD and top management in disseminating risk culture over all levels.

This chapter is structured as follows. Section 5.1.1 describes internal enterprise control and its components, focusing on the environment and the key factors that influence it. Section 5.1.2 describes the concept of culture of control. Section 5.1.3 analyzes the culture of compliance. Part 2 examines the relationship between the internal control system and risk management in the banking organization. Sections 5.2.1, 5.2.2, and 5.2.3 focus on the three different lines of defense. Part 3 provides conclusions.

5.1.1 Internal Controls and Enterprise Risk Management: The Key Role of Control Environment

Regulators have always considered culture as a fundamental element of the internal control system (ICS). In the early 1990s, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) issued a document on the internal control framework providing principles-based guidance for designing and implementing an effective internal control system to meet management need to control their enterprise and ensure that organizational goals related to operations, reporting, and compliance are achieved (COSO 1992). Today, the Internal Control—Integrated Framework has been replaced by a new document published in 2013. These new guidelines help organizations

in implementing and designing an internal control system in the light of the many changes in business and operating environments brought about by the financial crisis. COSO represents the key elements of the Internal Control System in a “cube”¹ showing the five key areas as monitoring, information and communication, control activities, risk assessment, and control environment.

At the beginning of the 2000s, there was a growing awareness of the importance of sound risk management. In 2001, COSO and PriceWaterhouseCoopers started developing a framework for improved enterprise risk management (COSO 2004). In those years, events highlighted the increasing importance of risk management and the need to implement a strong framework to effectively identify, assess, and manage risk.

In addition to defining the Internal Control System, COSO also defines Enterprise Risk Management. The 2004 definition was *“a process, effected by an entity’s board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.”*

The eight ERM components define a sound internal controls system and specify all phases of risk management (Table 5.1). They are the same as the phases in the Internal Control System cube, but Risk Assessment is expanded into four different phases: objective setting, event information, risk assessment, and risk response. These phases are closely linked to the identification, assessment, and management of risks (Fig. 5.1). With this specification, COSO highlights that ERM is integrated with the internal controls system.

As in the Internal Control System, COSO inserts the objectives and business structure into the lateral and top sides of the cube.

The environment where companies work is uncertain for various reasons: the financial crisis, globalization, technology, the threat of terrorism, regulation, and changing markets. This uncertainty generates risk. In order to manage this risk correctly, and take the only risk that is in line with its risk appetite, a company needs to define the ERM. When

Table 5.1 The eight ERM components

Components	Description
Control environment	The internal environment is the basis of the organization approach. At this level, the organization defines its tone and specifies the level of risk that wants accept. Key elements include the BoD, the risk appetite, the risk management philosophy, etc.
Objective setting	The goals of the organization must be aligned with the risk appetite defined. Risks can derive from both external and internal sources, so it is crucial that the enterprise risk management defines a precise process of risk management, from risk identification, to risk assessment, and risk response
Event identification	The identification of internal or external events and assessment of which events would be positive or negative for the entity as a whole
Risk assessment	The organization defines the probability of occurrence of a negative event and the impact. This is the first phase in defining risk management
Risk response	Management identifies the best response aligning it with the risk tolerance and appetite of the organization
Control activities	Crucial to ensure the effectiveness of risk response. Policies and procedures are designed for maximum efficiency by management
Information and communication	Information is communicated rapidly among the organization. Fast and complete information ensures efficiency
Monitoring	Completes the cycle. If necessary, the risk management team can step in and realign the activity to company risk tolerance and appetite.

Source COSO (2004)

ERM is clearly defined, a company can operate knowing the level of the risk it can take on, and avoid risk outside its risk appetite. In this

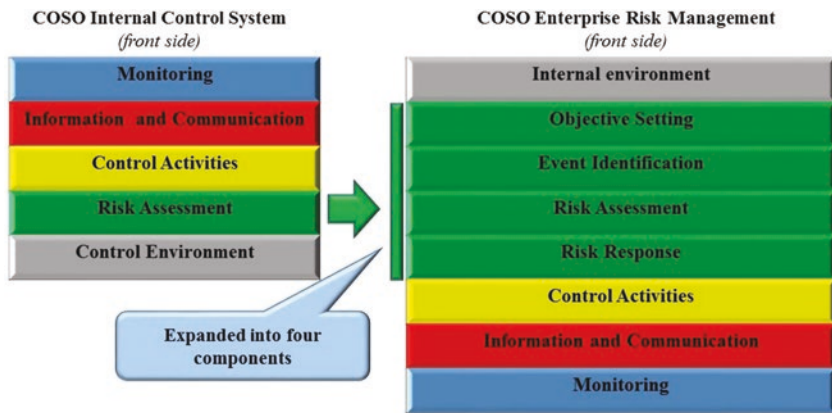


Fig. 5.1 Internal control system vs Enterprise risk management. *Source* Author's elaboration on COSO Internal Control System and COSO Enterprise Risk management

scenario, a company can create maximum value for its stakeholders, who know that risk is managed correctly.

Many of the notorious financial failures leading to the 2008 financial crisis, including governance failures, and Enron and WorldCom, were, at least in part, the result of weak control environments. The control environment, in fact, underpins the seven components of ERM and is the key element of a sound internal control system. It is the first element of ERM shown in the "cube," and could be described as the basis of the internal control system where it operates and furthers the strategic objectives of the organization. The vision and strategy communicated by senior management can be seen as the "glue" which holds the organization together, and moves all employees in the same direction.

Top management determines the control environment, with the help of the management team. The aim is to define the risk culture of the organization and to increase the employees' risk sensitivity. They create the basis of the ERM and define the goals and the scope.

There are seven key factors that influence the internal control environment:

1. Communication and enforcement of integrity and ethical values;
2. Commitment to competence;

3. Participation by those charged with governance;
4. Management philosophy and operating style;
5. Organizational structure;
6. Assignment of authority and responsibility;
7. Human resource policies and practices.

1. Communication and enforcement of integrity and ethical values: in this key factor, the most important element is the “tone at the top.” We can define this concept as the Board of Directors and Management team behavior. If they demonstrate integrity, honesty, and ethics, these values spread among the entire organization, and employees are more likely to follow the same behavior. However, for employees to be honest and upright, the “tone at the top” must be credible, and the code of ethical conduct must be followed in particular by top management.
2. Commitment to competence: each employee should be assigned to his job according to his or her competences. Without the right skills, the employee cannot obtain good results. For this reason, the definition of competences necessary for a role is a crucial goal for the management team. They need to identify the right employee for the right tasks.
3. Participation by those charged with governance: The Board of Directors plays an important role in the internal control system. Usually, the BoD defines the strategy of the company and controls accountability, but it is fundamental that the internal committee are independent of the BoD. The audit committee and the internal control committee (inside the BoD) especially need to be independent.
4. Management philosophy and operating style: the Board of Directors will include individuals who are different in terms of philosophy and operating style, but overall the philosophy and operating style of the BoD should be in line with the control environment and should be pervasive. Compliance with financial report standards is crucial for sound management practices. Where there is manipulation of profits because they are not applied, and where a management team shows

an aggressive attitude, these are signs of weaknesses in the management philosophy and operating style.

5. Organizational structure: in order to achieve its objectives, the company should define how activities are planned, executed, controlled, and monitored in detail. An organizational chart showing truthfully roles and responsibilities of employees and company's goals is necessary for an efficient organizational structure.
6. Assignment of authority and responsibility: ERM can work efficiently only where employees know what their responsibilities are and who they answer to. Clear job descriptions showing responsibilities of each role are a good tool to strengthen the ERM system.
7. Human Resource policies and practices: in order to clarify the company–employee business relationship, the company should clearly define guidelines for HR management, covering recruitment, promotion, remuneration, and training. In absence of such guidelines, the company is exposed to the risk of hiring people who lack the necessary skills and qualifications.

For the internal control system, the internal control environment is like the chassis of a car, which defines the form and position of the different sections. When the chassis is damaged, driving the car is more difficult and risky; there can be instability and loss of control over gears etc. Just as a chassis is the fundamental component of a car, the internal control environment is the basis of the internal control system, and only if the internal control environment is properly defined can the other components function properly and the bank achieve its objectives.

5.1.2 Internal Control System in the Banking Sector: The Culture of Control

The Basel Committee has dealt with the internal control system on the basis of COSO since 1998. In the “Framework for Internal Control System in Banking Organizations,” the Committee defines the principles for a sound internal control system. These principles are intended to be for general application and use by supervisory authorities for

monitoring how banks structure their internal control system. As a result of this regulatory intervention, the concept of “control culture” has become widespread.

The Basel Committee (1998, p. 8) defines the internal control system as “*a process effected by the board of directors, senior management and all levels of personnel. It is not solely a procedure or policy that is performed at a certain point in time, but rather it is continually operating at all levels within the bank. The board of directors and senior management are responsible for establishing the appropriate culture to facilitate an effective internal control process and for monitoring its effectiveness on an ongoing basis; however, each individual within an organization must participate in the process.*”

The main objectives of the internal control process can be categorized as follows:

1. *Efficiency and effectiveness of activities (performance objectives);*
2. *Reliability, completeness and timeliness of financial and management information (information objectives); and*
3. *Compliance with applicable laws and regulations (compliance objectives).”*

Among the group of principles outlined by the Basel Committee,² those regarding management oversight and the control culture highlight the importance of BoD and senior management responsibilities. The BoD is required to approve and periodically review business strategies and bank policies. In addition, it is responsible for the definition of an adequate and effective internal control system. After this, senior management take on the task of implementing the strategies and policies, and is also responsible for the development of processes referring to the identification, measurement, and monitoring of risks that arise. (BIS 1998). Furthermore, BoD and senior management are responsible for promoting high ethical and integrity standards among all the levels of the organization.

In order to achieve internal control goals constructing the enterprise culture should give priority to cultivating teamwork spirit, so as to spur employees to self-improvement, and create, maintain, and advocate an

agreeable atmosphere for teamwork spirit. Information and communication become sound tools of control culture. Finally, the BIS (1998) underlines that having a strong internal control culture does not ensure that goals are reached, but in its absence, there are more opportunities for errors or improprieties to go undetected.

Despite the regulatory interventions following the Basel Committee guidance in many countries, there have been numerous cases of internal control failure in recent years (for an example, see Box 5.1). There are several reasons for the failure of the internal control system, which include taking decisions without adequate information, human error, deliberate circumvention, management overriding controls, and above all the prevalence of form over substance in implementing control measures. It is not enough to set up a risk or supervisory committee to meet once or twice a year. Only where formal control measures become real and are thoroughly integrated into the organization can financial intermediaries achieve the aim of having a strong internal control system.

Box 5.1. An example of the failure of the internal control system: the case of UBS

UBS, the Swiss bank hit by an alleged rogue trading incident, admitted that its internal controls had failed and that it was looking at whether to “claw back” bonuses from some individuals as a result of the incident.

While the overall bank was able to report a SFr1bn (£711 m) profit for the third quarter, the investment bank posted a pre-tax loss of SFr650 m. After the unauthorized trading loss, a drop in revenues because of the Eurozone crisis and a weaker Swiss franc.

Analysts focused on the compensation ratio—the amount of money set aside to pay staff relative to income—which reached 94% inside the investment bank. Management defended this high level by saying it included deferral of bonuses from previous years.

In total, the bank set aside SFr775 m for “variable compensation” in the third quarter, compared with SFr867 m in the second quarter, and said SFr467 m was related to prior years’ bonus deals.

Finance director Tom Naratil admitted that some staff may have to pay back a portion of their bonuses. “We do have a harmful act clause. As we review individuals’ accountability for the incident we’ll be reviewing if the harmful act clause applies,” he said.

A number of resignations have taken place since suspected rogue trader Kwaku Adoboli was arrested and charged with four counts of fraud and false accounting. He is yet to enter a plea to the charges and

is due in court next month. Among those to leave are the chief executive Oswald Grübel, as well as the two co-heads of equities—Francois Gouws and Yassine Bouhara—as well as handful of others who are facing “disciplinary action”.

Naratil also indicated that the bank was keen to pay bonuses, despite the loss in the investment bank. “We are in a competitive market, particularly for talent,” he said.

In a filing to the Securities and Exchange Commission in the US, made at the same time as it published third-quarter results, **UBS said its internal controls were “not effective”**. It is required to make a statement about internal controls under the Sarbanes-Oxley Act, brought in a decade ago after the Enron scandal. The bank highlighted two control deficiencies:

- **the control requiring confirmation with counterparties of trades within the investment banking equities business**
- **the controls for relationships between different trading desks within the investment bank’s equities and fixed income, currencies and commodities businesses to ensure that internal transactions are valid and accurately recorded in UBS’s books and records.**

“Investigations are ongoing, and management may become aware of facts relating to the investment bank that cause it to broaden the scope of the findings described above and to take additional remedial measures,” the bank said.

The bank, which employs 6000 people in the UK, is now expected to announce plans to scale back its investment banking arm—putting more UK jobs at risk—at a presentation in New York on 17 November. Its German rival, Deutsche Bank, also admitted on Tuesday that it was cutting 10% of its investment banking staff even as it reported a better than expected third-quarter pre-tax profit.

“During the third quarter, the operating environment was more difficult than at any time since the end of 2008, driven by a deteriorating macro-economic outlook, and significant financial market turbulence,” said Josef Ackermann, the Deutsche Bank chief executive who has also been involved in the talks to try to solve the Eurozone debt crisis.

Deutsche’s third-quarter pre-tax profit of €942 m (£820 m) included €329 m. from the corporate and investment bank which had reported €1.3bn a year earlier.

Deutsche Bank has written down its exposure to Greek government bonds to 46% of their face value—although the European Banking Authority is asking banks to assess their capital on the basis of a 60% loss. Finance director Stefan Krause said it would be able to meet the capital requirements set out by the EU.

5.1.3 Culture of Compliance

Customer interest in the reliability of financial institutions has been growing rapidly since before the beginning of the financial crisis. The financial and banking systems thus started a process of defining ethical values with the aim of setting up organizational defenses in the internal control system, with the specific purpose of making a preventive analysis of all possible consequences, legal, reputational, and operational.

The compliance function responds to these requirements. Basel Committee (2005) defines the “*compliance risk*” as “*the risk of legal or regulatory sanctions, material financial loss, or loss to reputation a bank may suffer as a result of its failures to comply with laws regulations, rules, related self-regulatory organization, standards, and codes of conduct applicable to its banking activities.*” The compliance function checks that the organization respects rules, regulations, and laws at all levels, both internal (self-regulation) and external (from authorities). In order to obtain the best results, compliance should be part of the culture of the organization; not just the responsibility of specialist compliance staff. All employees should work in line with compliance standards, but a bank will be able to manage better its compliance risk if it has inside the organization an effective compliance function.

In order to help banks and financial intermediaries to set up an effective compliance program, the Basel Committee issued guidelines in 2005. The document highlights the principles regarding the Board of Director and senior management responsibilities and the characteristics of the compliance function. It includes an in-depth analysis of the independence and the relationship between compliance function and the other control functions, such as the Internal Audit.

Like the control culture, compliance also needs to start at the top. It will be most effective in a corporate governance culture where top managers and BoD emphasize standards of honesty and integrity. It should be seen not as an obstacle in the organization, but as an integrated part of the business activities. Only when compliance becomes an integral part of the corporate culture at all levels can compliance risk be managed correctly.

A compliance function, to be effective, should be independent from the other functions of the organization. The Basel Committee (2005) states that to be independent, it should follow four criteria: first, “the compliance function should have a formal status within the bank; second, there should be a group compliance officer or head of compliance with overall responsibility for co-ordinating the management of the bank’s compliance risk; third, compliance function staff, and in particular, the head of compliance, should not be placed in a position where there is a possible conflict of interest between their compliance responsibilities and any other responsibilities they may have; fourth, compliance function staff should have access to the information and personnel necessary to carry out their responsibilities.”

So the concept of a culture of compliance has been present for more than a decade. Its importance and the importance of compliance risk management for establishing an effective internal control system and sound risk management is often acknowledged by regulators. However, continuing compliance and ethics scandals show that it is still dramatically lacking in many organizations (See Box 5.2). The problem does not always lie in the compliance function itself, but sometimes in an individual employee. A high profile bank should, however, be capable of ensuring the ethics of its own compliance staff at all organizational levels. If serious damage can be done by just one “bad apple,” there are clearly problems with the culture of compliance in such cases.

Box 5.2. Cases of failures of culture of compliance

This insert shows several examples of failure of culture of compliance during the last decade. In all cases, banks or financial intermediaries failed in their compliance programs and were fined for breaking the law, mainly money laundering legislation.

*In December 2016, **Intesa San Paolo Bank** was fined \$2.35 million by the US Authority. It was found guilty of bypassing the laundering controls from 2002 to 2006 and using opaque practices in about 2700 clearing transactions in US dollars with Iranian clients.*

*At the end of 2016, **Department of Financial Services** fined the **Agricultural Bank of China** \$215 million for violation of money laundering laws and masking potentially suspicious financial transitions. The bank was also required to install an independent monitor in order to reinforce its **internal control system and compliance function**.*

*In summer 2016, the NY Department of Financial Services also fined the Commercial Bank of Taiwan \$189 million for violation of **New York money laundering state laws**.*

*In 2015, **MoneyGram's chief compliance officer** was fined for \$1 million for failure to adequately address significant money laundering activity.*

*Two of Sweden's banks were tried in 2015 for violation of money laundering laws. **Noredea bank was alleged not to have detected attempts to launder money and finance terrorism** and was fined SKr 50 million. Nordea had already been fined in 2013 for a **previous problem of compliance with money laundering** regulations, and was told to **improve its compliance programs and repair the major deficiencies in current compliance practices**. In the same way, regulators fined Handelsbanken SKr 35 million for failing to conduct risk assessments of their clients. This failure could lead to a high risk and clients could exploit this failure for purposes of money laundering.*

*Another example of compliance program failure was JPMorgan Chase which in 2014 was **fined for violation of the Secrecy Act**, linked to the failure of the report of the multibillion dollar fraud of the Mardoff Ponzi scheme. In January 2013, the OCC had already warned three affiliates of JPMorgan Chase to **improve their compliance programs and improve weaknesses**.*

*In December 2012, **HSBC was accused of conducting transactions** on behalf of customers in Cuba, Iran, Libya, Sudan and Burma. It was fined \$1.3 billion as part of a deferred prosecution agreement, and paid \$665 million in civil penalties for helping to launder \$880 million in drugs proceeds through the U.S. financial system.*

In 2012, ING was also fined \$619 million for moving \$2 billion on behalf of Cuban and Iranian entities. It was charged with violating the International Emergency Economic Powers Act and the Trading with the Enemy Act and the New York state laws.

Source examples of news published online⁴

To prevent such scandals, and protect the company from the possible penalties for noncompliance with the rules, it is important that banks build a foundation for a culture of compliance. It is important that all employees and the organization as a whole operate in line with compliance principles, in order to prevent the risk of operating illegally and incurring in the risk of a sanction. Table 5.2 outlines the main steps for having an effective culture of compliance throughout the organization.

Effective implementation of a compliance program is expensive and lengthy, but the cost of noncompliance is likely to be higher. Opting to be noncompliant, which is a matter of conscious choice, may lead

Table 5.2 The main steps of a culture of compliance

Steps	Definitions
Start with leadership	Board of Directors and Senior management should support and engage with the company's compliance efforts. They should specify integrity and honor values. Culture of compliance should start from the top
Align compliance with enterprise risk management	The compliance program should specify risks in each strategic area
Train and test	Companies should invest in the training and education of employees because education and skills are the basis of a sound culture of compliance
Incentivize ethical behavior	Employees are much more likely to learn when compliance is linked to remuneration. Employees will then incorporate policies and compliance directives into everyday activities
Do not ignore compliance errors	Mistakes are likely to occur a second time if they are not analyzed and acted upon. Violation of bank rules may also be an indication that the internal policy needs to be modified
Put effective technology in place	The right technology and data architecture, both within and outside the compliance function, can go a long way toward improving compliance efficiency and effectiveness. Automating controls can help lower costs and increase reliability, especially where there is a wide array of tools to support the compliance risk management process, either stand-alone or part of a wider solution.

Source www.deloitte.com and www.lockpath.com

banks to suffer heavy operational losses. Fines can be very high and can place the normal activity of the organization at risk. The best way to avoid problems with law is to improve the culture of compliance so that it becomes an inalienable part of the corporate culture. This may not solve all of a bank's problems, but banks should be able to show that

noncompliant employees are just that, rather than symptoms of a systemic problem.

The peculiarity of compliance risk compared to other risks is that it is closely linked to reputational, image, and strategic risk in having an impact on the entire organization. This means it should be managed *ex-ante*, with an emphasis on prevention rather than on sanctions for unethical or noncompliant behaviors. The culture of compliance is, in fact, one of the best tools to prevent unlawful behaviors among employees.

5.2 Internal Controls System and Risk Management in Banks After the Crisis

During the financial crisis, Financial Authorities started to pay more attention to bank risk governance, and new documents (EBA 2011; Bank of Italy 2013 and 2014) redefined the internal control and risk management framework. Moreover, in 2014, the Financial Stability Board (FSB) published its Guidelines on risk culture. Because weakness in risk culture is often considered to be a root cause of the global financial crises, these guidelines emphasize the importance of a sound risk culture. In particular, the FSB (2014) highlights that a sound risk culture should ensure an appropriate risk-reward balance consistent with the risk appetite declared in the Risk Appetite Framework. It highlights that a sound risk culture underpins a strong system of controls in line with the characteristics of the institution, the quality of data and models used by the institution and, finally, identification of all limit breaches and deviations from established policies.

Bank of Italy (2013) incorporated the EBA guidelines in Circular No. 263/2006, 15th amendment (subsequently included in Circular 285/13—1st amendment of May 2014, on prudential regulation according to CRD IV), which redefined the framework of internal governance. The new regulation contained many important innovations. The three different levels, first line control, risk controls, and internal auditing were retained, but the law also underlined the existence of the following three “line of defense:”

- Risk management systems: the process to identify, measure, control and manage risks of banks;
- Internal control systems: a system of effective controls is an important element of bank management and a foundation of good functioning;
- Internal audit: the most important aim of the internal audit function is to ensure the independence of the internal control system from all the other functions and members of the organization (IIA 2015).

The three line of defense are effective only if risk culture is a component of the internal control system. A sound risk culture in an organization arises from the repeated behavior of its members. Culture, behavior, and attitude are the three key components. Risk culture refines the concept of organizational culture to focus on the collective ability to manage risk. It is important for financial institutions because they need to take risks for achieving their objectives, and it impacts on the ability to take strategic risk decisions and deliver on performance promises.

Risk culture can be seen as a component of the internal control system, because dissemination of a sound risk culture and similar values among all members of a company make it possible to improve control over the different business lines. The propagation of company values means staff can operate in compliance with rules and beliefs of the organization, and take only appropriate and carefully considered risks.

In line with this, the FSB (2014) also emphasizes the important role played by sound risk culture. It notes that “*a sound risk culture should emphasize throughout the institution the importance of ensuring that: i) an appropriate risk-reward balance consistent with the institution’s risk appetite is achieved when taking on risks; ii) an effective system of controls commensurate with the scale and complexity of the financial institution is properly put in place; iii) the quality of risk models, data accuracy, capability of available tools to accurately measure risks, and justifications for risk taking can be challenged, and iv) all limit breaches, deviations from established policies, and operational incidents are thoroughly followed up with proportionate disciplinary actions when necessary.*”

In order to achieve the best results from the risk culture, it is important to be aware of the main indicators:

1. a correct tone at the top;
2. strong accountability;
3. effective communication and challenge;
4. a sound remuneration policy.

In this case too, the tone at the top is set by top management (board of management and executive management) who disseminate the organization's values and risk culture. Only if they can show the whole organization at all levels that they are the first to respect the organization's values, can they promote a sound risk culture throughout the organization.

Accountability concerns the prompt identification, management, and escalation of emerging and unexpected risk issues. Accountability is important because successful risk management requires employees at all levels to understand the core values of the institution and its approach to risk. Employees should know their responsibilities and role inside the organization, and be aware that they are held accountable for their actions. A sound risk culture is the basis for an effective challenge in the organization and in the decision-making process.

Regarding effective communication and challenge, the bank should promote an environment where there is open discussion and where employees are encouraged to express their point of view, and which enables the professional growth of the individual employee and the team. Communications need to be open and effective and in order to improve the environment where employees operate.

Finally, in order to encourage employees in correct behavior in line with the organization risk culture, financial and nonfinancial incentives should be in line with the goals of the bank. The most important incentives are the promotion system and the remuneration policy. Risk management and compliance are important in charge with the hiring process, decisions about promotions and remuneration and they should underpin the development, appraisal, and evaluation of the entire organization.

The risk culture is the keystone of the financial institution. Risk culture is an important tool that can help to balance the operation of a business. Thanks to its risk culture, the company can create more value for its stakeholders, because it can operate in line with its strategy and can pursue higher levels of performance. It can also operate in line with its declared risk appetite and manage risks correctly (Protiviti 2013).

5.2.1 The First Line of Defense: Operational Management

The first line of defense is based on the business units that operate at the “lowest” level, in other words, the units in close contact with clients. These carry out different activities, from the production of goods to the provision of financial services, depending on the company type and the industrial sector (FSI 2015). In line with the kind of work, the control activities are granular and refer to the individual transaction. The aim of the first line of defense is to perform the first level of control and provide immediate notification to the appropriate management levels. In their day-to-day control, business units need to take into account the institution’s risk tolerance/appetite and the policies, procedures, and controls (EBA 2011). The types of control are defined in the systems and process under the guidance of operational management, so the role of first line of defense is played by the operational management team (IIA 2013).

It is important to distinguish the two types of control that an operational manager can make; prevention and detection. In order to prevent any kind of undesirable actions, duties should be separated. For the purposes of prevention, proactive controls should be activated. Examples include approving payments for making purchases and ordering and accepting inventories, receiving bills and approving payments, authorizing returns and issuing refunds. Internal detection controls are designed to identify problems that really exist, and provide evidence that a loss has occurred. The main aim is to detect and correct errors or fraud. Examples of detection controls are monthly bank statements, review and verification of refunds, and supervision of petty cash accounts.

Both types of control are essential to an effective internal control system. Prevention is essential because it is proactive and emphasizes quality, while detection is important because it can confirm whether there has been a loss.

5.2.2 The Second Line of Defense: The Internal Control System

In a perfect world, a second line of defense would not be needed because the first line would be sufficient for effective risk management. In the real world, however, a single line is insufficient (IIA 2013).

The second line of defense aims to ensure effective control over the different functions and business lines. It is based on three different functions:

- A risk management function (and/or committee) aims to simplify and monitor the implementation of effective risk management practices;
- A compliance function aims to monitor various and specific risks. This function reports directly to senior managers;
- A controllership function that aims to monitor financial risks and financial reporting issues.

The responsibilities of these functions vary according to their specific nature. Table 5.3 reports the most important responsibilities.

The internal control system can be considered effective when it is able to recognize and assess the risk continually. It is fundamental that the internal control system is revised periodically and aligned with the new or previously uncontrolled risks. The second line of defense has to ensure that the first line can operate as intended (Schwizer 2013).

The financial crisis of 2007–2009 underlined the importance of sound risk management practices in the banking system. It showed clearly that banks are institutions that operate principally with risks. For this reason, a risk management framework able to identify, measure, control, and manage banks' risks is fundamental. The relationship

Table 5.3 Responsibilities of the second line of defense

Responsibilities
Supporting management policies, defining roles and responsibilities, and setting goals for implementation
Providing risk management frameworks
Identifying new and emerging issues
Identifying changes in the implicit risk appetite in the organization
Helping the management team into develop controls in order to manage risks and issues
Providing guidance and training on risk management processes
Making sure that risk management practices are effectively implemented by operational management, and continuously monitoring the process
If the risk scenario or regulatory change, the second line of defense must alert the operational management
Monitoring the adequacy and effectiveness of internal control, accuracy and completeness of reporting, compliance with laws and regulations, and timely remediation of deficiencies

Source IIA (2015)

between risk management and risk culture is very close, and in fact, one of the prerequisites for a strong risk culture is a comprehensive and independent risk management function under the direct responsibility of the Chief Risk Officer (CRO), or of senior management (EBA 2011).

Authorities, in fact, have given increasing attention to this and made efforts to improve the attention and the independence of the risk management function. One of the suggestions is the creation of risk committee in the Board of Directors, independent from other committees such as the control committee, and the requirement that a CRO be appointed.

Moreover, the Basel Committee 2015 guidelines on corporate governance for banks underline the importance of proper risk management procedures and specify that a sound risk management function must be independent and must be led by a CRO. The CRO should be of sufficient status, should be independent and he or she should have the access to the BoD. In recent years, the figure of CRO has become more important, and today the CRO reports to the CEO or directly to the Board of Directors in many banks (KPMG 2016). This shows

the increased importance attached to the risk management function in banks, because in the past the CRO usually reported to the CFO. Furthermore, the CRO can have the power of veto when present at meetings of a member of the BoD. Finally, the CRO should assess the coherence of single operations with the Risk Appetite Framework (RAF), defined and approved by the BoD (Schwizer 2016).

A recent Green Paper (European Commission 2010) also highlights certain recommendations with regard to the risk management function:

- delineating board-level responsibilities;
- creating a board-level risk supervision committee;
- defining a chief risk management who is familiar with the complexity of the organization;
- making sure that there is a cooperation between the risk supervision committee and the other parts of the firms, and also between the BoD and the supervisory authorities.

The risk management function and the compliance function both play a crucial role in the dissemination of risk culture. This is because the role of the two functions is to support management policies and indications, and because they play a monitoring role on the adequacy and efficiency of internal control system and the effectiveness of risk management practices.

The effective positioning of the risk management organization requires that the CRO should be a member of the Board of Directors and make available strategies, plans, transactions, and deals expected and respected by executive and line management (Protiviti 2013). In addition, the CRO is responsible for establishing and nurturing a learning culture with regard to risk. The CRO knows that improvement of policies and processes underpin any successful organization.

In conclusion, the second line of the defense function is separate from the first line, but is still under the control and direction of senior management and typically performs some management functions. The second line is essentially a management function taking responsibility for many aspects of the management of risk (IIA 2015). The second line of defense can be seen as an important tool in disseminating risk culture

among all levels of organizations. The tone from the top is not sufficient to achieve an effective risk culture; all control functions need to base their behavior on the risk culture guidelines defined by the BoD and senior managers.

5.2.3 The Third Line of Defense: The Internal Audit Function

The model proposed by the Bank of Italy (2013; 2014) provides for a third line of defense represented by the internal audit function.

The most important aim of internal audit function is to evaluate the effectiveness and efficacy of the internal control system of the organization. In the second line of defense, a high level of independence is not possible. But the third level provides assurance on the effectiveness of the governance, risk management, and internal controls. In order to be really independent, the internal audit function should not be directly involved in the choice of models and tools used to manage banking risks. In particular, the internal audit function reports directly to the board and senior management, and in bigger banks, a specific audit committee exists in the BoD.

One of the main goals of the internal audit function is to verify both the work of the compliance function and the work of risk management. In this second aspect, it is important to verify governance of aspects of risk management such as risk appetite, reporting systems, and disclosure.

Typically, the third line of defense has no management functions because it is required to protect its objectivity and organizational independence.

Finally, internal audit (IA) is also the function that maintains relations with the outside world and in particular with supervisors. The internal auditor should be independent from the other functions and should offer consultancy which is independent and objective, in order to add value and improve company's operations. IA is the third line of defense because it controls the work of the other lines and monitors the effectiveness of the entire internal control system. To achieve this

result, it is important to have a sound system of communication inside the organization which allows the internal audit to use all information and to have a clear overview of the company's risk and control framework. The responsibilities of the IA function include a key role in disseminating risk culture across different levels, particularly in consulting and assurance, depending on the complexity of the internal and external environment and the level of maturity of the organization. Obviously, it is crucial for IA to be supported by the Board of Directors in their role and responsibilities (Carretta and Schwizer 2015). In this way, the Board of Directors and the senior management can spread the risk culture through the internal control functions across all levels of the organization.

In order to achieve this aim, Internal Audit should include the risk culture of the organization within the scope of its corporate governance assessments, and it is useful to specifically mandate IA for this.

5.3 Conclusions

The concept of culture appeared before the financial crisis and authorities and regulators have talked about it for many years. It has been linked to many issues. Early on, it was linked to control; authorities focused on the "culture of control" and the internal control system was the most important tool to ensure good functioning of the banks. In a later phase, the "culture of compliance" was more talked about, and bank aim was broadly to operate according to internal and external rules. Compliance with rules means operating in line with the requirements of authorities and improving reputations. The implementation of compliance requirement is expensive, but operating in noncompliance can expose banks to higher costs in terms of fines and damage to reputation.

Finally, during the financial crisis, authorities and regulators issued many documents on the importance of a sound culture of risk. The correct definition of risk, the bank's risk appetite and risk tolerance became fundamental for an effective risk management and internal control system.

On one hand, regulators have defined guidelines and frameworks for banks and banks, on the whole, have well-defined internal control systems and a good risk management framework. However, recent events such as the Libor scandals, the failures of four Italian banks, and the manipulation of the exchange market, etc. are signs that regulation is not always enough to create an efficient system of controls.

The only way lying open to banks and financial intermediaries in order to reduce or eliminate negative events exposing them to fines, reputational risk, and sanctions is to disseminate a sound risk culture. This needs to be done with the help of the Board of Directors and senior management; the tone at the top is the key tool for banks in creating a strong risk culture. Only where a bank can define and disseminate values of integrity, honesty, and attention to the risks among all levels of the organization can the risk management function and internal control system achieve their objectives.

Notes

1. COSO (2004) provides a graphical representation of an Internal Control System. ICS is shown as a cube which depicts the interrelationships between the categories of objectives (top), the components of ICS (front), and the entity's business structure (side). This representation is also used for the Enterprise risk management system.
2. The other group of principles are: risk recognition and assesment; control activities and segregation duties; information and communication; monitoring activities and correcting deficiencies; evaluating of internal control systems by Supervisory Authorities.
3. <https://www.theguardian.com/business/2011/oct/25/ubs-admits-internal-controls-failed>.
4. <https://www.ft.com/content/e8df0443-8d50-389f-a890-aa1b57d6f0a4>;
<http://www.dfs.ny.gov/about/press/pr1611041.htm>;
<https://www.wilmerhale.com/pages/publicationsandnewsdetail.aspx?NewsPubId=17179875853>
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6

People First: Risk Culture Swings into Action

Daniele A. Previati

6.1 Introduction

Research and literature about risk culture (RC) in financial systems and institutions have grown rapidly in the past few years, in the wake of the Global Financial Crisis (GFC) that began to emerge in 2006. From a theoretical point of view, risk and culture are very complex concepts; they have been studied by different fields, at different periods of time, and by scholars from around the world. Consequently, integrating risk and culture, with their diverse origins and research perspectives, is hugely complex. Such a statement may seem obvious. However, it is nevertheless worth mentioning at the beginning of a theoretical paper that is devoted to analysing different ways of influencing people who confront and manage risks in financial institutions, with the aim of establishing a sound RC and utilizing and changing it in an effective way.

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In the specific field of financial intermediation, risk is typical of the task assigned to Financial Services Firms (FSF): the basic assumption being that there is no intermediation without risk. Different intermediation activities are characterized by financial (market, credit) and non-financial (operational, reputational, conduct, legal, compliance, strategic, systemic) risks. Furthermore, risk events have different degrees of frequency and severity, they are perceived differently by people (with different personal traits and characters) who hold different organizational positions and have different competences. These different perceptions in the financial services industry are strongly influenced by the norms and rules of regulatory and supervisory bodies and by the visions and behaviour of the boards and of senior management. In this sense, external bodies and people with the greatest decision-making power, and of course more power than other people (middle managers, employees), have the greatest responsibilities with regard to risks. Risks are also influenced by the behaviour and pressures (licit or not) of internal (shareholders, managers, and all employees) and external stakeholders (private, corporate, or institutional customers; communities; governments; lobbies of various types).

More generally, coping with risks is deeply rooted in human history (Bernstein 1996) and is influenced by thoughts, feelings, expectations, and religious beliefs (Adhikari and Agrawal 2016). Economists and management researchers often take a reductionist view of risk and culture, and consequently of risk culture. The best papers on risk culture in financial institutions (Power et al. 2013; McConnell 2012; Lo 2015) approach this topic by including many perspectives, making it possible to identify some key issues faced by financial institutions in trying to influence people's attitudes, feelings, and actions towards risks. The aim here is not to describe regulatory frameworks as presented by authorities at the international level (FSB 2014; BCBS 2015) or the role of people within these frameworks (mainly referring to boards and senior management); the aim is not to offer prescriptions about how leadership, human resource management (HRM) and other "soft" tools can influence risk culture and, consequently, the quality of risk management systems within financial institutions. Rather, the core objective is to discuss the main theoretical and empirical findings of different streams of

knowledge that are directly or indirectly linked to the role of people in establishing and changing risk culture in financial institutions.

The objective is to go *back to basics* (many papers about RC ignore the most important contributions from the OD (Organization Design), HRM (Human Resources Management) and leadership research fields) and try—both theoretically and practically—to identify some key issues and future research paths integrating risk culture, people, and organization design (OD) in the financial services industry. The following sections are structured as follows:

1. presentation and discussion of different research perspectives about risk culture and people;
2. presentation of the so-called “soft tools” for managing risk culture within a broader view of organization design, focused on influencing people’s attitudes and behaviour towards risks;
3. identification of selected actual and future issues in managing people and risk culture, and of future research streams concerning these issues.

6.2 Risk Culture and People: Research Perspectives

In the financial services industry, the concept of RC, and the role of people (as individuals and as groups in organized work situations within FSF, often identified as board members, senior managers and employees), has emerged with the GFC. This concept has many intellectual roots in different research perspectives and practical views.

As stated by Power et al. (2013), risk culture is observed in light of general organizational (corporate) culture, and “unsurprisingly, different perspectives and research approaches emphasise different aspects and implications of organisational culture. Culture can be related to leadership, learning and performance, but also to control, ideology and oppression” (p. 15). Consequently, the same phenomenon characterizes the field of RC research and its relative focus on people: in short, we want to illuminate the perspectives of regulatory bodies, advisory firms,

and the main researchers focused on banks and financial institutions, namely economists, management researchers in different management fields, risk and risk management specialists, sociologists, anthropologists, psychologists, and philosophers. Their approaches have similarities and differences, and sometimes interactions and relationships, as highlighted in most of the relevant papers about the financial services industry (Power et al. 2013; McConnell 2012, 2008; Sheedy and Griffin 2014; Sheedy et al. 2015; Lo 2015). Different approaches and perspectives (linked to different cultures studying RC) are both theoretically and practically relevant: within these perspectives, we can find different ways to establish and change RC or, more accurately, RCs. Plural denotes the simultaneous existence, in both the real world of FSF and also within each of these FSF, of many RCs at the same time (see Di Antonio, in this book, who highlights different cultures in different business lines; Power et al. 2013; McConnell 2012). Consequently, within the context of RC, there are different people and different ways to manage them.

Many different regulatory bodies all around the world have a strong interest in RC (for the UK, see the very interesting and recent paper by Ring et al. 2016).

The Basel Commission on Banking Supervision (BCBS), within its corporate governance principles for banks (2015), adopted the Financial Stability Board's definition of RC: "A bank's norms, attitudes and behaviours related to risk awareness, risk-taking and risk management, and controls that shape decisions on risks. Risk culture influences the decisions of management and employees during the day-to-day activities and has an impact on the risks they assume" (p. 2). More generally (p. 9), "A fundamental component of good governance is a corporate culture of reinforcing appropriate norms for responsible and ethical behaviour. These norms are especially critical in terms of a bank's risk awareness, risk-taking behaviour and risk management (i.e., the bank's "risk culture")." The aim of BCBS (as for FBS) is to assess RC and to try to influence behaviour in a way that will establish a sound, strong RC, following an objectivist (and mechanistic) approach (we will return to this point later).

In FSB (2014: Guidance on Supervisory Interaction with Financial Institutions on Risk Culture A Framework for Assessing Risk Culture) we find, in addition to a confirmation of the definition of RC (p. 1: “While various definitions of culture exist, supervisors are focusing on the institution’s norms, attitudes and behaviours related to risk awareness, risk taking and risk management, or the institution’s risk culture”) a very interesting statement: “Risk culture is an area where a growing number of supervisory authorities are taking a more active role, and the range of supervisory approaches toward assessing risk culture varies” (p. 4). An even more interesting footnote specifies the following: “Some authorities have been consulting or hiring behavioural psychologists while others have conducted horizontal reviews on an institution’s decision-making process or reputational risk management.”

From the perspective of regulatory bodies emerges the aim of assessing and influencing the behaviour of individuals and groups who are not only managed by rules, procedures, and hierarchy but also by norms and traditions, as reported in IIF(2013): “For the purposes of this note, we use the definition of ‘risk culture’ first proposed in the 2009 IIF Paper: “Reform in the Financial Services Industry: Strengthening Practices for a More Stable System”: “the norms and traditions of behaviour of individuals and of groups within an organization that determine the way in which they identify, understand, discuss, and act on the risks the organization confronts and the risks it takes””. According to this definition, RC is at the heart of the risk management process within FSF and is deeply rooted in the culture of the financial industry, with positive and sometimes unintended negative consequences (at the heart of the financial crisis there was an abundance of greed: see Lo 2015).

An internationally renowned educational body that focuses on risk management (Institute of Risk Management [IRM]) makes a very informed observation (‘the culture of a group arises from the repeated behaviour of its members’ (IRM 2012a, p. 22), highlighting that culture describes the deep nature of an organization and its way of functioning. More precisely, risk culture describes “the values, beliefs, knowledge and understanding about risk shared by a group of people with a common purpose” (IRM 2012b, p. 7) where “attitudes and behaviours towards risk are both inputs to risk culture and they are also outcomes from it”

(IRM 2012a, p. 22). As Power et al. (2013) observed, “the IRM’s work has many similarities with that of the consulting organisations outlined above. In particular the IRM strongly promotes the assessment of risk culture... (omissis)... So while the IRM does not seek to limit risk culture to a governance and control role, it understandably adopts a strong managerial perspective, seeking to assess and control risk culture in an organised and relatively mechanistic fashion”.

Regulatory bodies, educational organizations, and advisory firms have a strongly functionalist and objectivist approach in assessing and influencing (changing) RC: there are many papers and some interesting syntheses focused on advisory approaches (Jackson 2014) of this type. This approach is not wrong by definition, but it is very limited and may be ineffective in building and changing RC. For example, consider the many unbelievable fraud cases in the past few years, especially in the trading business.

Therefore, which research environment and which stream of knowledge can assist us in finding a sound way to analyse and create a good and strong (BCBS 2015) RC in FSF through people?

Some researchers (Carretta and Bianchi 2016; Lo 2015; Power et al. 2013; McConnell 2012; Gontarek 2016; Sheedy and Griffin 2014; Sheedy et al. 2015; Asher et al. 2014) in the past few years have focused their attention on the contingencies of the financial services industry—banks and other FSF—using contributions from many different sources (economics, management, organization behaviour, psychology, sociology, anthropology).

It seems to me that, based on these contributions focused on the financial services industry and on firms, including those from different fields of social sciences and those specifically centred on risk and risk management, these principal remarks emerge with regard to people’s behaviour:

1. RC is loosely linked with the following: different types of risk (credit, market, operational, reputational, strategic, systemic); different risks with regard to frequency and severity; different strategic business areas (a more complex concept than business lines as analysed in economics papers); different educations of board members,

managers, employees; different stakeholders (shareholders, debtholders, customers, employees, communities, authorities, governments). Consequently, RC in itself, if not specified, is often a vague concept and is therefore poorly enforced by both HRM practices and by leadership style. The reference to compensation in supervision guidelines and in governance practice is relevant but insufficient, in practice, to develop and to improve RC and people's behaviour (Salz 2013);

2. Many values, espoused in official documents edited by authorities, consultancy firms, and FSE, are not deeply rooted in the day-to-day practices of FSE, maybe as a consequence of what is underlined above in point 1. Individuals' deep assumptions about the value of money, career development, and quality of life in the financial industry (especially in investment banking), are also strictly linked to RC in a dual relationship of cause and effect (Rajan 2010; Lo 2015), and they are obviously never cited in ethical guidelines because of their negative value in the eyes of customers and other stakeholders. Whether HRM practices and leadership style can influence these types of assumptions has never been fully clarified;
3. RC is often developed in different organizational silos (risk management, business units, marketing and customer relations, performance management systems, audits, HRM, and so on), with different meanings and real practices. The result, on the whole, is limited integration of behaviour and ineffective RC;
4. RC is a social construct; it is rooted in a nexus of meanings and assumptions developed in society and takes a long time to establish and to change. Consequently, it is useful to enlarge our view of RC, paying attention to the insights into risk offered by philosophers, sociologists, anthropologists, historians, and cognitive scientists (Morini 2014, for a very interesting review; Kahneman 2011). One of the most cited (Power et al. 2013; Carretta 2016; Cornia et al. 2016) works is the model proposed by Douglas and Wildavsky (1982). This model examines the influence of sociocultural contexts on the risk perceptions of individuals, as well as their relevant responses. The degree of grid or of regulation (the extent to which someone accepts and respects a formal system of hierarchy and procedural rules) and the extent of group cohesiveness or integration

(the extent to which someone finds identity in a social group) identify different patterns of value clusters that separate different groups in society: entrepreneurial-individualist (that reduces rules and emphasizes creativity, competition, and financial incentives), atomized individual-fatalist (that emphasizes spontaneity, random chance, and lady luck), bureaucrat-hierarchist (that emphasizes rules and expertise), and egalitarian (that emphasizes process and community involvement).

The different types identified by the CTR have their own limits or blind spots (Hood 1998). Entrepreneurial—individualist is characterized by self-interest, lack of cooperation and, in some cases, corruption; atomized individual-fatalist shows difficulty in planning; bureaucrat-hierarchist reduces innovation large failures, swept under the rug; egalitarian organizes on a small scale, shows low trust and reduces innovation. The lessons from this Cultural Theory of Risk (CTR) are not of immediate practical use (as in IRM 2012c, cited in Power et al. 2013, p. 18), but suggest that we attend to individuals' risk perceptions and behaviour not only in light of biological metaphors and personal and innately determined moral characteristics (as in Lo 2015, p. 16) but also in light of the fact that people live in groups influenced by a context/environment. Hence, people's behaviour is influenced by self-control, social control, and administrative/organizational control, as well as by risk perception and awareness, risk-taking, and managing and prioritizing the risks they cope within their work contexts;

5. RC, as a social construct, cannot be analysed effectively “from a distance”, such as through mainstream economics or management studies based on surveys. For better results, research “from within”, through experiments and direct observation, is beneficial. The decision-making processes of FSF are strictly linked to risk, and their human dimensions are strongly influenced by norms and also thoroughly embedded in culture. RC must be studied contextually by applying the contingency approach that is typical of some schools of organization studies.

People's behaviour, as both a cause and effect of RC, is often neglected in the literatures about risk management, RC in the financial industry and RC in FSF. On the one hand, people and their competences are a fundamental factor in addressing risks and, on the other hand, people can be the principal cause of risks. The role of people—as people's risks—is evident only in operational risk frameworks and regulations (BCBS 2011; McConnell 2008). There is only limited coverage of the links between HRM and risk management (Becker and Smidt 2016), both in general and in financial industry research (McConnel 2012, p. 55). From a research point of view, this demonstrates that HRM (and in a wider sense organization design—OD) and risk in FSF is a phenomenon in the embryonic stage of its development.

Starting from a narrow and hierarchical (top-down) definition of RC (an organization's willingness to take risks as perceived by the managers in that organization), some facilitating factors of effective and successful RC were found in the public and private sectors (goal clarity, employee trust, and cutting red tape and formalism) (Bozeman and Kingsley 1998). If it is true that “Managing risk well is the essence of good business practice and is everyone's responsibility” (Damodaran 2008, p. 376), RC must be analysed and enforced in all phases of the risk management process (RMP) within an FSF. The strategic context of this RMP consists of corporate strategy (portfolio) choices and the business lines and activities included in that portfolio (see Di Antonio, in this volume); this context influences desired risk behaviours, i.e., the way people behave in the face of different risks (financial and non-financial) in the different RMP phases (context definition and awareness; assessment; treatment; monitoring). Following a managerial approach, RC is an intermediate variable between strategic and organizing choices and people's behaviour. In this way, RC influences global (corporate) and single-business performance. Of course, we must address individual and social bottom-up influences on RC, and we have to accept a more complicated (and less deterministic) framework of RC establishment and change in FSF. These influences consist of perceptions, expectations, and beliefs that are outside the full control of any organization design.

In the next section, we explore the so-called “soft tools” for managing risk culture within a broader view of organization design focused on influencing people’s attitudes and behaviour towards risks.

6.3 Risk Culture and People in FSF: An Organization Design View

Organization design efforts in the financial service industry and in specific FSF are rarely the objects of management studies or of banking and finance studies. In management studies and in top international journals we find occasional research on this subject but, with some exceptions (such as those studies of risk culture already cited) it is not very deep in its typical FS industry profiles, especially from the organization design point of view. In banking and finance studies, a research style “from the outside”, which is based on public datasets, prevails, and the real functioning (operational processes, organizational structure, HRM and RM processes, leadership styles) is left to the anecdotal or advisory literature; while in the scientific literature the bank and the FSF are black boxes, as they are in nearly every study conducted by economists. It is surprising, and it seems to me a contradiction, to affirm that banking is an opaque and complex business (i.e., BCBS 2015, p. 23; Mehran et al. 2011) and, with the obvious exception of boards of administration and senior management, to leave the task of analysing “from within” the black box to advisory firms, external auditors, and regulatory bodies, while the social (really social?) scientists (economists, management, and banking and finance researchers) ignore decision processes and organizational choices within the black box of FSF. To study RC without analysing the relationships between RC and OD is a true mistake (and an intellectual pity) in attempting to understand the real impact of RC on people’s behaviours and corporate performance.

Starting from this consideration of the paucity of specific scientific literature about the topic we address here, and leaving aside any prescriptive aim, we try to combine the perspectives of people, FSF characteristics and organization design (OD), and within OD, we include Human Resources Management (HRM) approaches. The main goal of

this effort is to offer a framework that can help researchers, managers, board members, regulatory bodies, and supervisory authorities to make better decisions about people and RC. In our opinion, it could be misleading to present the nth set of (umpteenth) guidelines or prescriptions about how to use HRM tools and leadership to influence RC and people's behaviour.

First of all, we must remember, as stated above, that people's behaviour is influenced by self-control, by social control, and by administrative/organizational control (Dalton and Lawrence 1971) in risk perception and awareness, risk-taking, and managing and prioritizing the risks they cope within their working contexts. This statement suggests that, inspired by an organizational culture approach, we have to analyse two environments:

1. first, the main characteristics and the dynamics of the *external environment* (Sagiv and Schwartz 2007), which can be divided into the *legitimization environment* and the *task environment*. The first refers to all stakeholders of an organization (Freeman 1984), following an institutional view of organizations (DiMaggio and Powell 1994). Banks and FSF need to justify their activities to several groups of stakeholders, for example, shareholders, authorities, customers, employees, suppliers, and so on, which sometimes may even have conflicting interests. Their actions (and people's behaviour within them) should be legitimized, i.e., seen as desirable and appropriate within some socially constructed system of norms, values, beliefs, and definitions (Suchman 1995, p. 574). Of course, people (employees) bring to banks and FSF their own perceptions of values (national, social, religious, managerial, and so on) about risk as well as about trust, fairness, and other concepts and factors influencing their relationships with different stakeholders and their working contexts. The *task environment* is commonly defined by what is expected by "the market". Generally, banks and FSF develop strategies to achieve certain tasks that are either profitable or guarantee survival. Their operations are directed at the successful accomplishment of tasks, and they are directly linked to the task environment in two ways: (a) through "actions", influenced by OD choices, and (b) through

“market feedback” as a response to operations. As operations are strongly linked to OD choices, these choices indirectly influence the link between operations and task environment. OD choices are (or should be) defined and set up by banks and FSF and are (or should be) directed at satisfying stakeholders’ pressures and the demands of the market;

2. second, the dynamic relationships among the organizational culture, strategy, structure, and operations of an organization (*internal environment*) and the influences of OD, HRM and leadership on people’s behaviour (in general and with special regard to risk profiles), and then on corporate performance, and vice versa. Schein (1985) and Hatch (1993) provide a theoretical basis for the development of the “internal environment” of an organization. Schein (1985) focuses strongly on the domains (assumptions, values, artefacts) of organizational culture, observable and not. Hatch (1993) adds one domain (symbols) and specifies four processes that link these domains. She states that there exist two possible ways in which observable behaviour emerges through underlying assumptions: (a) through “manifestation” into values and “realization” into artefacts and (b) through “interpretation” into symbols and through “symbolization” into artefacts (see also Fig. 6.1). It remains unclear under which conditions such processes take place and which factors determine the path by which assumptions are transformed into artefacts, that is, when will assumptions become “manifested” and “realized” and when are assumptions “interpreted” and “symbolized.” The *internal environment* defines the specific working context of people (and of RC).

Of course, to fully understand the power of OD and HRM on people’s behaviour and corporate performance (risk management process effectiveness), we have to consider the different types of risks they cope with. Focusing on the cultural aspects of risk management, we have to answer a very tough question: should FSF try to design their organizations as High Reliability Organizations (HRO) do (Weick et al. 1999; Weick and Sutcliffe 2001, 2007), or, in managing risks should they accept the Natural Accident Theory–NAT (Perrow 1984)? In a nutshell, in coping with risks and in assuring safety, prevention occurs in HRO through

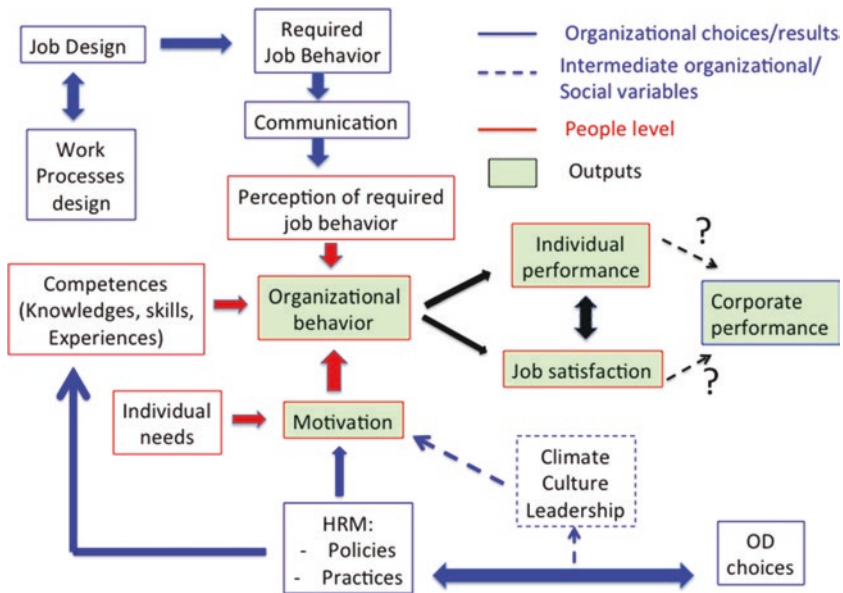


Fig. 6.1 A contingency framework for analysing people's behaviour and risk culture. *Source* Author's original figure

good organizational design and management because formal organizations can create *rules, structures, and processes* to regulate risky decision-making. HRO particularly enhance people's alertness and awareness of details so that they can detect subtle ways in which contexts vary and call for contingent responses (i.e., collective mindfulness, Weick and Sutcliffe 2001). Mindful organizing requires cooperation: leaders and all people in the organization must pay close attention to shaping the social and relational infrastructure of the organization and to establishing a set of interrelated organizing processes and practices, which jointly contribute to the system's (e.g., team, unit, organization) overall culture in managing risks and in securing safety. HRO have five characteristics (Weick and Sutcliffe 2001, pp. 10–17) that could also be useful in FSF: preoccupation with failure, reluctance to simplify interpretations, sensitivity to operations, commitment to resilience, and deference to expertise. The more pessimistic view of NAT states that there are too many systems and each system is too complex and interdependent for anyone

to know the eventual outcomes of their decisions and actions. Accidents are inevitable in complex and tightly coupled systems. As we clarify below, the choice between HRO and NAT is very difficult, and both can be useful for analysing the topic of risk, people and OD in FSF.

The banking industry—and the financial services industry as a whole—is opaque (Morgan 2002). The business of banks is opaque, complex, and characterized by many stakeholders: “Two key differences distinguish the governance of banks from that of nonfinancial firms. The first is that banks have many more stakeholders than nonfinancial firms. The second is that the business of banks is opaque and complex and can shift rather quickly” (Mehran et al. 2011). The *legitimization environment* is currently very challenging and pretends to have sound answers in term of risk management processes and RC. This is true for all banks and FSF. It is also relevant to the traditional type of intermediation (lending), whose opacity and speed of change was increased by securitization, and above all to global and domestic diversified banks (G-SIBs: Global Systematically Important Banks, and D-SIBs and G-SIFI: Global Systematically Important Financial Institutions, and D-SIFI), which are “too-big-to fail” and “too-interconnected-to-fail”. Complexity and opacity characterize the group structures (BCBS 2015, pp. 23–24) that are very much present in every size class in the banking world, and especially in SIFI and SIBs. Risks and stakeholders are two sides of the same management problem; that is, trying to establish an effective risk management process and, in the meantime, fairness for all stakeholders. The dominance of shareholders—especially institutional investors—is justified by the rules of a market economy but has generated many risks for other stakeholders (“Shareholders respond to their incentives.... the goal of increasing risk was largely successful, even though the outcome of that increased risk during the crisis was not” (Mehran et al. 2011, p. 1)). Opacity and complexity increased during the crisis and are still affecting banks and FSF. Consequently, the jobs of boards and managers became more difficult, as did people’s decision-making, because of a more challenging *task environment*. The multiplication of activities and business lines, the difficulties of understanding them, the limits of the techniques used to manage traditional market and credit risks (Haldane and Madouros 2012; Persaud 2008), and the

importance of emerging risks during and after the GFC (reputation, conduct, systemic) suggest the relevance of studying, in a more profound way that is not limited to the traditional topics of corporate governance of banks (executive compensation, boards, risk management, and market discipline, as in Mehran et al. 2011), OD choices and the role of RC in taking care of stakeholders. This job is a very tough one, and not only in the United States and in SIFI and G-SIBs: “Observing and measuring corporate culture and conduct levels is notoriously difficult in any environment, and the same applies to commercial banks, which are complex and opaque structures. Culture has been defined as the mechanism that delivers values and behaviours that shape conduct and contribute to creating trust in banks and a positive reputation for banks among stakeholders, both internal and external” (Gontarek 2016). Managing risks, building reputations, and creating trust among stakeholders is undoubtedly the very difficult task of OD, HRM, and leadership in many FSF all around the world. One of the most important lessons we have learned from the GFC is that this task cannot be accomplished by regulation and compliance with guidelines; additionally, a convergence of choices speeds up the systemic risk. Similar risk management models and trading models inspire similar decisions, best practices suggested by advisory firms provoke herd strategies and herd organization design choices, some professional jobs (risk management and all internal control system areas) have more organizational power, and their culture prevails over others; also their contributions to corporate performance are often not effective. OD, HRM, and leadership style are rarely cited in the banking literature about risk management, although regulatory and supervisory bodies, consultants, and some already cited contributors to RC (Power et al. 2013; Sheedy and Griffin 2014; Sheedy et al. 2015) pay attention to typical topics from these research fields. The challenges posed to banks and FSF by the *external environment* must have complex and systemic answers. These answers cannot ignore the fact that a NAT position cannot be tolerated indefinitely and that an HRO approach must developed, despite its difficulties and limitations.

Trying to integrate people working at all levels of FSF into the risk management process requires taking a wide approach, based not only

on the general context (the competitive and regulatory environment, historical and future results at the corporate and business lines levels, shareholders' and other stakeholders' expectations) but also on the specific, real working contexts. People develop their own RC, reacting more to OD and HRM choices and to leadership styles and behaviours than to regulatory or competitive environments. If we believe that risk perception is not based only on rational and calculative behaviour and on self-interest but that it is influenced by (in addition to RC) limited rationality and psychological factors (Simon 1957; Kahneman 2011; Lyng 2005), we must distinguish between cultural and organizational assumptions stemming from regulatory and advisory bodies ("how it's supposed to work") and reality ("what actually happens"), which is partially influenced by OD, HRM, leadership styles, and other management systems and tools.

Following this perspective, a useful framework (which is larger than the OD, HRM, and leadership style approaches) is suggested by Malmi and Brown (2008). They envision the managerial problem of directing employee behaviour and of paying attention to those systems, rules, practices, values and other activities management puts in place to direct employee behaviour. They call these management controls, and they view them as a package, clarifying that "the concept of a package points to the fact that different systems are often introduced by different interest groups at different times, so the controls in their entirety should not be defined holistically as a single system, but instead as a package of systems" (Malmi and Brown 2008, p. 291).

Apart from the classification of different controls, the relevance of the framework and of the idea of "package" lies in the variety and diversity of managerial tools, and in the different functional and professional groups (with their own interests) who design and introduce these tools at different times.

Following this framework, RC in itself could be considered a tool for soundly managing risks in FSF, a tool that aims to convince people to adopt the RC that best fits with their business lines, stakeholders' expectations, evolving strategy, and so on. This is, in our view, a misleading managerial idea: there are many doubts, in both the OD and HRM literatures (i.e., see many references in Pilati and Innocenti 2008;

Judge et al. 2001), about the cause–effect relationships between OD and HRM choices on the one hand and people’s culture and behaviour, motivation, and performance on the other.

First of all, to effectively influence people’s behaviour towards risks, it is necessary to abandon universalistic (“one best way”) approaches in OD choices, HRM solutions, and leadership styles. It is difficult to believe that the same “best practices” can be applied in FSF that, even if they have similar external and internal environments, still have specific domains of organizational (and risk) culture and processes that link these domains (Schein 1985; Hatch 1993). The artefacts of RC can be similar in some aspects (risk models and techniques, strongly influenced by regulatory and supervisory bodies; the presence of risk management and other internal control units, as established by international rules), but values and assumptions are deeply embedded in every single FSF, which has its own history, main shareholders and stakeholders, and strategies and structures at the corporate and business levels. Considering several contributions of the OD and HRM scientific literature, it seems to us that much of the advice of regulatory and supervisory bodies, and of management consulting firms, about how to influence RC are wishful thinking and nothing more, especially if we consider the “soft side” of these suggestions.

OD and HRM approaches and tools can be classified as “mechanistic” or “organic”, or “hard” and “soft”. The distinction between the two is fundamentally linked to the ideas we have about human beings. McGregor (1960), in his famous book “The Human Side of Enterprise”, presented one of the best-known classifications of corporate culture ever made, dividing management styles into Theory X and Theory Y. Theory X is the classic command-and-control type of management, the authoritarian style that “reflects an underlying belief that management must counteract an inherent human tendency to avoid work.” Theory Y is the antithesis of X. It “assumes that people will exercise self-direction and self-control in the achievement of organisational objectives to the degree that they are committed to those objectives.” Under Theory Y, employees are forced “to innovate, to discover new ways of organising and directing human effort, even though we recognise that the perfect organisation, like the perfect vacuum, is practically out of reach.”

We believe that some important organizational needs linked to risk management in FSF (above all, rebuilding trust and fairness toward internal and external stakeholders), suggest the usefulness of following a “human relations” approach to OD, HRM, and leadership styles. This approach can be interpreted and applied, following McGregor’s Theory Y, as universalistic (as HRO and NAT are, too), identifying HRM best practices in the Harvard model (Beer et al. 1984), in High Commitment Work Systems (Walton 1985), and High Performance Work Practice (Pfeffer 1994).

Here we propose a contingency framework (see Fig. 6.1) focused on the following:

- organizational choices (job design, work process design and other OD choices, HRM policies and practices—i.e., reward systems—performance assessment, compensation, career development; selection, socialization, and development; climate analysis, community of practice, suggestion schemes);
- intermediate organizational variables (climate, culture, leadership), influenced also by social control;
- people (individual needs, competences, motivation);
- outputs (organizational behaviour, individual performance, job satisfaction, corporate performance).

Within this framework are many relationships that in the real world of FSF are not always linear and one-way: some of these relationships can be managed, others only partially influenced, by OD (dotted lines). Culture (organizational, RC, customer or market culture, and so on) is an intermediate variable in OD and only partially influenced by organizational choices.

The evident meaning of this theoretical framework is twofold.

On the one hand, it makes evident that the relevance of RC must be considered, even if only in a simplified framework, within a complex situation of linear and static linkages with questionable final effects on corporate performance. In the real world, people in action are a much more complex variable, and many factors (individual, social and

organizational) affect their behaviour toward risks in nonlinear and dynamic ways, and RC is only one of them.

On the other hand, the framework can be used to examine the real situation of different FSF (through case analysis and a qualitative research programme) in terms of the relevance of OD, HRM, and leadership style on RC and on people's behaviour, in light of configurational theory in OD and especially in HRM (Baird and Meshoulan 1988), and also in light of the complementarities (Milgrom and Roberts 1995; Whittington 1999) of innovative OD choices (intra-organizational work and business processes, formal business structure models, inter-organizational design, HRM) in successful FSF (characterized by different contingency factors: nationality, size and diversification of corporate portfolios, ownership models, and so on). We could consider successful those FSF that are positively judged by supervisory authorities (as in stress tests conducted by EBA: Fritz-Morgenthal et al. 2016), or that have a risk-adjusted performance above the median after the GFC emerged.

We could make hypotheses about a successful (and favourable for a sound RC) management style (and verify it) based on the following assumptions:

1. the most important form of control is self-control. This means participation in achieving the organization's goals through accountability, delegation of decision-making power, rewards for developing competences, and learning;
2. the middle and top management layers are fundamental to managing change, so they must be the first people to be managed as described in point 1;
3. the integration of people into defined jobs, including employees' needs at work (self-esteem, development) and organizational needs (problem-solving, accountability, innovation).

Looking beyond this framework and its applicability to future research, in the next and last section we try to identify some actual and future issues in managing people and risk culture, which can be evaluated by future research streams.

6.4 Key Issues in Managing People and Building Effective Risk Culture: A Research Agenda

The attention placed on OD and HRM in management studies of non-financial firms—with regard to risk and safety topics—does not extend to banking and finance studies. OD and HRM, like RC and people's behaviours towards risks, remain the realm of prevalent soft and qualitative research approaches based on the surveys, interviews, direct observation that are typical of sociology, psychology, cultural anthropology.

Only recently, following the GFC and the intervention of regulatory and supervisory bodies into RC, some researchers have started to pay attention to the organizational aspects of risk management. In addition to those already cited, some recent noteworthy research efforts include the behavioural insights proposed by Shefrin (2016); the discussion of non-technical skills in financial trading by Leaver and Reader (2015); the links between large financial institutions, regulators and advocacy and avoidance intermediaries and the need to set clear punishments for individuals responsible for unintentional or malicious behaviour (Kane 2015); and the multidisciplinary research project that brings together expertise in risk management and organizational psychology, analysing RC in different business units across different banks in different countries (Sheedy and Griffin 2014; Sheedy et al. 2015). It seems to me that we need more critical contributions (Miles 2013) to offer better approaches and frameworks to board members and top management at FSF, as well as to authorities.

Combining our personal research and management education experience pertaining to the topics analysed here, as well as some common remarks stemming from the literature already cited, we list, without ranking, some key issues and research questions that merit deeper analysis. Some of these issues are at the strategic level and common to many FSF, others are more specific to some business lines or geographic areas and national cultures (Hofstede 1991; Ashraf et al. 2016).

- FSF must strike a balance, from a strategic perspective, between economic pressures (solvency, profitability, efficiency) and RC and their indicators (as stated by FSB 2014: tone from the top, accountability, effective communication and challenge, incentives). This task requires adequate OD and HRM culture among board members and senior management, who must select internal and external proposals to achieve multiple goals and maintain a sound RC. In doing so, board members and senior management must guarantee trust, fairness, and ethics through their choices.
Decision-making power must be a “good” power to create the right conditions for sound RC: board members’ and senior management’s decisions are crucial in spreading hubris or virtue (Asher et al. 2014; Campbell 2015) around the FSF they manage.
- HRM function has a central role, together with Risk Management, in creating a positive context for a sound RC. We have to understand which is the most favourable role of HRM: strategic (medium and long-time horizon) or tactical (short-term), people-oriented or process-oriented (Ulrich 1997)? We propose that the best orientation is strategic and people-oriented, with HRM functioning as a change agent. Of course, we have to analyse the eventual “short-termism” that is due to the preferences of shareholders without considering other stakeholders’ needs, remembering that this “short-termism” was a cause of the last GFC.
- In addition to HRM and Risk Management, how strong is the power of influence on RC by other support units and business units?
- Taking into consideration a banking group, is RC change programme unique or is there specific change programme for each business or legal unit? Does complexity of RMP and RC favour a centralized approach or a “differentiate, then integrate” approach?
- It is essential to improve our understanding of how people behave at all levels of the FSF, focusing on the following questions:
 - How do people understand what work should be performed and how?
 - Is there a balance between risk-taking and control?
 - What level of effectiveness of RMP do people perceive? How much are ethical assumptions and related values important?

- At which organizational levels have decisions and actions that created failures been taken in the recent past?
- What is the probability of a lack of focus on known but unlikely risks, on low-frequency but high-impact events?
- Do trade-offs (search for profit, cost reduction) exist or are they perceived, leading to too much risk?
- Was senior management really unaware of risks, of unintentional or of malicious behaviours?
- Is risk reduction not seen as a priority by employees because they think (perceive) that management is focused on sales and revenue targets (through the proposal of more complex products to less sophisticated investors), or on recapitalization efforts (i.e., the case of the mis-selling of subordinated bonds to retail customers in Italian banks)?
- Is the higher level of risk due to individual risky behaviour (aiming for personal objectives through fraud) or due to specific strategies of the FSF (mis-selling for profit, rogue trading)?
- What is the stakeholders' organizational power and pressure in enforcing risk-taking behaviours? Are all stakeholders under control from this point of view?
- Are stakeholders' needs embedded—through measures and qualitative profiles—in an internal control system, in a performance management system, in a performance appraisal and reward system, in training courses?
- To what extent is the creation of RC appropriate? Which domains of RC are emphasized in change programmes that aim to change people's behaviour?: Ethics and customer-centric assumptions and consequent values, artefacts as incentives and career paths, the role of RM units and their measurement techniques?
- Are organizational controls perceived as fair all along the chain of command?
- Is social control effective, is whistle blowing in effect?
- Otherwise, is there a wide perception of huge rewards, minimal punishments and an opaque environment in the FSF or in some parts of it? Do people avoid reporting misdeeds by others?

- How much is the dialogue with regulators (for example in the Supervisory Review and Evaluation Process—SREP) based on analysis of organizational models and how much on people’s real behaviour?
- Is the Risk Appetite Framework (RAF) necessary to evaluate the consistency of the degree of risk-taking—as declared by board members and senior managers—with OD, HRM, Internal Control Systems, or is it used as the foundation of people’s risk attitudes assessment?
- In the latter case, does RAF cover financial risks and non-financial ones with the same effectiveness?
- Last, but not least, with reference to the risks people pose to the FSF, as well as the impact of organizational choices (OD, HRM, leadership style) on FSF employees, should we believe that employees will behave in a way that they perceive the organisation expects?

FSF, in the light of new regulatory and supervision rules, have to be assessed also on the strengths and weaknesses of the soundness of their structures, cultures, and behaviours toward risks. A renewal of organizational and behavioural analysis about RC is needed. This is a priority at board and top management level and for regulatory and supervision bodies: here we tried to draw a research agenda for the future.

Notes

1. We prefer to call banks and other FSI “firms” because they are (or should be?) managed as firms (enterprises). They are called institutions because of their systemic relevance and their links with public finance and public choices, but nevertheless, they are firms.
2. “Economists have traditionally looked at theories of cultural values with skepticism, whether such theories have come from psychology, anthropology, ethnography, sociology, or management science. Part of this skepticism is due to the culture of economics, one that prizes the narrative of rational economic self-interest above all else.

Given two competing explanations for a particular market anomaly, a behavioural theory and a rational expectations model, the vast majority of economists will choose the latter—even if rationality requires unrealistically complex inferences about everyone’s preferences, information, and expectations” (Lo 2015, p. 11). For a very interesting comparison between economists and sociologists, see Swedberg (1990).

3. “There have been many efforts to define risk culture and this multiplicity tells us something, namely that it is conceptually rather fuzzy. We decided to go out and listen to the way that different organisations—banks, insurers and their advisors—think about and operationalise risk culture change programmes. We think that this is where the action is—where risk culture becomes, or does not become an organisational reality. Our report paints a rich picture and we have attempted to provide some intellectual structure to the diversity we have observed”(Power et al. 2013, p. 2).
4. Comments by various FSF to the first draft of FSB document are very interesting: see, among others, Deutsche Bank (2014) and HSBC (2014).
5. Here we follow this definition of HRM: “Human resource management is a distinctive approach to employment management which seeks to obtain competitive advantage through the strategic deployment of a highly committed and skilled workforce, using an array of cultural, structural and personnel techniques” (Storey 2007, p. 7).
6. In this paper with OD we mean all the design choices about work, intra-organizational work and business processes, formal business structure models (hierarchy, delegated power, centralization-decentralization), inter-organizational design (outsourcing, insourcing, offshoring), human resources management (HRM, with all relative processes: selection, socialization, reward—remuneration and career, development and learning, outplacement).
7. We dislike this use of biological metaphors and of the natural selection bias of people’s choices (see also Lo 1999). We believe more in socially embedded behaviours, influenced by societal and organizational contexts.
8. “No culture has the resources to eliminate all risk; therefore, a culture ranks its dangers according to what it finds most important, both positively and negatively. This prioritization acts like a snapshot of the culture’s operating environment, just as an insurance portfolio may act like

a snapshot of the policyholder's day-to-day environment. It is important to note that a culture's ranking of danger may have little to do with the mathematical probability of an event" (Lo 2015, pp. 8–9).

9. As affirmed in Becker and Smidt (2016, p. 161) "This stage offers great opportunities to make advances in knowledge but also suffers a lack of coordination and acceptance until there is a larger body of researchers willing to focus in this area (von Krogh et al. 2012)." Worldwide, there are few researchers pursuing this research path, and this is an obstacle to advancing our knowledge about the real world of FSF.
10. These authors emphasize the close relationship of and interaction between societal culture (i.e., external environment, institutions) and organizational culture (i.e., internal environment, self-organization, self-reference, identity).
11. The HRO and NAT approaches were developed to address the accidents (non-financial risks or pure risks) facing non-financial organizations and to assure safety, but they can also be applied to FSF.
12. G30 (2015) "Banking conduct and culture", Group of Thirty, Washington, DC, available at: http://group30.org/rpt_67.shtml.
13. As emphasized by Kane (2015, footnote 1, p. 2), these methods are highly personal (Schein 2010, p. xii). In fact, "they rely on close observation, focused inquiry, and critical feedback The credibility of the inferences derived is supported at best by a replication-like test of whether it seems reasonable to believe that others would arrive at similar insights if they worked through the same process." This is probably the reason why many banking and finance researchers prefer hard science methods, which look more scientific because they assure the repeatability of research. But, in following these methods, researchers only observe banks "from the outside", often ignoring the decision processes within banks and leaving the phantom of the black box undiscovered.
14. With reference to the US situation, Kane (2015, p. 23) makes a statement that can be extended to all FSF and nations all over the world: "To change incentives, something must be done to punish the reckless pursuit of subsidies at TBTF enterprises. Exhortations are not enough. The executive culture of Wall Street is inherently predatory (Ho 2009). To change that behaviour, society must condemn the deliberate exploitation of too-big-to-fail guarantees as a form of criminal theft and develop ways to punish not only individuals who engage in it directly,

but also any higher corporate officials who can be shown to have encouraged it.” We can find this situation also among FSF that are not “too big” (consider US savings banks, Landesbanken in Germany, some savings and cooperative banks in Italy), and the predatory behaviour of their boards and executives.

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7

Measuring and Assessing Risk Culture

Nicola Bianchi and Franco Fiordelisi

7.1 Introduction

A weak risk culture was one of the drivers of banking crisis of 2008 (Parliamentary Commission on Banking Standards 2013). The interest of risk culture is now common to practitioners, regulators and academics. For instance, HSBC states that “Establishing and maintaining a strong link culture is of fundamental importance in ensuring the sustainable success of an organization and to the reestablishment of trust of financial

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institutions and the banking sector”. It is therefore not surprising that banking regulators (Financial Stability Board 2014) and practitioners (Deloitte Australia 2012; Institute of Risk Management 2012) developed frameworks to analyze and enhance risk culture in financial institutions: e.g. a new pillar III discipline is pushing banks to develop a strong risk culture (BCBS 2015). The New York Fed Governor, Dudley (2015) notes “In the last year, we have seen emerging approaches to supervision that aim to address culture, conduct and governance. These methods are being developed in a number of jurisdictions”.

Although there is a great interest and discussion on how to improve bank risk culture, there is surprisingly no empirical evidence about the bank risk culture and how banks’ risk culture is related to stability. This chapter aims to fill this gap: specifically, we provide evidence that among the four components for a sound risk culture, identified by the FSB, Tone-from-the-top is the most significant for banks’ stability. Institutions with a higher level of intervention of the Board and Senior Management show, on average, a higher solidity between 2004 and 2014, after controlling for dimension, impaired loans, annual average sector’s performance and average bank’s performance throw considered period.

In this chapter, we aim to provide empirical evidence about the risk culture of European banks. For this purpose, we measure banks’ risk culture by using a text analysis technique build on the Financial Stability Board’s framework (Financial Stability Board 2014) of sound risk culture. Specifically, we identify a set of words (labelled “bag of words”) capturing the bank’s risk culture orientation based on the Financial Stability Board’s 2014 framework and we apply a quantitative text analysis (QTA) on banks’ public disclosure to build an index, labelled as “Sound Risk Culture Indicator” (SCRI). In the final step, we measure the correlation between our SCRI index and the Z-score of the banks. Our sample includes 147 of the major European banks between 2004 and 2014.

This chapter is organized as follows. Section 7.2 presents a brief discussion on methods used in risk culture measurement and the advantages to use QTA. Then, Sect. 7.3 illustrates SRCI’s computation, Sect. 7.4 describes the sample and Sect. 7.5 reports the analysis and the results. Section 7.6 concludes the chapter.

7.2 How to Measure Banks' Risk Culture

The first necessary step to measure bank's risk culture is to define the concept of culture. In our framework, we focus on the organizational culture definition, i.e. "culture is people's beliefs, values and attributes" (Schein 2010). "Beliefs and values" are the core (deepest) levels of culture: they can be observed only from inside companies by using interviews, ethnographic studies or questionnaire. Conversely, "Attributes" is the most visible level of culture and it refers to any behaviour that is observable from outside the organization (e.g. disclosure, buildings, history, performance, risk-taking, etc.): companies' attribute can be analyzed by indirect methodologies (as e.g. a text analysis).

There are various approaches to measure firm's culture that would enable a researcher to measure companies' beliefs, values and attributes and each measurement approach has its pros and cons (e.g. Schneider 2000). As such, the choice of the technique to measure corporate culture depends on the aims of the analysis. Qualitative methodologies (as interviews) can provide researchers with a deeper understanding of firms' culture, but are very time-consuming. First, we need to recognize that values disclosed by firms are not useful to evaluate culture (Guiso et al. 2015). Generally, practitioners and consultants use such methodologies to interview board members, CEOs and top management with the aims of evaluating the main challenges in risk taking, and then they evaluate existing culture in the company with questionnaires to employees (Deloitte Australia 2012). This process applies to (one or few) companies to measure culture beliefs and attributes, it requires time to be set up and results cannot be safely compared across competitors. In order to measure corporate culture for a large number of companies, the most effective approach is to focus on companies' attributes: although these do not provide a direct measure of company's culture, "attributes" provide analysts with some visible effects of companies' risk culture. Attributes are easier to be identified and evaluated in an objective manner using quantitative methods.

In this chapter, we focus on largest European banks and so we rely on text analysis to measure their risk culture. Specifically, we use a QTA, i.e. a method widely used in past papers dealing with corporate culture

(Fiordelisi and Ricci 2014; Carretta et al. 2010, 2015a, b). The QTA has various advantages: it is objective, replicable and it is able to measure soft characteristics such as attention to client, risk sentiment or Tone-from-the-top. For our purposes, Richter (2014) is an interesting example of the QTA usage since it builds a quantitative measure of risk culture in financial institutions. Specifically, Richter (2014) develops a risk culture Intensity Index using QTA on the annual reports of the 30 biggest banks in Germany, between 2008 and 2011 and he provided evidence that risk culture changes over time.

7.3 Estimation Procedure

The underline assumption behind the QTA use to estimate the bank risk culture is that the bank's culture is mirrored in the words (vocabulary) used by this bank. As such, our estimation procedure is based on the following four steps: first, we need to identify some "items" of a sound risk culture. Second, we need to define a "bag of words" capturing each of the items defined in the previous step. Third, we need to identify appropriate company's documents where we believe the risk culture is mirrored; and, in final, we can run a QTA and estimate a score capturing the risk culture.

Regarding our first step, we identify the attributes of a risk culture based on the framework presented by Financial Stability Board (2014) "Guidance on supervisory interaction with financial institutions on risk culture", which includes contributions given by Senior Supervisors Group (2009), Group Trinity, KPMG, McKinsey and IIF. In this framework, FSB identifies four minimum characteristics of a good risk culture: Tone-from-the-top (TFT), Accountability (ACC), Effective and Challenging Communication (COM) and Incentives (INC).

The "Tone-from-the-top (TFT)" attribute suggests that Board and Senior Management have the main responsibility to develop the RC within the bank, e.g. by supporting the implementation of Risk Appetite at all organizational levels (FSB 2014). The second attribute, labelled as "Accountability (ACC)" suggests that a company is able to

take into account its risk-taking only if it has the know-how to recognize risks and it has escalation processes (as whisper blowing) to report treats. The third risk culture attribute is labelled as “Effective Communication and Challenge”: specifically, a careful risk management requires not only an intense data flows but also an open communication culture inside the organization: e.g. the top management must encourage alternative views and pay attention to the risk management’s advisory. In final, a company needs a system of “Incentives” (INC) in the form of rewards and penalties related to its risk indicators at all levels (from the CEO to loan officers), and these incentives should be not only monetary but also related to training, job rotation and successions planning to develop risk culture (Bianchi and Carretta 2016).

In the second step, we identify the bag of words. This step is based on Financial Stability Board’s framework of sound risk culture (Financial Stability Board 2014). In Table 7.1, we report a summary of the indicators that the FSB identifies for each of the four attribute (above discussed) and we collected the words from the FSB’s description. Since most of these words would be too generic taken stand-alone, we grouped two and three words where these together gives a well-defined and unique meaning to a sentence. For example, the word “board” and “lead” stand-alone would be not sufficient to identify the leadership attitude of the board (ID 4.1.a in Table 7.1), but these words taken together would show a guidance role of the board. The combination of the words selected (labelled as “Extracted Sentences”) are reported in Table 7.1, where each coma-separated term in the first group is searched with each term of the second group. These combinations of words are thereafter labelled as “Groups-Meaning-Units” (GMUs).

Since some GMUs reported in Table 7.1 are associated to more than one indicator, we deleted each GMU that refers to more than one FSB’s items. The subclasses (SCs) reported in Table 7.1 are obtained aggregating GMUs with the same first group’s terms or MUs with just one word in each C. In Table 7.2, we show the outcome of this process.

Each extracted MU expresses a certain meaning and it is used to look for this meaning in the text. One limitation is that the same concept may be stated in different ways, not just with the words included in the

Table 7.1 Examples of terms extracted by FSB's framework

FSB's ID	Indicators	Extracted sentences ²
4.1	<i>Tone-from-the-top</i>	
4.1.a	Leading by example	board ³ ; management ³ ; sm ³ ; tm ³ ; ceo ³ ; AND cfo ³ ; cio ³ ; chro ³ ; cbo ³ ; cto ³ ; chair* ³
4.1.1	The board and senior management have a clear view of the risk culture to which they aspire for the financial institution and of the behavioral and organizational consequences of this culture, systematically monitor and assess the prevailing risk culture and proactively address any identified areas of weakness ⁵ or concern	board; management; sm ³ ; tm ³ ; ceo ³ ; AND cfo ³ ; cio ³ ; chro ³ ; cbo ³ ; cto ³ ; chair* ³ risk AND culture; risk culture
4.2	<i>Indicators of accountability</i>	
4.2.a	Ownership of risk	risk AND ownership; account
4.2.1	Clear expectations are set with respect to the monitoring and reporting of, and response to, current and emerging risk information across the institution, including from business lines and risk management to the board and senior management	AND emerge; monitor; information; assessment ³ ; asses ³ ; view ³ ; communication ³ ; debate ³ ; exchange ³ ; management ³ ; challenge ³

(continued)

Table 7.1 (continued)

FSB's ID	Indicators	Extracted sentences ²
4.2.b	Escalation process	
4.2.7	Appropriate whistleblowing procedures are in place and are expected to be utilized by employees without any reprisal, to support effective compliance with the risk management framework the treatment of whistle blowers is clearly articulated and followed in practice	whistleblowing; whistle-blowing; whistle
4.3	<i>Effective communication and challenge</i>	
4.3.a	Open to alternative views	AND alternative; open
4.3.1	Alternate views or questions from individuals and groups are encouraged, valued and respected and occur in practice. A culture of open communication and collaboration is constantly promoted to ensure that each employee's view is valued and the institution works together to strengthen risk-related decision making.	AND open; effective AND employee; line ³ ; AND staff ³ ; department ³ ; office ³ ;
4.3.b	Stature of control functions	

(continued)

Table 7.1 (continued)

FSB's ID	Indicators	Extracted sentences ²
4.3.4	Control functions operate independently, have appropriate direct access to the board and senior management and a process is in place for them to periodically report to the board.	function AND control; audit ³ ; ia ³ ; risk AND management ³ ; rm ³ ; compliance ³ ; supervisory ³ ; chief AND risk ³ ; cro ³
4.4	<i>Incentives</i>	
4.4.a	Remuneration and performance	
4.4.1	The compensation structure supports the institution's espoused core values, promotes sound risk-taking behavior, and is supported by a well-documented process.	risk; value AND compensation; cooperate ² ; remuneration ³

Notes (1) The basic idea is that the use of certain terminology suggest that the bank has a sound risk culture. The words are chosen from the FSB's framework, which proposes four minimum characteristics for a sound risk culture, and some indicators to measure them. The most of indicators reveal useful terms for our dictionary but other not, the framework is used to extract the terminology a bank with sound risk culture should use. Sure enough, our index is not an exact measure of the FSB's framework but a proxy of it. Neither the contracted variable want to be a complete measure of the bank's risk culture, it is just an index that provides an approximation, sufficient for our research purpose; (2) Since during the searching in the texts words are tokenized, sentences with words that are not verb and noun itself are integrated with substantive with the same significance; (3) The term is included because it related with FSB's sentence even if it is not present in the specific indicator

Source Authors' Elaboration

Table 7.2 Grouped original MUs by characteristics and sub-characteristics

C	SC	Group 1	Group 2
1	1	board; management; sm; tm; ceo; cfo; cio; chro; cbo; cto; chair*	lead; example; risk; employee; line; staff; department; office; value
	2	risk	scepticism; skepticism; sceptic; points of view; appetite; statement; strategy; report; framework; understand; understanding; aware; awareness; deficiency; deficit; root; weakness; weak; culture
	3	past	experience; event; failure
	4	risk culture; tone-from-the-top; tone-at-the-middle; integrity	
	5	tone	top, middle
2	6	risk	ownership; account; emerge; monitor; information; asses; assessment; challenge; view; communication; debate; exchange; manage; low probability; high impact; horizontal; vertical; mechanism; escalation; consequence; limit
	7	employee; line; staff; department; office	assessment; asses; challenge; elevate; report
	8	whistleblowing; whistle-blowing; whistle	
3	9	view	alternative; mechanism; open; effective; challenge
	10	communication	open; effective; mechanism; challenge
	11	employee; line; staff; department; office	risk
	12	audit; ia; rm; compliance; supervisory; cro	board; management; sm; tm; ceo; cfo; cio; chro; cbo; cto; chair*; employee; line; staff; department; office; stature; participate; participation; active; activity; decide; decision; independent; independence; cooperation; cooperate
	13	risk AND chief, management	board; management; sm; tm; ceo; cfo; cio; chro; cbo; cto; chair*; employee; line; staff; department; office; stature; participate; participation; active; activity; decide; decision; independent; independence; cooperation; cooperate
	14	function AND control	board; management; sm; tm; ceo; cfo; cio; chro; cbo; cto; chair*; employee; line; staff; department; office; stature; participate; participation; active; activity; decide; decision; independent; independence; cooperation; cooperate

(continued)

Table 7.2 (continued)

C	SC	Group 1	Group 2
4	15	community; society	remuneration; performance; result
	16	audit; ia; rm; compli- ance; supervisory; cro	succession; career; development-plan; plan; rotation; performance; objective; deficien- cies; deficiency
	17	risk AND chief, man- agement	succession; career; development-plan; plan; rotation; performance; objective; deficien- cies; deficiency
	18	function AND control	succession; career; development-plan; plan; rotation; performance; objective; deficien- cies; deficiency
	19	risk	train; course; succession; career; develop- ment plan; skill; remuneration; compensa- tion; incentive; bonus; performance; result; customer
	20	value	remuneration; compensation; incentive; bonus
	21	culture	skill
	22	customer	remuneration; compensation; incentive; bonus

Source Authors' Elaboration

MU. To face this limit, the method includes new MUs, these are composed by synonymous of each term taken from the *Thesaurus Collins Dictionary*. This results in 9361 MUs considered.

We count how many time MUs appear in the banks' disclosure. We divide the text into *sentences* (consecutive words contained between a blank line and a dot or between two dots) and add one to a MU-specific count for each sentence containing the MU.

In the third step, we run the QTA by using the NLTK Python package. Specifically, we count a term irrespectively whether it appears as adverb, adjectives, verb or noun (considering not the term itself but its root without the suffix). Table 7.3 shows the final list of MUs considered. SC from 1 to 5 contains MUs composed by words extracted from TFT's indicators and their synonymous, SC from 6 to 8 contains the ones from COM's indicators, SC from 9 to 14 the ones from COM's indicators and the rest refers to INC's indicators. Each Group 1's term is aggregated with each term of Group 2 and 3 to create the MUs.

Table 7.3 Final MUs' list

C	SC	Group 1	Group 2
1	1	board, management, sm, tm, ceo, cfo, cio, chro, cbo, cto, chair, head, leader, director, executive, committe, boss, governor, panel, administr, control, president, chief, chair-person	lead, exampl, risk, employe, line, staff, depart, offic, valu, guid, conduct, steer, escort, preced, usher, pilot, command, rule, govern, presid, head, control, persuad, move, draw, influenc, motiv, prevail, induc, inclin, dispos, direct, leadership, guidanc, model, pattern, danger, chanc, threat, prospect, uncertainti, hazard, worker, labour, workman, jobhold, workforc, personnel, team, organ, section, unit, station, divis, branch, bureau, subdivis, area, function, place, workplac, base, workroom, principl, moral, ethic, more, standard
	2	risk, danger, chance, threat, prospect, uncertaint, hazard	sceptic, skeptic, appetit, statement, strateg, report, framework, understand, awar, defici, deficit, root, weak, doubt, suspicion, disbelief, cynic, incredul, desir, demand, tast, passion, willing, yearn, inclin, propens, polici, plan, programm, approach, scheme, manoeuvring, comprehend, grasp, know, realiz, recogn, appreci, aware, penetr, make, discern, apprehend, conceiv, suss, tumble, catch, cotton, head, tail, percept, knowledg, sens, knowhow, insight, skill, masteri, comprehens, familiar, profici, belief, impress, interpret, feel, idea, conclus, notion, convict, assumpt, supposit, enlighten, learn, expert, vers, pictur, pluggedin, erudit, wellread, wellbrief, lack, want, absenc, shortag, depriv, inadequaci, scarciti, dearth, privat, insuffici, scanti, fail, fault, defect, flaw, drawback, shortcom, imperfect, frailti, shortfal, loss, default, arrear, radix, radicl, sourc, caus, heart, bottom, begin, base, seat, seed, foundat, origin, core, fundament, essenc, nucleus, start, deriv, fountain-head, mainspr, vulner, impot, meek, irresolut, spineless, ineffectu, timor, craven, cowardli, transpar, lame, hollow, implaus, flimsi, unsound, tenuous, blemish, achilles, armour, feebl, exhaust, frail, debilit, spent, wast, tender, delic, faint, fragil, shaki, sick, languid, puni, decrepit, unsteady, infirm, anaem, effet, enerv, poor, inadequ, pathet, faulti, substandard, under-strength, culture
	3	past, last, recent, previous, precedent	experienc, event, failur, incid, happen, matter, affair, occas, proceed, fact, busi, circumst, episod, adventur, mileston, occur, escapad, lack, defeat, collaps, abort, wreck, frustrat, breakdown, overthrow, miscarriag, fiasco, downfall
	4	risk culture, tonefromthetop, toneatthemiddle, tone at the middle, integrity, honesty, principle, honour, virtue, goodness, morality, purity, righteousness, probity, rectitude, truthfulness, trustworthiness, incorruptibility, reputability	
	5	tone	top, middle

(continued)

Table 7.3 (continued)

C	SC	Group 1	Group 2
2	6	risk, danger, chance, threat, prospect, uncertain, hazard	ownership, account, emerg, monitor, inform, ass, challeng, view, communic, debat, exchange, manag, prob, impact, horizon, vertic, mechan, escal, consequ, limit, consid, rate, valu, explain, judg, estim, think, hold, believ, count, reckon, weigh, calcul, esteem, deem, comput, gaug, apprais, appear, come, came, surfac, rise, proceed, aris, turn, spring, eman, materi, issu, appar, develop, known, light, transpir, check, follow, record, watch, survey, observ, scan, overse, supervis, keep, fact, detail, news, latest, notic, advic, data, intellig, instruct, counsel, info, determin, analys, evalu, check, weigh, size, judgment, analysi, valuat, opinion, question, interrog, accost, regard, see, perceiv, treat, adjudg, look, inspect, gaze, eye, clock, examin, explor, stare, contempl, behold, eyebal, gawp, recc, spectat, discuss, argue, disput, contest, deliber, contend, wrangl, thrash, controvert, reflect, consider, medit, cogit, ponder, revolv, mull, rumin, talk, argument, convers, controversi, dialogu, content, palem, alterc, word, chat, run, handl, rule, direct, conduct, command, govern, administ, preside, superintend, organ, regul, cope, carry, cut, perform, do, deal, achiev, carry, undertak, accomplish, contriv, finish, control, influenc, guid, master, domin, manipul, steer, work, way, result, effect, outcom, repercuss, event, sequel, boundari, end, edg, border, extent, pale, confin, frontier, precinct, perimet, peripheri, maximum, restrict, ceil, restraint, fix, bound, specifi, curb, restrain, ration, hinder, circum-scrib, hem, demarc, delimit, straiten
	7	employe, line, staff, depart, offic, worker, labour, workman, jobhold, workforc, personnel, team, organ, section, unit, station, divis, branch, bureau, subdivis, area, function, place, workplac, base, workroom	ass, challeng, elev, report, judg, determin, estim, analys, evalu, rate, valu, check, comput, gaug, weigh, weighs, apprais, size, eye, judgment, analysi, valuat, opinion, question, interrog, accost, promot, rais, avanc, upgrad, exalt, communic, publish, record, announc, state, air, detail, describ, note, cover, document, give, broadcast, post, tweet, pass, proclaim, circul, relay, recit, narrat, write, inform, betray, denounc, incrimin, tell, grasses, rat, grass, inculp, dob, account, statement, relat, version, tale, descript, declar, summari, paper, review
	8	whistleblowing, whistleblowing, whistle	

(continued)

Table 7.3 (continued)

C	SC	Group 1	Group 2
3	9	view, scene, pictur, sight, prospect, aspect, perspect, landscap, outlook, spectacl, panorama, vista, vision, visibl, eyeshot, rang	altern, mechan, open, effect, challeng, differ, other, substitut, replac, complementari, nonstandard, process, work, way, system, oper, method, techniqu, procedur, methodolog, frank, direct, natur, plain, innoc, straightforward, sincer, transpar, honest, candid, truth, upfront, plainspoken, unreserv, artless, ingenu, guileless, question, interrog, accost
	10	communication	open, effect, mechan, challeng, process, work, way, system, oper, method, techniqu, procedur, methodolog, frank, direct, natur, plain, innoc, straightforward, sincer, transpar, honest, candid, truth, upfront, plain-spoken, unreserv, artless, ingenu, guileless, question, interrog, accost
	11	employe, line, staff, depart, offic, worker, labour, workman, jobhold, workforc, personnel, team, organ, section, unit, station, divis, branch, bureau, subdivis, area, function, place, workplac, base, workroom	risk, danger, chance, threat, prospect, uncertain, hazard
	12	audit, ia, rm, compliance, supervisory, cro	board, management, sm, tm, ceo, cfo, cio, chro, cbo, cto, chair, employe, line, staff, depart, offic, statur, particip, activ, decid, decis, independ, cooper, head, leader, director, execut, committe, boss, governor, panel, administr, control, presid, chief, chairperson, import, stand, prestig, size, rank, consequ, promin, emin, part, involv, engag, perform, join, enter, partak, hand, parti, take, contribut, partnership, assist, share, busi, occupi, restless, move, strenuous, tireless, go, action, work, labour, movement, choos, determin, elect, conclud, conclus, judgment, find, rule, order, result, sentenc, settlement, resolut, outcom, verdict, decre, arbitr, separ, unrel, unconnect, unattach, uncontrol, unconstrain, neutral, object, detach, impart, fair, equal, openmind, open, equit, disinterest, unbias, evenhand, nonpartisan, unprejud, nondiscrimin, teamwork, concert, collabor, giveandtak, combined, concurr, help, togeth, coordin

(continued)

Table 7.3 (continued)

C	SC	Group 1	Group 2
	13	risk AND chief, management	board, management, sm, tm, ceo, cfo, cio, chro, cbo, cto, chair, employe, line, staff, depart, offic, statur, particip, activ, decid, decis, independ, cooper, head, leader, director, execut, committe, boss, governor, panel, administr, control, presid, chief, chairperson, import, stand, prestig, size, rank, consequ, promin, emin, part, involv, engag, perform, join, enter, partak, hand, parti, take, contribut, partnership, assist, share, busi, occupi, restless, move, strenuous, tireless, go, action, work, labour, movement, choos, determin, elect, conclud, conclus, judgment, find, rule, order, result, sentenc, settlement, resolut, outcom, verdict, decre, arbitr, separ, unrel, unconnect, unattach, uncontrol, unconstrain, neutral, object, detach, impart, fair, equal, openmind, open, equit, disinterest, unbias, evenhand, nonpartisan, unprejud, nondiscrimin, teamwork, concert, collabor, giveandtak, combined, concurr, help, togeth, coordin
	14	function AND control	board, management, sm, tm, ceo, cfo, cio, chro, cbo, cto, chair, employe, line, staff, depart, offic, statur, particip, activ, decid, decis, independ, cooper, head, leader, director, execut, committe, boss, governor, panel, administr, control, presid, chief, chairperson, import, stand, prestig, size, rank, consequ, promin, emin, part, involv, engag, perform, join, enter, partak, hand, parti, take, contribut, partnership, assist, share, busi, occupi, restless, move, strenuous, tireless, go, action, work, labour, movement, choos, determin, elect, conclud, conclus, judgment, find, rule, order, result, sentenc, settlement, resolut, outcom, verdict, decre, arbitr, separ, unrel, unconnect, unattach, uncontrol, unconstrain, neutral, object, detach, impart, fair, equal, openmind, open, equit, disinterest, unbias, evenhand, nonpartisan, unprejud, nondiscrimin, teamwork, concert, collabor, giveandtak, combined, concurr, help, togeth, coordin
4	15	good, community, society	remuner, payment, income, earn, salari, pay, return, profit, fee, wage, reward, compens, repay, repar, indemn, retain, reimburs, recompens, stipend, emolu, consequ, effect, outcom, result, issu, event, develop, product, reaction, fruit, sequel, upshot
	16	audit, ia, rm, compliance, supervisory, cro	success, career, developmentplan, rotat, defici, purpos, aim, goal, plan, hope, idea, design, target, wish, scheme, desir, intent, ambit, aspir, lack, want, deficit, absenc, shortag, depriv, inadequaci, scarciti, dearth, privat, insuffici, scanti, fail, fault, weak, defect, flaw, drawback, shortcom, imperfect, frailty

(continued)

Table 7.3 (continued)

C	SC	Group 1	Group 2
17	risk AND chief, management		success, career, developmentplan, rotat, defici, purpos, aim, goal, plan, hope, idea, design, target, wish, scheme, desir, intent, ambit, aspir, lack, want, deficit, absenc, shortag, depriv, inadequaci, scarciti, dearth, privat, insuffici, scanti, fail, fault, weak, defect, flaw, drawback, shortcom, imperfect, frailty
18	function AND control		success, career, developmentplan, rotat, defici, purpos, aim, goal, plan, hope, idea, design, target, wish, scheme, desir, intent, ambit, aspir, lack, want, deficit, absenc, shortag, depriv, inadequaci, scarciti, dearth, privat, insuffici, scanti, fail, fault, weak, defect, flaw, drawback, shortcom, imperfect, frailty
19	risk, danger, chance, threat, prospect, uncertaint, hazard		train, cours, success, career, plan, remuner, compens, incent, bonus, school, prepar, improv, coach, teach, disciplin, rear, educ, drill, tutor, rehears, studi, qualifi, taught, class, course, schedul, lectur, curriculum, expertis, abil, experi, art, techniqu, facil, talent, craft, compet, readi, knack, skil, payment, incom, earn, salari, pay, return, profit, fee, wage, reward, repay, repar, indemn, retain, reimburs, recompens, stipend, emolu, indemnif, restitut, induc, motiv, encourag, urg, comeon, spur, bait, carrot, impuls, stimulus, impetus, stimul, goad, incit, entic, product, reaction, fruit, upshot, customer, client, consumer
20	value, principle, moral, ethic, mores, behaviour		remuner, compens, incent, bonus, payment, incom, earn, salari, pay, return, profit, fee, wage, reward, repay, repar, indemn, retain, reimburs, recompens, stipend, emolu, indemnif, restitut, induc, motiv, encourag, urg, comeon, carrot, impuls, stimulus, impetus
21	culture		skill, expertis, abil, profici, experi, art, techniqu, facil, talent, intellig, craft, compet, readi, accomplish, knack
22	customer, client, consumer		remuner, compens, incent, bonus, payment, incom, earn, salari, pay, return, profit, fee, wage, reward, repay, repar, indemn, retain, reimburs, recompens, stipend, emolu, indemnif, restitut, induc, motiv, encourag, urg, comeon, carrot, impuls, stimulus, impetus

Notes "head, presid and control" in sentence number one are in both group 1 and 2 to avoid duplication they are not considered together. Some couple of words are duplicated in the sentences to count just one time, the duplicates are automatically delated and they are arbitrary considered in the first sentence. This include just 113 chases that are not relevant with respect of the total number of word's couple considered

Once defined MUs, we defined the Sound Risk Culture Indicator (SRCI) as:

$$\text{SRCI}_{it} = \text{TFT}_{it} + \text{ACC}_{it} + \text{COM}_{it} + \text{INC}_{it} \quad (7.1)$$

$$\text{TFT}_{it} = \frac{N_{it}^{\text{TFT}}}{\text{tw}_{it}} \quad (7.2)$$

$$\text{ACC}_{it} = \frac{N_{it}^{\text{ACC}}}{\text{tw}_{it}} \quad (7.3)$$

$$\text{COM}_{it} = \frac{N_{it}^{\text{COM}}}{\text{tw}_{it}} \quad (7.4)$$

$$\text{INC}_{it} = \frac{N_{it}^{\text{INC}}}{\text{tw}_{it}} \quad (7.5)$$

where TFT_{it} , ACC_{it} , COM_{it} and INC_{it} are, respectively, the indicators for Tone-from-the-top, Accountability, Communication and Incentives for the bank i at time t . N_{it}^{TFT} , N_{it}^{ACC} , N_{it}^{COM} and N_{it}^{INC} are the total number of sentences containing a MUs associated with the correspondent C. tw_{it} is the total number of words in the bank- i 's disclosure at time t . Dividing by total number of words corrects indicator for the distortions due to a longer or shorter bank's disclosure.

7.4 Data

Our QTA focuses on annual and Pillar 3 reports of the largest banks (both listed and non-listed) in the eurozone and the UK between 2004 and 2004. Listed banks have been identified by using Datastream, while non-listed banks were selected looking at the ECB's register of Significant Supervised

Entities (SSE). As such, we identified 247 banks, but we have to limit the analysis to 147 banks that have (at least) one report in the English language.

In Tables 7.4, 7.5 and 7.6, we report various descriptive statistics of our sample. Looking at the number of banks, most are from Italy, Germany, France and the UK (67% of the Eurozone Bank's total asset).

Figure 7.1 shows the mean SRCI and mean tw's growth rates per year, mean tw increases in the whole period suggesting an increasing attention for disclosure's transparency (perhaps, due to a stricter regulation over time). As shown in Table 7.7, SRCI and the four components have long tails and, consequently, we winsorize these variables at the 10% level.

Table 7.8 shows the correlation between the four components of SRCI and other variables, such as total assets and impaired loans on gross loans. Interestingly, we do not find a very high correlation among the four components: overall, this suggests that the four components really measure different aspects of bank risk culture. A higher TFT is positively associated with bank's dimension and negatively associated with impaired loans.

Table 7.4 Sample composition: number of banks by country

Austria	8
Belgium	7
Cyprus	4
Estonia	2
Finland	5
France	10
Germany	26
Greece	5
Ireland	4
Italy	19
Latvia	4
Lithuania	1
Luxembourg	3
Malta	3
Netherlands	5
Portugal	6
Slovak Republic	2
Slovenia	3
Spain	10
United Kingdom	21

Source Authors' Elaboration

Table 7.5 Sample composition: number of banks by year

2014	143
2013	146
2012	141
2011	133
2010	125
2009	116
2008	105
2007	101
2006	96
2005	84
2004	70

Source Authors' Elaboration

Table 7.6 Sample composition: number of listed and non-listed banks

Public	101
Not listed	46
Total	147

Source Authors' Elaboration

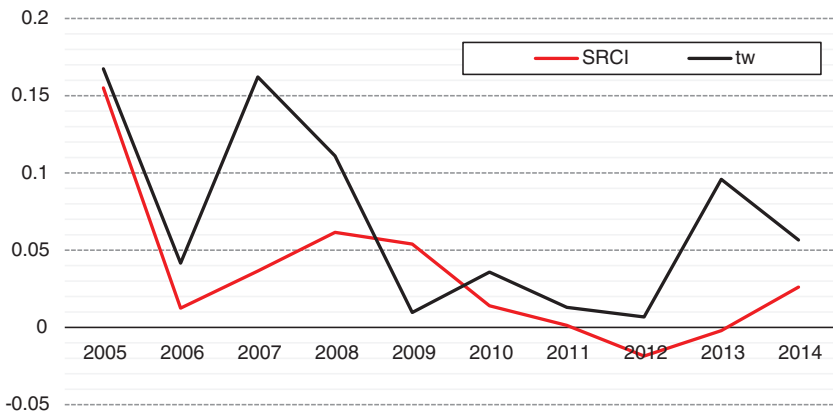


Fig. 7.1 Mean tw and SRCI' growth rate per year. Source Authors' Elaboration

Table 7.7 Descriptive statistics

	SRCI	TFT	ACC	COM	INC	TA	IMP_GL	Z
N	1051	1051	1051	1051	1051	17.4310	1097	1357
mean	0.0439	0.0162	0.0166	0.0072	0.0049	2.2448	0.0671	1.4454
sd	0.0134	0.0069	0.0059	0.0047	0.0019	7.6009	0.0810	1.1126
min	0.0001	0.0000	0.0000	0.0000	0.0000	21.6736	0.0000	-3.4532
max	0.0746	0.0668	0.0664	0.0863	0.0128	12.4556	0.5727	4.9055
p1	0.0003	0.0001	0.0000	0.0000	0.0000	15.8987	0.0026	-1.4472
p25	0.0371	0.0118	0.0137	0.0046	0.0038	17.5487	0.0205	0.8716
p50	0.0457	0.0165	0.0167	0.0066	0.0047	19.1207	0.0398	1.4966
p75	0.0520	0.0195	0.0188	0.0088	0.0059	20.3214	0.0775	2.1267
p90	0.0598	0.0242	0.0219	0.0123	0.0074	21.3989	0.1591	2.7483
p99	0.0713	0.0337	0.0377	0.0204	0.0099	17.4310	0.4258	4.2634

Source Authors' Elaboration

Table 7.8 Correlation table

	TFT	ACC	COM	INC	TA	IMP_GL
TFT	1.00	-	-	-	-	-
ACC	0.34	1.00	-	-	-	-
COM	0.43	0.17	1.00	-	-	-
INC	0.15	0.35	-0.12	1.00	-	-
TA	0.23	0.00	-0.06	0.03	1.00	-
IMP_GL	-0.13	0.01	-0.07	0.03	-0.21	1.00

Source Authors' Elaboration

7.5 The Relationship Between Risk Culture and Stability

To analyze the relationship between the SRCI four components and bank stability, we run the following OLS model:

$$Z_{it} = \beta_1 \text{TFT}_{i(t-1)} + \beta_2 \text{ACC}_{i(t-1)} + \beta_3 \text{COM}_{i(t-1)} + \beta_4 \text{INC}_{i(t-1)} + \omega_1 \ln \left(\frac{\text{IMP}_{it}}{\text{TL}_{i(t-1)}} \right) + \omega_2 \ln (\text{TA}_{i(t-1)}) \alpha_t + \varphi_j + \epsilon_{it} \quad (7.6)$$

where Z_{it} is measure the bank i 's stability (i.e. the ratio between the sum of bank ROA and equity ratio and the ROA standard deviation, i.e.

$$Z_{it} = \frac{\text{ROA}_{it} + \frac{E_{it}}{\text{TA}_{it}}}{\text{sd}(\text{ROA}_{it})}; \ln (\text{TA}_{it}) \text{ is the one year lag of natural logarithm of}$$

the total asset; $\ln(\text{IMP}_{it}/\text{TL}_{it})$ is the one year lag of natural logarithm of impaired loans on total loans. φ_j and α_t the country- and time-fixed effects. We included the lag values of four components because we hypostasize that risk culture–stability relationship is not simultaneous.

As shown in Table 7.9, the estimated coefficients for TFT and ACC are statistically significant, respectively, at 5 and 10% confidence level: TFT displays a positive link with bank's stability, while ACC shows a negative link. Our results are consistent with past studies that suggested the primary role of Tone-from-the-top in determining institution's risk culture. Specifically, the FSB (2014) stress that Board and Senior Management have the main responsibility in setting risk culture and Power et al. (2013), after interviews with different financial institutions, recognize that the development of a good TFT is the common element of all risk culture changing programs set after the crisis.

Table 7.9 The relationship between risk culture and banks' stability

	zZ
TFT _{<i>i(t-1)</i>}	0.116 [0.052]**
COM _{<i>i(t-1)</i>}	-0.003 [0.043]
ACC _{<i>i(t-1)</i>}	-0.065 [0.036]*
INC _{<i>i(t-1)</i>}	0.037 [0.031]
$\ln\left(\frac{\text{IMP}_{i(t-1)}}{\text{TL}_{i(t-1)}}\right)$	0.047 [0.037]
$\ln(\text{TA}_{i(t-1)})$	-0.568 [0.266]**
Cons	1.196 [0.143]***
<i>N</i>	351
Country fixed effect	YES
Time fixed effect	YES
<i>R</i> ²	0.95
<i>R</i> _{adj} ²	0.93

p* < 0.1; *p* < 0.05; ****p* < 0.01

Robust standard errors

Source Authors' Elaboration

7.6 Conclusion

A weak risk culture was one of the drivers of banking crisis of 2008 (Parliamentary Commission on Banking Standards 2013) and there is great attention toward risk culture among practitioners, regulators and academics. Surprisingly, there is no empirical evidence about the relationship between bank risk culture and stability. Our chapter aims fill this gap: specifically, we focus on the FSB framework and we provide evidence that the Tone-from-the-top feature is the most significant component of the risk culture and this is associated to a greater banks' stability. Furthermore, banks with a higher level of intervention of the Board and Senior Management show, on average, a higher solidity between 2004 and 2014, after controlling for dimension, impaired loans, annual average sector's performance and average bank's performance throw considered period.

Notes

1. For example in 4.1.a is searched “board” AND “lead” OR “board” AND “example” OR “management” AND “lead” OR “management” AND “example” and so on.
2. Subclass has no particular meaning, they are used just to simplify text analysis and are obtained aggregating MUs within the same category that have same first or second word inside.
3. <http://www.collinsdictionary.com/>.
4. Source: aggregated balance sheet of euro area monetary financial institutions, excluding the Eurosystem August 2016.

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8

The Impact of Risk Culture on Bank Reputation

Giampaolo Gabbi, Mattia Pianorsi and Maria Gaia Soana

8.1 Introduction

Reputation and trust are the hallmarks of good business, particularly for financial institutions. This was never truer than today as the banking crisis, resulting mainly from the hyper-speculative positions taken

This chapter was written jointly by the authors. Sections 8.2 and 8.3 are attributable to Maria Gaia Soana; Sects. 8.4 and 8.5 to Mattia Pianorsi, while Sects. 8.1 and 8.6 to Giampaolo Gabbi.

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by many credit institutions, unfolds globally, affecting all manner of financial firms worldwide.

In this chapter, we address the issue whether risk culture could affect financial institutions' reputation. The chapter investigates how sanctions are given by supervisors for risky behaviours. We use these sanctions as a proxy of a poor risk culture within the organization and the decision-making process. Once we detect such an event, we apply the event study methodology to detect the abnormal returns of the two Italian banks characterized by the capital shortfall after the ECB stress test run in 2014, respectively Banca Monte dei Paschi di Siena and Carige.

The abnormal returns we observe in two different time intervals exceed the value of the supervisory sanctions. The exceeding capitalization loss can be considered as a proxy of reputational loss due to lack of risk culture.

8.2 Reputation in the Banking Sector

It is difficult to define corporate reputation. Despite the fact that for many years researchers and practitioners have tried to find a common meaning, there is not yet consensus on this concept. The lack of a shared definition can be traced to the diversity of literatures (Accounting, Economics, Marketing, Organization, Sociology and Strategy) that explore different facets of the construct.

Accounting experts describe corporate reputation as an intangible asset that results from the relationship between the firm and its stakeholders (Barney 1986), i.e. employees, customers, suppliers, investors and the general public. Economists define instead the concept such as specific traits that distinguish the company quality and can explain its strategic behaviour (Yamey 1972; Nelson 1974; Klein and Leffler 1981; Milgrom and Roberts 1982; Mailath and Samuelson 2001). These traits are perceptions of the firm held by its main stakeholders about what the company is and does.

Moreover, in marketing research, corporate reputation is described from two different points of view. The first strand of literature, known as "analogous school of thought", identifies the construct in corporate

image (Enis 1967; Schafhauser 1967; Budd 1969; Bernays 1977; Kennedy 1977; Dichter 1985; Dowling 1986; Abratt 1989; Dutton et al. 1994; Alvesson 1998). This is the set of views about the company expressed by its stakeholders, and especially by customers, and results from both emotional (for example, feelings and sensations) and tangible (for example, prices and quality of products) components. Otherwise, the second strand of literature, known as “differentiated school of thought”, distinguishes the concept of corporate image and corporate reputation (Barich and Kotler 1991; Grunig 1993; Mason 1993; Fombrun 1996; Brown and Cox 1997; Rindova 1997; Brown and Dacin 1997; Gray and Balmer 1998; Saxton 1998; Weiss et al. 1999). The first is assumed as the image that the company has of itself and that transmits to people through communication, while the latter is interpreted as the result of ideas that stakeholders get about the firm, based on their perceptions and received input. Furthermore, to organizational experts, corporate reputation is the set of values rooted within the company, which allows the organization to maintain its stakeholder legitimacy (Cremer 1986; Camerer and Vepsalainen 1988; Ashforth and Gibbs 1990; Porac and Thomas 1990). The sociological view also interprets corporate reputation as an indicator of legitimacy. It represents, in fact, one of the primary factors upon which consumers make their purchasing choices (Granovetter 1985). These choices are based on two main elements. The first one is the “generalized reputation”, i.e. the reputation that the company enjoys within the market, based on its corporate policies, quality of communication and financial performance. The second factor is the “specific reputation”, i.e. the reputation attributed to the company by individuals, to which the consumer trusts, who have already been consumers in the past.

As each person perceives corporate reputation according to his/her own point of view, sociologists believe that there is not only one corporate reputation, but there are as many reputations as the company's consumers, thus representing the social stratification characterizing the environment in which the company operates (DiMaggio and Powell 1983). Finally, in strategic research, corporate reputation is defined as the result of stakeholder expectations on the firm (Fombrun and Zajac 1987; Fombrun and Shanley 1990; Hall 1993; Reger and Huff 1993;

Rindova and Fombrun 1999; Roberts and Dowling 2002). Like economists, strategists point out the competitive benefits of acquiring favourable reputations, as it is interpreted as an entry barrier in the industry.

The different definitions given above enable us to identify some specific traits attributable to corporate reputation. First, the asset is the result of judgements formulated on the firm by its stakeholders (Mahon 2002; Brown et al. 2006; Rhee and Haunschild 2006). These judgements are based on specific experiences and expectations of each individual (Rayner 2003), which can be seen as both reputation recipient and builder (Locatelli and Schena 2009). Stakeholder expectations are mainly constructed through the opinions of other people and media communication. Second, corporate reputation changes over time. It is a dynamic construct, a process in fieri (Barich and Kotler 1991; Caruana 1997; Rindova 1997; Saxton 1998) and needs to be built, controlled and managed. Third, a firm has not only a reputation, but there are as many corporate reputations as the company's stakeholders.

All these considerations make it clear that the reputational assets are very important in banks, as their activity is based on trust and credibility. Decisions made by banks reflect indeed reputational concerns (Fang 2005). A good reputation strongly contributes to the survival of banks over time by signalling their quality to the market, representing an entry barrier to potential new competitors, improving competitiveness and maintaining stable and sustainable development. Moreover, corporate reputation influences the types of relationships that banks will maintain with their stakeholders, and the cost the bank is willing to incur to preserve those relationships (Dinc 2000).

8.3 From Reputation to Reputational Risk

Damages to reputation can be very dangerous for banks: they can cause rating downgrading, customer churn, increase in the cost of equity capital and difficulty in attracting talented staff. For this reason, various regulatory guidelines with respect to reputational risk have been drawn up in the past years.

The Basel Committee on Banking Supervision defines reputational risk as “*the potential that adverse publicity regarding a bank’s business practices and associations, whether accurate or not, will cause a loss of confidence in the integrity of the institution*” (BIS 2001). This risk arises from “*negative perception on the part of customers, counter-parties, shareholders, investors, debt-holders, market analysts, other relevant parties or regulators that can adversely affect a bank’s ability to maintain existing, or establish new, business relationships and continued access to sources of funding*” (BIS 2009). Financial regulator points out that banks are especially vulnerable to reputational risk since “*the nature of their business requires maintaining the confidence of depositors, creditors and the general marketplace*” (BIS 1997) and financial companies can “*easily become a vehicle for or a victim of illegal activities perpetrated by their customers*” (BIS 2001).

The Basel Committee on Banking Supervision, both in the Basel II and Basel III Capital Accords, keeps reputational risk out of Pillar 1 capital requirements, thus not subjecting the risk to any specific capital charge. However, within the framework of Pillar 2, financial regulator attempts to reinforce management and mitigation of bank risks, identified through a comprehensive internal capital adequacy assessment process (ICAAP), that are not fully captured under Pillar 1. Reputational risk is included among these risks. Specifically, the Basel Committee expects banks to develop techniques for managing all aspects of the risk (BIS 2004) by means of appropriate policies and processes (BIS 2006). In this context, bank management should have appropriate policies in place to identify sources of reputational risk when entering new markets, products or lines of activity (BIS 2009).

This means that banks need to identify potential sources of reputational risk to which they are exposed (BIS 2009). On this point, financial regulator states that reputational risk “*arises from operational failures, failure to comply with relevant laws and regulations, or other sources*” (BIS 1997), thus identifying this risk as a consequential risk, i.e. a risk that occurs following another risk, called “primary risks”.

The Basel Committee on Banking Supervision identifies the main primary risk in operational risk, as most operational risk events have a strong impact in terms of reputation. Also compliance (BIS 1997),

credit, liquidity and market risks (BIS 2009) are cited by financial regulators as possible sources of reputational risk.

Following this approach, some studies tried to measure reputational losses consequential to operational losses on large samples of financial companies. All these studies use the event study methodology and quantify reputational losses as the difference between announced operational losses and losses actually registered in bank stock returns. Specifically, De Fontnouvelle and Perry (2005) measure reputational losses following the announcements of 115 bank operational losses between 1974 and 2004. The authors demonstrate that public announcements of operational losses, and above all, of internal fraud, produce a statistically significant negative impact on bank stock returns. Moreover, Cummins et al. (2006) study the impact of operational losses greater than 10 million USD on a sample of 403 listed American banks and 89 insurance companies in the period 1978–2003. Their analysis shows that the operational loss announcement determines negative bank stock returns, especially in insurance companies. Furthermore, Gillet et al. (2010) examine the reputational impact of operational losses greater than 10 million USD on 154 US and EU listed financial companies between 1990 and 2004. Their evidence demonstrates that the operational loss announcements, especially in case of fraud, have a negative and significant impact on bank stock returns. These results are also confirmed by Fiordelisi et al. (2013), who analysed a sample of 215 operational loss news announcements referred to operational losses higher than 1 ml euro in the period 2003–2008. Their results demonstrate the existence of statistically significant bank reputational losses following operational losses, especially in case of internal fraud and in the “trading and sales” business line.

8.4 Reputational Risk and Risk Culture

Corporate reputation is increasingly important to firms across the industry and in particular, it is a decisive asset to financial institutions. Financial institutions rely on customer trust. Damage that occurs to a financial institution’s reputation can generate the loss of customer

confidence and modify market expectations. The potential effects of the deterioration of corporate reputation can include stock price decline, shareholder litigation, regulatory investigations, a drop in new sales and clients and ratings downgrade. Generally, these considerations show that reputation is one of the most relevant assets that a board of directors should manage when considering the related potential risks.

In addition to the multiple causes that may have a negative effect on the reputation and image of financial institutions (for instance the experience of the customer's personal relationship with the bank staff) we will highlight one of them that recently has been the subject of a wide-ranging debate among academics, policymakers and professionals: the risk culture within financial institutions.

The purpose of this analysis is to grasp if a misconduct risk within financial institutions (which means an inadequate robustness and spread of risk culture) has implications for the corporate reputation creating serious and significant damage to the image and credibility of the institutions.

The research method we used to carry out the analysis is the case study that considers two Italian credit institutions: Monte dei Paschi di Siena and Banca Carige.

We run an event study to measure stock return changes after the operational loss announcements: estimated abnormal returns (defined as the financial company stock return obtained in a given day t , i.e. when the operational loss is announced, minus the predicted "normal" stock return) are likely to be, because of the new information made available to the market. We measure financial company normal return using the Sharpe (1963) market model as follows:

$$R_{i,t} = \alpha_i + \beta_i R_{mkt,t} + \varepsilon_{i,t} \quad (8.1)$$

where $R_{i,t}$ is the stock rate of return of the affected financial company i on day t ; $R_{mkt,t}$ is the rate of return on financial national market index on day t ; α_i is the idiosyncratic risk component of share i ; β_i is the beta coefficient of share i ; $\varepsilon_{i,t}$ is the random error. The α_i and β_i coefficients are estimated for each company using an ordinary least square (OLS) regression of $R_{i,t}$ on $R_{mkt,t}$

for a 250-working days estimation period (from the 21st to the 270th day before the news). The event window is defined as the time window that takes into account $-\tau_1$ days before and $+\tau_2$ days after the date of the announcement, whereas the date of the announcement itself is defined as day zero.

We take into consideration two event windows both prior and after the supervisory sanctions: from 3 days before the event to 3 days after; and from 5 days before the event to 5 days after.

Following Gillet et al. (2010), the ratio between the operational loss and the market value of the company, that is, the negative return as a result of the sanction for scarce risk culture, is added to the abnormal return at time 0 before computing the average abnormal return of each day t ($AR_{i,0}$) to isolate the reputational effect. Namely, the abnormal return ($AR_{i,t}$) following the operational loss of financial company i for day t is measured as follows:

$$AR_{i,0}(Rep) = R_{i,t} - \alpha_i - \beta_i R_{mkt} - (\text{risk culture sanction})/(\text{market capitalization}) \quad (8.2)$$

The average abnormal return for n financial company shares on day t (\overline{AR}_t) of the event window is given by the average abnormal return of each of the n shares taken into account:

$$\overline{AR}_t = \frac{1}{n} \sum_{i=1}^n AR_{i,t} \quad (8.3)$$

The Cumulative Abnormal Return (CAR) $CAR_i(\tau_1, \tau_2)$ for each share was determined by adding all the $AR_{i,t}$ of each day t within the event period $[\tau_1, \tau_2]$:

$$CAR_i(\tau_1, \tau_2) = \sum_{t=\tau_1}^{\tau_2} AR_{i,t} \quad (8.4)$$

The average CAR for the event period $[\overline{CAR}(\tau_1, \tau_2)]$ was finally obtained as the arithmetical mean of $CAR_i(\tau_1, \tau_2)$ for each of the n shares taken into account:

$$\overline{\text{CAR}}(\tau_1, \tau_2) = \frac{1}{n} + \sum_{i=1}^n \text{CAR}_i(\tau_1, \tau_2) \quad (8.5)$$

8.5 The Case Studies

The goal of this section is to assess if and how a “risk culture” can jeopardize the reputation of financial institutions; this is because a bank’s activity stems from trust, something that takes years to gain but only a few days to be lost.

The events that triggered the sub-prime crisis and the subsequent scandals show the lack of an adequate risk-taking culture in the financial environment. In particular, the recent global crisis proved that the innovations in the financial industry have very often created space for unlawful operations and misconduct risk.

Good governance and proper risk control systems are necessary in the path to risk culture consolidation and to brand reputation protection. Moreover, the stock price reflects the expectations on the sanctions the Authority will very likely issue. We focus on two relevant Italian banks, who suffered significant sanctions decided by the Authority, due to scarce risk culture: Monte dei Paschi di Siena (MPS) and Banca Carige.

8.5.1 Monte Dei Paschi Di Siena

MPS offers financial services to private, corporate and institutional customers and public authorities.

The Bank also provides bancassurance and pension products through a strategic partnership with the French insurance company AXA, while the main activity of the Group relates to commercial banking, with a focus on the retail segment.

The Bank, its top management and directors are the actors of a scandal that shook the Italian financial system during the sub-prime crisis (2007–2009) and sovereign debt crisis (2010–2011) years. At the foundation of the scandal were shady derivatives operations

between MPS and Nomura and Deutsche Bank, operations that caused considerable losses for MPS.

MPS engaged in these operations in order to cover losses from other financial operations. Following these misleading contracts, the Bank of Italy sanctioned the President and the board of MPS for the violation of the law with regard to risk management (March 28, 2013). Moreover, as it has been proved by the Bank of Italy, MPS showed a lack of organization with regard to internal controls by the Board, the Managing Director and the Board of Auditors. The inspections carried out by regulators have shown the inadequacy of the controls and the misdoings in the risk valuation process, especially with regard to the estimation of the interest rate, liquidity and sovereign risk. The Bank of Italy is very clear about the rules to follow with these structured and complicated transactions; the institutions that trade derivatives are not allowed to operate if they are not able to assess and manage the associated risks.

The MPS case is clearly an example of bad risk management and bad governance by the top management. In fact, among the new tasks of the board of financial institutions is the definition of the accepted risk level (risk appetite): the maximum level of risk a bank is willing to take. On the basis of this parameter, the board defines the strategies with regard to risk control, approves the internal audit system, making sure that the latter is coherent with the risks taken and, finally, it has to indicate those operations that need to be approved by the people in charge of risk control.

The MPS case has shown the total absence of these principles, especially in the origination phase of the first two derivatives the Bank drew up, when it tried to recoup previous losses speculating on high-risk financial products.

What happened can be synthesized using the gambler example. In order to compensate for his losses, the gambler would continue on betting higher and higher sums, eventually losing everything.

In this case, we could think that MPS had a high-risk tolerance; in reality, and this is shown by the securitizations that followed, the risk appetite maximum allowed deviance was far higher than the risk capacity of the Bank.

The discovery of the illicit feature of structured finance transactions and their financial consequences led to huge reputational damage for MPS that affected its financial stability. In fact, the Bank experienced

a run on its deposits for several billion euros and a drop in the share prices on the stock market, as a result of the press releases related to the two transactions with Nomura and Deutsche Bank. Actually, the case study focuses on one of the worst periods of Monte dei Paschi di Siena namely January 2013 when some newspapers revealed the presence of the two illegal derivatives the bank drew up.

In 2008 and 2009, MPS entered into two long-term repo transactions with Deutsche Bank (a transaction referred to as “Santorini”) and Nomura (a transaction referred to as “Alexandria”), for a total of €5.05 billion long-term Italian sovereign bonds.

The so-called “Alexandria” was a secret operation that the top management of MPS created with the Japanese bank to cover a €220 million loss caused by the Bank’s investment in CDO products (due to the subprime crisis). Therefore, in 2009 Nomura replaced at par, with higher quality assets, the original derivative whose market price was far below nominal value. At the same time, MPS made another deal with the Japanese bank to enter into a structured transaction with the intention of compensating Nomura. The transaction included the purchase of €3 billion of 30-year BTPs and interest rate swaps to hedge interest rate risk in which MPS gave the fixed rate to the Japanese bank in exchange for a floating rate linked to the spread on Euribor. By the time, the operation failed because the Euribor continued to fall and the proceeds of MPS arose from the swap; the Bank must book the mark to market more and more negatively in financial statements and pay Nomura ever higher differentials.

The “Santorini” derivative had similar features. Deutsche Bank designed a derivative for Monte dei Paschi di Siena at the height of the financial crisis that obscured losses at the world’s oldest lender before it sought a taxpayer bailout. Germany’s largest bank loaned Monte Paschi di Siena about €1.5 billion in December 2008 through the transaction, dubbed “Project Santorini”. The trade helped MPS in mitigating a €367 million loss from an older derivative contract with Deutsche Bank. As part of the arrangement, the Italian lender made a losing bet on the value of the country’s government bonds.

The total gross negative impact of the restatement of the accounting of the “Alexandria” and “Santorini” transactions on MPS’s net equity

amounts to €612 million as at 31 December 2011 and to €579 million as at 31 December 2012.

When some newspapers announced the existence of the two complex and illegal financial tools, the scandal broke and, in just one session, the Bank lost €267 million in market capitalization. While the share price continued to plunge, the Italian Minister for the Economy disclosed the imminent fines against the top management of MPS equal to €5 million and a few days after, Standard and Poor's downgraded Monte dei Paschi di Siena's rating to BB.

The brief analysis of this period underlined how the rogue management of the risks behind the two derivative financial products has generated (as well as the losses) significant damage to the brand, the trust and, finally to the corporate reputation of MPS, which already represents an enormous cost to deal with.

The absence of a solid widespread risk culture at all corporate levels, starting from the former top management of the Bank, allowed highly risky financial operations to be created, which were not adequately evaluated, causing remarkable losses (and crisis of confidence) for the Bank and its stakeholders. This issue triggered a negative cycle of reputation costs, demonstrating that a good reputation risk management depends on a concrete awareness and spread of risk culture within financial institutions.

The application of the event study to MPS scandal (with two time intervals before and after the event), reported in Table 8.1, show that the net impact on capitalization of the bank was larger than the "operational" impact, approximated by the sanction of 5 million euros, respectively 805 and 225 million euros.

This impact can be considered the reputational impact generated by the lack of risk culture.

Table 8.1 The application of the event study to MPS scandal

Monte dei Paschi di Siena	Market capitalization	Coefficient	Gross impact	Fine	Net impact (Reputation)
EW (-5; 5)	€3.425.03	-0.236534908	-€810.14	-€500	-€805.14
EW (-3; 3)	€3.425.03	-0.067050792	-€229.65	-€500	-€224.65

Source The authors' own table

8.5.2 Banca Carige

Another serious scandal of the Italian financial system involved Banca Carige, one of the most important financial institutions in Italy. Banca Carige offers credit and financial services to families, self-employed professionals and small to medium size companies. The Bank operates in insurance services as well, through Vita Nuova.

Within a broader inquiry, which involved the former top management of Banca Carige, the aim of this study is to analyze some of the financial operations, which have been under investigation by Supervisory Authority during 2013. One year on, these probes led the Bank of Italy to issue heavy fines against the former top management of Banca Carige.

In particular, it has been proved by the Bank of Italy that Banca Carige showed inadequate procedures of credit management and control by the Chief Executive Officer, the Board and the Managing Director. Indeed the inspections carried out by the Supervisory Authority showed Banca Carige had placed an excessive concentration of credit on certain categories of risky customers, especially in the corporate segment, in spite of the declared aim of the Bank to focus on retail banking and on the manufacturing sector and to give priority to low-risk counterparts. Furthermore, the credits were granted overlooking the creditworthiness assessment or were invested by the clients to support financial operations with insignificant capital injections. Finally, the Bank continued to hold numerous assets as performing loans despite obvious default warnings, demonstrating then to be inconsistent with the Bank's principle of prudence.

Indeed, the Authority's inspections had revealed the delay in the transition of bad debt receivable from the status of standing to that of non-performing credits. While more marginal and small blocked loans were devalued significantly, on average between 20 and 27%, by contrast, most relevant ones had a write-down on average equal to 5%, irrelevant according to Bank of Italy.

This kind of operation allowed the Bank to keep going in its lending activities (and to buck the trend in terms of profits compared to the entire Italian banking system during the financial crisis) as the loan portfolio was mainly made up of blocked loans, therefore theoretically solvable by the debtor (unlike non-performing ones).

As regards the lending activity, Bank of Italy points out how, following the post-inspection balance sheet reclassification, the anomalous credits granted by Carige were equal to 17% of the Bank's total assets.

The paradox that characterized the lending activity was actually a direct consequence of the established governance. In fact, the inadequacies in the credit process regarded both the high degree of centralized decision-making in the hands of the executive committee chaired by the former President and the lack of monitoring of the irregular credits. In addition, there was clearly an underestimation of the effective risk behind the portfolio loans by the internal rating system. In general, there was an excessive executive decision-making tendency and, therefore, poor collegiality.

In fact, the fines issued by the Bank of Italy were also justified by the breaches of the established rules governing the internal governance and by a lack of organization with regards to internal controls. Through its preliminary investigations, the Supervisory Authority accused the President (who has been the indisputable leader of the Bank from many years even without an executive role), the Board of Auditors and the Managing Director (who did not make a full use of his powers as part of the Management Board).

In some way, the events that characterized Monte dei Paschi di Siena and Banca Carige, were quite similar, especially when considering the internal governance and the behaviour of the former top management: an absolute power in the hands of the few, frauds, financial operations (MPS) and credit manipulation (Banca Carige) that made the two institutions highly unstable and risky.

The scandal that involved Banca Carige indicates, once again, an inadequate pervasiveness of risk culture, a lack that has mainly distinguished the ones who were supposed to be accountable for risk management and process monitoring (the former top management).

Table 8.2 The application of the event study to Carige scandal

Banca Carige	Market capitalization	Coefficient	Gross impact	Fine	Net impact (Reputation)
EW (-5; 5)	€1.514.97	-0.004860765	-€7.36	-€190	-€5.46
EW (-3; 3)	€1.514.97	-0.005025706	-€7.61	-€190	-€5.71

Source The authors' own table

In brief, if a firm has a good system of governance and adequate risk control mechanisms, it can also be more attractive to potential investors. This has been testified by a drop in Carige share prices on the stock market when the Bank was fined by the Supervisory Authority, especially when some newspapers announced the provision, as shown in Table 8.2. This fact shows, again, a loss of stakeholders' confidence in the Bank credibility.

Again, the event study applied to Carige case, shows a reputational effect approximately of 5.5 million euros, when the sanction was "only" 1.9 million euros.

8.6 Conclusions

The hypothesis that poor risk culture could affect the way banks' investors estimate the reputational impact on the business was confirmed applying an event study approach to a couple of Italian banks sanctioned for their distorted behaviour. Our hypothesis was that behaviour could have been better controlled and readdressed within an environment characterized by a higher risk culture intensity.

The implication of our outcomes is that both banks' managers and regulators should concentrate on the risk culture issue through more substantial investments, not only based on rules and policies but also on a formal certification a compliant behaviour of human resources. Risk values should be shared by all the people involved in banking decision-making processes, at all levels, with the maximum commitment of the top managers and the board of directors, once they realize that leading risk culture performers create value and are more resilient in case of exogenous stress.

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9

Watchdog or Pet Dog: What Is the Role of Media in Shaping Banks' Risk Culture?

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9.1 Introduction

The cyclic financial crises reveal that banking authorities are failing to capture all the elements and information needed to ensure an effective and sound regulation, as well as appropriate supervision and risk management of the banking sector (Barth et al. 2013; Blanchard 2008; the US Financial Crisis Inquiry Commission 2011). Besides frameworks, norms, laws, instruments and processes, the banking industry is essentially made up of people whose behaviour is moulded by culture. Remarkably, risk culture has been defined as an essential tool

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for a value creation process of risk management (Carretta et al. 2015; Gorton 2015; Basel Committee on Banking Supervision 2014; Financial Stability Board 2014; Guiso et al. 2015).

This chapter aims to prove the role and influence of mass media in controlling banks' risk-taking behaviour and in shaping their risk culture. Mass media are a potentially highly effective mechanism of external control on the banking system (Houston et al. 2011). A watchdog role in the financial market is often referred to as one of the main functions of media (Miller 2006; Brunetti and Weder 2003; Djankov et al. 2003).

Therefore, a media attention index, the Banking Risk Coverage (BRC), is constructed on the basis of news coverage related to risk issues. Newspaper articles from 1998 to 2015 for the EU-15 countries have been analyzed using the text analysis technique and synthesized in a country-level index (Baker et al. 2015). In particular, in order to test the BRC index "in the field", it is then compared to the asset quality of banks.

The other section of the work is structured as follows: Sect. 9.2 addresses the theoretical framework; Sect. 9.3 presents an estimation of the Banking BRC index; Sect. 9.4 proposes an analysis of the correlation between the BRC index and asset quality of banks; Sect. 9.5 shows the assessment of the ability of the BRC index to capture the major risk banking events and Sect. 9.6 draws the conclusions.

9.2 Theoretical Framework

Existing literature outlines the importance of the monitoring role played by media, which is frequently referred to as one of their main functions, especially in relation to financial markets and banking activities (Houston et al. 2011; Miller 2006; Brunetti and Weder 2003; Djankov et al. 2003).

Houston et al. (2011) examine the effects of media ownership and concentration on corruption in bank lending, through a unique World Bank data set covering more than 5000 firms across 59 countries. The authors find strong evidence that state ownership of media is

associated with higher levels of bank corruption. They also find that media concentration increases corruption both directly and indirectly through its interaction with media state ownership.

Djankov et al. (2003) show that state ownership of media tends to have a negative influence on a wide number of important metrics, including the degree of press freedom, the level of political and economic freedom, as well as overall measures related to public health. In a similar way, Brunetti and Weder (2003) find that free press has positive effects on fighting corruption.

In order to be an effective deterrent to banks' risk-taking behaviour, media need an incentive to unveil improper decisions. The motivation of media (as with all economic agents) is based upon perceived costs and benefits. In deciding which stories to cover, media agents arguably aim at attracting the largest audience possible (Jensen 1979). This incentive is true both for newspapers, whose subscription and advertising revenues are dependent upon circulation and for television and radio stations, where advertising and cable fees (where applicable) are bound to audience ratings (Besley et al. 2002; Besley and Prat 2006). As defined in Jamieson and Campbell (2001), a "newsworthy event" is an event with the following five characteristics: (1) personalized, (2) conflict-filled, controversial, dramatic, (3) actual and concrete as opposed to theoretical or abstract, (4) novel and deviant and (5) linked to issues with ongoing concern. Banks' behaviour related to risky decisions is one of the few business stories (as bank corruption) that meet all these criteria. The often hidden actions, tensions, incentives and conflicts of interest make it a potentially compelling news story (Miller 2006).

Furthermore, bank risk-taking decision and management are also important news events because they have direct implications for the understanding and evaluation of performance and assets quality of both banks and other agents involved. However, the decision to report news on banks leads to ethical and practical issues (Tambini 2008). The risk is that a particular institution might collapse in response to a news report, as was the case when Northern Rock crumbled following a BBC report in September 2007.

In addition, although market competition and consumer preferences should act as safeguards against media manipulation, these conditions are likely to fail when the media are facing financial difficulties, and thus creditors have great influence over their decisions (Zingales 2016). As a consequence, banks could (at different levels) influence the reporting of some news because of their money lending activities.

Surprisingly, there are no papers analyzing to what extent mass media influences banks' behaviour in relation to risk-taking decision. Thus, we propose an index of media attention on banking risk issues as a useful tool for analysis.

9.3 The Banking Risk Coverage Index

In order to build a media attention index on banking risk issues—Banking BRC—newspaper articles are used from the EU-15 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom). Articles have been analyzed using the text analysis technique and summarized in a country-level index (Baker et al. 2015).

The annual BRC index for each country relies on the 10 leading newspapers in that country and is displayed in Table 9.1.

Each newspaper was searched in the *Factiva* database to obtain an annual count of articles containing the following double words in the original language of each examined country (Table 9.2): “risk” or “risky” or “riskiness”; “bank” or “banking”.

In order to meet established criteria, an article must contain the keywords “risk” and “banking” from both categories.

The overall volume of articles obtained from the query on *Factiva* varies across countries, newspapers and time. The analysis is conducted for the time period from 1998 to 2015. Year 1998 is considered as the starting date of the analysis because in this year, all series were available for all countries. Then, the approximate calculations are scaled by

Table 9.1 The list of 10 leading newspapers for the EU-15 zone countries

EU-15 Zone Countries	List of Newspapers	
Austria	<ul style="list-style-type: none"> • Die Presse • Der Standard • NÖ Wirtschafts Pressedienst • Salzburger Nachrichten • ZEIT Österreich 	<ul style="list-style-type: none"> • Oberösterreichische Nachrichten • Wiener Zeitung • Gewinn • Dow Jones Austria • APA-Finance Briefing
Belgium	<ul style="list-style-type: none"> • Knack • La Libre Belgique • Le Soir • Trends/Tendances • Trends 	<ul style="list-style-type: none"> • Het Volk • De Financieel-Economische Tijd • La Nouvelle Gazette • Datanews
Denmark	<ul style="list-style-type: none"> • Morgenavisen Jyllands-Posten • Politiken • Folkebladet Glostrup • Børsen • Dagbladet Information 	<ul style="list-style-type: none"> • Reuters—Nyheder på dansk • NASDAQ OMX Nordic Exchanges—CN • Nasdaq/Globenewswire • ErhvervsBladet • Ritzau Finans
Finland	<ul style="list-style-type: none"> • Aamulehti • Helsingin Sanomat • Keskiuomalainen • Turun Sanomat • Suomen Tietotoimisto STT 	<ul style="list-style-type: none"> • Kauppalehti • Kaleva • Taloussanomat • STT Info • NASDAQ OMX Nordic Exchanges
France	<ul style="list-style-type: none"> • Les Echos • L'Équipe • L'Express • Le Figaro • L'Humanité 	<ul style="list-style-type: none"> • Le Monde • Le Nouvel Observateur • Le Parisien • La Tribune • La Voix du Nord
Germany	<ul style="list-style-type: none"> • Berliner Morgenpost • Berliner Zeitung • BILD • B.Z. • Die Welt 	<ul style="list-style-type: none"> • DIE ZEIT • Frankenpost • Handelsblatt • Nürnberger Nachrichten • Süddeutsche Zeitung
Greece	<ul style="list-style-type: none"> • Eleftherotipia • TA NEA • TO VIMA • Kathimerini • Athens News 	<ul style="list-style-type: none"> • Imerisia • Express • Ethnos • Apogevmatini • Avgi

(continued)

Table 9.1 (continued)

EU-15 Zone Countries	List of Newspapers	
Ireland	<ul style="list-style-type: none"> • Evening Herald • The Sunday Business Post • The Irish Examiner • The Irish Times • Irish Independent 	<ul style="list-style-type: none"> • The Irish Journal of Management • Waterford Today • Western People • The Sunday Independent • The Sunday Tribune
Italy	<ul style="list-style-type: none"> • Corriere della sera • Il Fatto quotidiano • Il Giornale • Il Messaggero • Il Sole 24Ore 	<ul style="list-style-type: none"> • Il Resto del Carlino • La Repubblica • Leggo • MF • Milano Finanza
Luxemburg	<ul style="list-style-type: none"> • Le Quotidien • Tageblatt • Le Jeudi • Le FAX d'Agefi Luxembourg • Le Mensuel d'Agéfi Luxembourg 	<ul style="list-style-type: none"> • Luxemburger Wort • Official Journal—C series • Official Journal—C series • Official Journal—L series • Official Journal—L series
The Netherlands	<ul style="list-style-type: none"> • AD—Algemeen Dagblad • De Telegraaf • Het Financieele Dagblad • De Volkskrant • Boerderij 	<ul style="list-style-type: none"> • Bizz (RBI) • Pluimveehouderij • Quote Magazine • ZorgVisie • Trekker
Portugal	<ul style="list-style-type: none"> • Publico • Jornal de Notícias • Diário da República • Diário Económico • Expresso 	<ul style="list-style-type: none"> • Correio da Manha • Record • Visão • Diário de Notícias • Vida Económica
Spain	<ul style="list-style-type: none"> • ABC • El País • El Economista • Marca • El Mundo 	<ul style="list-style-type: none"> • La Vanguardia • El Periódico • El Correo • Dinero • Infolibre
Sweden	<ul style="list-style-type: none"> • Dagens Industri • Finanstidningen • STT Info • Svenska Dagbladet • Vision 	<ul style="list-style-type: none"> • Aftonbladet • Dagens Handel • Expressen • Göteborgs Posten • Enköpings Posten
The United Kingdom	<ul style="list-style-type: none"> • Daily Mail • The Guardian • Daily Mirror • Daily Express • Financial Times 	<ul style="list-style-type: none"> • The Independent • The Herald • The Sun • The Sunday Mirror • Building

Table 9.2 Term Sets for BRC index for the EU-15 zone

EU-15 Zone Countries	Categories	
	Risk	Banking
Austria	risiko OR risikoreich OR riskant	bank OR bankwesen
Belgium	risico ^a OR risicovol	bank OR bankieren
Denmark	risiko OR risikabel OR hasaderet	bank OR række OR bankvæsen
Finland	riski OR vaarallinen OR riskaabeli	pankki OR pankit OR pennka OR pankkiala OR pankkitoi- minta
France	rique OR aléa OR risqué	banque OR bancaire
Germany	risiko OR risikoreich OR riskant	bank OR bankwesen
Greece	ρίσκο OR Κινδυνός OR ρψοκινδυνός OR ρψοκινδυνοτητα	τραπεζα OR τραπεζικος
Ireland	risk OR risky OR riskness	bank OR banking
Italy	rischio OR rischioso OR rischiosità	banca OR bancario
Luxemburg ^a	rique OR aléa OR risqué risiko OR risikoreich OR riskant	banque OR bancaire bank OR bankwesen
The Netherlands	risico OR risicovol	bank OR bankwezen
Portugal	risco OR perigo arriscado OR perigoso	banco OR bancário
Spain	riesgo OR arriesgado	banco OR banca
Sweden	risk OR fara OR riskabel	bank OR grund OR rad OR driva OR bankrörelse OR bankvåsen
The United Kingdom	risk OR risky OR riskness	bank OR banking

^aFor Luxemburg, we consider the two most important spoken languages: French and Dutch

Table 9.3 The distribution of banking risk articles before and after crisis for the EU-15 zone countries

	Time period		
	Overall banking risk news	1998–2006 Before crisis	2007–2015 After crisis
EU-15 Zone Countries	1,008,822	203,726	805,156
Austria	9454	2810	6644
Belgium	7616	1355	6261
Denmark	8109	2679	5430
Finland	201	76	125
France	130,424	29,918	100,506
Germany	63,579	8950	54,629
Greece	52,625	2693	49,932
Ireland	22,035	3442	18,593
Italy	146822	36,854	109,968
Luxemburg	3255	489	2766
The Netherlands	21,350	1918	19,432
Portugal	23,380	3439	19,941
Spain	198,245	37,001	161,244
Sweden	2788	1009	1779
The United Kingdom	318,999	71,093	247,906

the total number of articles belonging to the “Banking and Credit” section of the Factiva database in the same country, newspapers and years, which yields an annual BRC index for each country. The total number of relevant articles obtained is 1,008,822 (as illustrated in Table 9.3).

The BRC indicator (BRCI) is expressed in the following equation:

$$\text{BRC}_{i,t} \text{ index} = \sum_{m=1}^{12} \frac{\text{BRC}}{\text{BC}}$$

where i is the country considered, t the year, m the month, BRC the count of articles containing “banking” and “risk” categories, and BC the total news belonging to the “Banking and Credit” category.

The BRC Index for the EU-15 zone is equal to 1.56 (Table 9.4). Its value in the period after the crisis is higher (0.84) than the value in relation to the period between 1998 and 2006 (0.72), confirming that banking risk is a “hot” topic in relation to the total number of published articles, especially between 2007 and 2015. Respecting this trend,

Table 9.4 Banking Risk Coverage before and after crisis

	Time Period		
	Overall Banking Risk News	1998–2006 Before Crisis	2007–2015 After Crisis
The Eu-15 Zone Countries	1.5560	0.7155	0.8405
Austria	0.051189	0.020958	0.030231
Belgium	0.076132	0.023508	0.052624
Denmark	0.084605	0.035945	0.04866
Finland	0.004571	0.00174	0.002831
France	0.167476	0.129453	0.038023
Germany	0.016997	0.006198	0.010799
Greece	0.30789	0.07618	0.23171
Ireland	0.082148	0.027692	0.054456
Italy	0.116066	0.069781	0.046285
Luxembourg	0.24956	0.166907	0.082653
The Netherlands	0.055078	0.034872	0.020207
Portugal	0.10864	0.033441	0.075199
Spain	0.092173	0.038933	0.05324
Sweden	0.050533	0.017867	0.032666
The United Kingdom	0.09299	0.032061	0.060929

Greece has the highest BRC index value (0.31), followed by Italy (0.12). On the other hand, Luxembourg and France demonstrate BRC index values (respectively equal to 0.25 and 0.17) that were higher in the pre-crisis period (respectively, equal to 0.17 and 0.13) than in the post-crisis one (respectively equal to 0.08 and 0.04).

9.4 The BRC Index and Financial Sector Instability

In order to test the BRC index “in the field”, its correlation is analyzed with the NPL of banks in the EU-15 zone countries. NPL is usually used as a proxy for asset quality of the banking system.

Table 9.5 presents the correlation coefficients between the BRC Index and the NPL one (Column A) and between the BRC Index and the NPL index with 1-year lag (Column B).

Table 9.5 The correlation between BRC index and NPL for the EU-15 zone countries—(*t* time and *t* + 1 time)

The Eu-15 zone Countries	BRC & NPL%	BRC & NPL% <i>t</i> + 1
Austria	0.5172*	0.5672*
Belgium	0.6509**	0.6380**
Denmark	-0.5488*	-0.4379
Finland	-0.0962	-0.0073
France	0.0328	0.3976
Germany	-0.6079**	-0.50412*
Greece	0.5988**	0.6895**
Ireland	0.7486**	0.7067**
Italy	-0.3091	-0.2494
Luxemburg	0.1314	0.0667
The Netherlands	0.6303**	0.8017***
Portugal	0.9049***	0.9368***
Spain	0.7649***	0.5471*
Sweden	0.0878	0.12
The UK	0.6502**	0.6521**

* = 0.05, ** = 0.01, *** = 0.001

BRC banking risk coverage index

NPL non-performing loan on total loans percentage

As illustrated above, the newspaper coverage index for banking risk is positively correlated (and statistically significant) with the banking sector uncertainty indicator for the following countries: Austria ($p < 0.05$), Belgium ($p < 0.01$), Greece ($p < 0.01$), Ireland ($p > 0.01$), the Netherlands ($p < 0.01$), Portugal ($p < 0.001$), Spain ($p < 0.001$) and United Kingdom ($p < 0.01$). Conversely, high values of the BRC index are associated with high levels of uncertainty for the banking sector and vice versa. The magnitude of coefficients varies from a minimum of 0.5172, in Austria, to a maximum of 0.9049 in Portugal, with a mean value of 0.68 and a standard deviation of 0.12. These results reveal a rather strong relationship between the two variables for the following countries: Austria, Belgium, Greece, the Netherlands and the United Kingdom; and a very strong one for the Irish, Spanish and Portuguese regions. The strength of the relationship between the variables increases when considering the NPL in the following year compared to the BRC index (Column B) for some countries, such as Austria, Greece, the

Netherlands, Portugal and the United Kingdom, while it decreases for Belgium and Spain. Interestingly, the mean value remains almost the same (0.69) and the standard deviation increases slightly (0.13), demonstrating that in general the correlation between the BRC index and the financial uncertainty index has the same strength and direction for these countries—both considering the NPL in the current or in the following year.

On the contrary, a negative correlation has been found in Denmark and Germany. For Denmark, the coefficient is only significant in the case of NPL of the present years. Whereas both the coefficients are statistically significant for Germany, with the highest absolute value detected in Column A. Higher values of the BRC index are generally associated with less loans that are not in or near default, suggesting a trend reversal for the current riskiness of banks due to media attention on that riskiness.

No significant relationship has been found between the newspaper riskiness index and the financial stability for Finland, France, Italy, Luxembourg and Sweden.

9.5 BRC Index Ability to Capture Major Risk Banking Events

In this section, a general graphic overview is provided of the link between the BRC index and some of the main events in the financial sector for countries where the index has been found to be positively, statistically and significantly correlated with the NPL financial instability indicator. This allows to observe whether the newspaper coverage index effectively detects the major episodes in the banking world. Generally, for all the countries observed, there was initially a lower level and an upward drift of the BRC index starting in 2008, when the Lehman Brothers investment bank failed and Europe was stricken by a financial and economic crisis. Besides this trend, the focus is on some banking scandals (such as frauds and crises) and their link with press attention.

Austria. One of the most relevant episodes for the Austrian banking sector is related to the Hypo Alpe-Adria Bank, whose controlling stake was bought by BayernLB in 2007. It was revealed the following year that BayernLB had US subprime mortgage securities in its balance sheet, which were causing losses of €2.3-billion in 2007 and an additional €2-billion in the first quarter of the following year. At the end of 2009, BayernLB had to surrender control of the dangerous Hypo to the Austrian Government which was then nationalized. Observing our newspaper index, the graph illustrates a rise around the year 2006 that reached a high-level in 2009, when the bank went bankrupt.

Belgium For the Belgian country, the index seems to capture the most relevant financial events: market pressure and liquidity problems for the three largest financial conglomerates (Dexia, Fortis, KBC) and the Ethias insurance group (OECD 2009). The events took place during the years 2008–2009, when a positive growth of the index is detected, associated with greater media coverage of banking risk topics.

Greece The Greek depression officially started in late 2009, triggering a massive crisis also in the banking sector. The peak was registered in 2012, when the interest rate of the 10-year Greek government bonds reached its highest level and the government had the largest debt default in its history (OECD 2013). This is in line with what is presented in the plot, where a sharp increase can be observed in the 2009 and 2012 index compared to previous years.

Ireland Two different distant events were taken into consideration for the Irish countries. The first one regards the largest bank fraud event in history when the Forex trader at the second largest Irish bank—the Allied Irish Banks (AIB)—named John Rusnack reported losses in the Baltimore-based subsidiary (Allfirst) for almost \$700-million (Pickett 2010). In 2002, the trader did not report to work in the morning and AIB communicated it was investigating the fraud. The following year Rusnak was sentenced to 7.5-year in prison. The second episode is related to the FitzPatrick scandal at the Anglo-Irish Bank: he resigned as Chairman in 2008, confessing he had been hiding €87-million in loans; in 2009, the Bank was nationalized by the Government (McGrath 2015). The following year FitzPatrick was arrested, the Anglo-Irish Bank reported the biggest corporate losses in the history of the country

(£10.9-billion which is equal to €12.7-billion) and the European Central Bank estimated the fraud could cost citizens €34-billion. The BRC index shows higher levels compared to the previous ones for the years 2002–2003 and for the years 2008–2010, when the two events occurred.

The Netherlands The BRC index for this country does not reveal a peak in the year 2013 when the SNS Bank and its holding SNS Reaal were nationalized, and the Rabobank was fined \$1-billion for the Libor manipulation case (Koopmans 2015). Considering that the index reveals a slight increase in the years before and after 2013, it may be possible that it either anticipated in the banking crisis or those newspapers were lagging for months before giving greater importance to these events. To resolve this issue, a further investigation can be conducted, based on the textual analysis of articles published in the years 2012–2014, or of the relationships between the BRC index and other banking crisis events during other periods.

Portugal In 2011, difficulties in accessing the funding market and sovereign debt rating downgrades by several rating agencies contributed to the aggravation of Portuguese banks' liquidity conditions. This severe crisis of the banking sector led the International Monetary Fund and the European Union to announce a joint €78-billion financing package (IMF Press Release 2011). The index, in addition to the aforementioned general leap in the years of the financial crisis, shows a clear spike while maintaining a high relative level compared to the level of the pre-crisis period (albeit with a slight decrease) in the following years. Those years were characterized by the bailout of the Banco Internacional do Funchal (Banif) and the collapse of the Banco Espírito Santo, which is one of the Europe's largest financial failures (Banco de Portugal Press Release 2014).

Spain In 2002, the second largest Spanish bank, the Banco Bilbao Vizcaya Argentaria (BBVA) was investigated for misuse of funds and falsification of accounts, which were supposedly employed to "influence politicians and business deals, pay protection money to ETA (the armed Basque separatist group) and fund Hugo Chavez's successful bid for president of Venezuela, where the bank has significant interests" (BBC news 09.04.02). Ten years later, the fourth largest Spanish bank called Bankia was at the centre of the country's banking crisis because of its exposure to toxic assets. The following year, the scandal of the "*tarjetas opacas*"

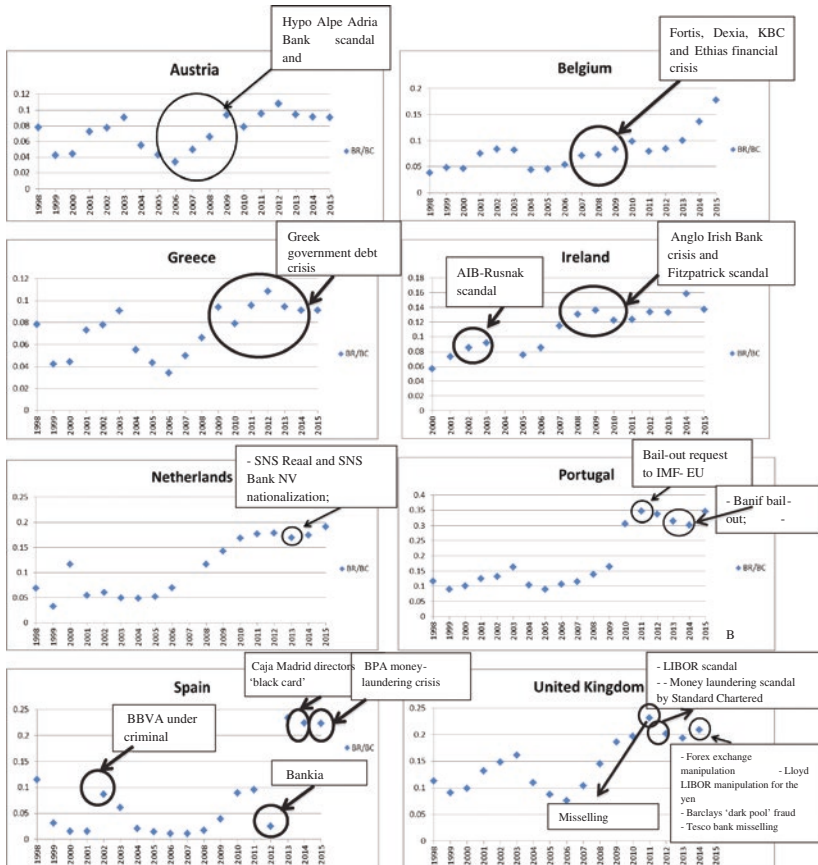


Fig. 9.1 Plots of the BRC index and some of the main financial episodes for different countries over the time span 1998–2015. The BRC index is plotted for the countries which show a positive and statistically significant correlation with the financial indicator Nonperforming loans. The time interval is 1998–2015 except for Ireland (2000–2015). Ireland and The Netherlands present one missing value in the years 2004 and 2007, respectively

of the Caja de Madrid (BFA) bursted out (OECD 2012). In 2014, the Banca Privada d’Andorra was accused of money laundering for international criminal organizations (AREB 2015). The BRC index registered a rise for all these events, except for the Bankia crisis in 2012 when it actually showed one of the lowest levels for the whole time bracket. A further investigation is needed. Interestingly, the index trend before 2013

was definitely lower than that of the last 3-year of time span taken into consideration (Fig. 9.1).

The United Kingdom. This area showed a high-level of the index during the period 2011–2014, characterized by the LIBOR scandal (one of the biggest in financial history), the money laundering scandal by Standard Chartered, the Forex Exchange manipulation, the Barclays “dark pool” fraud and so on (OECD 2015). The highest peak for the index was in 2011, when the High Court case for the Payment Protection Insurance accused banks and the British Banks Association decided not to appeal against this verdict—which marks one of the most expensive scandals ever in the banking sector.

9.6 Conclusions

Do the media play a role in shaping banks’ risk culture? This contribution is a first attempt to shed light on this topic. To this aim, a media attention index, the Banking BRC, is defined on the basis of media coverage of banking risk issues.

According to this analysis, the BRC index is (in many cases) positively correlated to the NPL of banks. However, this result seems to be only a repercussion of some specific bank episodes in various countries.

The simple correlation analysis used in this work is clearly incomplete for drawing a strong conclusion. Yet, there is some circumstantial evidence according to which, although mass media properly report specific events concerning banking risks, they do not seem capable of forming banks’ risk culture.

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Part II

**Good practices, Experiences, Field &
Empirical Studies**

10

Influence of National Culture on Bank Risk-taking in the European System

Candida Bussoli

10.1 Introduction

Cultural values can have a strong influence on decisions of any kind (House et al. 2004). Cultural values are important forces that shape codes of human behaviour (Markus and Kitayama 1991) and the economic behaviour of enterprises (Guiso et al. 2006).

Several studies use the concept of culture in the economy to help understand accounting and financial choices (Chui et al. 2002, 2010; Han et al. 2010; Li et al. 2012; Li and Zahra 2012; Kanagaretnam et al. 2011, 2014).

Other studies claim that culture can be a source of competitive advantage for companies (Kotter and Heskett 1992) especially when the business culture is consistent with company strategies and can allow for effective organizational learning in response to market changes.

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Culture can directly affect company's performance and risk-taking—both financially and non-financially (Li et al. 2013; Kanagaretnam et al. 2011, 2014, 2016; Mihet 2012)—through its effect on individual decision-making processes; culture can also indirectly affect companies performance and risk-taking through its effect on regulatory and institutional structures and on consequent practices in business management (Leaven and Levine 2009; Carretta et al. 2014; John et al. 2008; Acharya et al. 2011).

The present work aims to investigate the possibility that culture affects risk-taking in financial firms. We focus on the banking system, which is characterized by greater risk-taking opportunities relative to other industries, and we expect to find that cultural values are related to bank risk-taking.

The study focuses on two dimensions of national culture identified by Hofstede (1997, 2001): individualism and uncertainty avoidance. Countries exhibiting high levels of individualism emphasize self-orientation, autonomy and individual achievement. In a society characterized by high levels of individualism, there is a lack of interpersonal connection, and each person is expected to look after himself and his immediate family. Uncertainty avoidance refers to the extent to which members of a society feel threatened by uncertain or unknown situations. In a society characterized by high levels of uncertainty avoidance, people attribute value to clear rules of conduct, enjoy certainty and conformity and are intolerant towards deviant behaviour and ideas.

We hypothesize that there is a positive relation between individualism and bank risk-taking and a negative relation between uncertainty avoidance and bank risk-taking. Furthermore, we hypothesize that the influence of culture may be conditioned by bank size, which might be a proxy of managerial discretion. The paper examines these three research hypotheses based on a sample of the EU-28 countries for the 2010–2014 period, and in turn, an empirical analysis is carried out on the European banks for the period immediately following the outbreak of the financial crisis.

In using the standard deviation of Returns on Assets and Net Interest Margins and a *z-score*—a measure of bank stability that denotes the distance from insolvency (Laeven and Levine 2009; Houston et al. 2010)—as measures of bank risk-taking, the study reveals a positive association

between individualism and bank risk-taking and a negative association between uncertainty avoidance and bank risk-taking. The study also shows that the influence of cultural values is conditioned by the bank size.

The paper is structured as follows. In Sect. 10.2, we present a literature review and our research hypotheses. Section 10.3 describes the methodology and variables used in the study. Section 10.4 describes the sample, and Sect. 10.5 presents and discusses the main results and the results of several robustness checks. Section 10.6 sets forth brief conclusive assessments.

10.2 Literature Review and Research Hypotheses

Several works in the literature help explain how cultural values can affect nation-wide institutional, legal and economic environments at a macro level.

The sharing of basic cultural values is a condition that not only yields lesser coordination efforts (Peters and Waterman 1982) and therefore, lowers transaction costs but also the maximization of motivations and individual exertions. A cooperative culture can result in better delegation and control mechanisms and better coordination mechanisms (Van den Steen 2004); it can lead to a more efficient allocation of resources due to individual commitments to converge towards common goals (Carretta et al. 2011).

The literature also helps explain cross-country differences and the impacts of cultural values on various sectors and fields of business management: corporate governance (Doidge et al. 2007); capital structure decisions (Li et al. 2011); mergers and acquisitions (Carretta et al. 2007); firm dividend policies (Bae et al. 2012); earning management and quality (Kanagaretnam 2011); firm disclosure (Hope 2003); bank lending (Giannetti and Yafeh 2012); economic and market development (Guiso et al. 2006); bank system and bank foreign investment choices (Owen and Temesvary 2015; Kwok and Tadesse 2006); internal control material weaknesses (Kanagaretnam et al. 2016); bank stress test results (Fritz-Morgenthal et al. 2016); and profit reinvestment decisions (El Ghoul et al. 2016).

Several studies in the financial and management literature are specifically focused on decision-making and have found that cultural and economic environments may determine and influence risk-taking decisions. Regarding economic and legal environments, studies have focused on either financial or non-financial firms, showing that national culture may be indirectly linked to corporate risk-taking in banking and manufacturing sectors.

Leaven and Levine (2009) show that bank risk-taking varies positively with the comparative power of shareholders within a corporate governance structure and that the relation between bank risk and capital regulations depends on each bank's ownership structure. Therefore, according to the authors, the same regulation may have different effects on bank risk-taking depending on a bank's corporate governance structure.

Carretta et al. (2014) provide evidence that different supervisory cultures may affect bank stability and credit risk-taking. The authors show that a culture-oriented towards collective outcomes and that focuses on the overall stability of the banking system reduces bank stability and credit risk in bank lending portfolios. The authors also show that banks seem to increase their risk-taking when supervisory authorities follow a *Power Distance*-oriented supervisory culture based on strict and inflexible supervision and regulation.

John et al. (2008) consider the relationship between investor protection and corporate risk-taking and argue that better investor protection mitigates the use of private benefits and consequently the degree of risk avoidance; they also observe that risk-taking and firm growth rates are positively related to the quality of investor protection. Acharya et al. (2011) propose that having strong creditor rights in a country may lead firms to reduce corporate risk-taking.

National cultures and cultural values may be *directly* linked to corporate risk-taking in manufacturing and banking sectors, as shown in several studies.

Li et al. (2013) investigate the role of national culture in corporate risk-taking. They postulate that cultural values affect corporate risk-taking while controlling for formal institutions and economic development across countries; they also demonstrate that cultural effects are more apparent in smaller firms and in firms with greater earnings discretion.

Using cultural values developed by Hofstede (1980, 2001) and Schwartz (1994, 2004), the authors examine whether between-country differences related to cultural values of individualism (versus collectivism), uncertainty avoidance and harmony (versus mastery) affect corporate risk-taking. They show that there is a positive association between individualism and risk-taking, a negative association between uncertainty avoidance and risk-taking, and a negative association between harmony and risk-taking. Their results also show that the influence of culture is conditioned by firm environments, as earnings discretion strengthens the effects of culture on corporate risk-taking, while a large firm size weakens the effects of culture on corporate risk-taking.

Kanagaretnam et al. (2014) examine the banking sector and study how differences in culture across countries affect accounting conservatism and bank risk-taking using an international sample of banks. The study focuses on two dimensions of national culture, individualism and uncertainty avoidance (Hofstede 2001), and shows that individualism is positively related to risk-taking and that uncertainty avoidance is negatively related to risk-taking. The study also shows that cultures that encourage higher risk-taking experienced more bank failures during the recent financial crisis.

Mihet (2012), using a comprehensive dataset covering 50,000 firms in 400 industries in 51 countries, tries to reconcile studies on direct and indirect effects of culture on risk-taking and assesses them simultaneously. The paper extends analyses that capture cross-industrial differences in risk-taking to observe whether there are differences between effects of culture on corporate risk-taking behaviour not only across countries but also across industries. The results show that cultural values are key determinants of corporate risk-taking, even after taking into account their indirect effects on institutional, economic and industrial environments. Firms operating in environments that are highly uncertainty averse, low in individualism and high in power distance tend to take on less risk. These results are particularly apparent for firms operating in industrial sectors that are more opaque. It is very interesting to observe that these results hold for domestic firms only. The behaviours of foreign firms are most likely determined by the cultural norms of societies that firms are originally based in.

Ultimately, the literature is unanimous in concluding that formal institutions, rules of law and investor protections may affect the risk-taking of financial and non-financial firms, but it equally notes that cultural values may have a direct and significant influence on risk-taking. Further, the literature shows that the same formal financial institutions and systems are influenced by cultural values. Kwok and Tadesse (2006) argue that countries characterized by high levels of uncertainty avoidance are also characterized by more risk-averse bank-based financial systems. Thus, it may be argued that the propensity for risk-taking may be lower in societies presenting high -levels of uncertainty avoidance. Uncertainty avoidant societies emphasize social conformity and rule following, and their members are less inclined towards market-oriented financial systems.

Based on the above literature review, we expect to find that cultural values are related to formal institutional financial systems and to financial firm risk-taking.

The study focuses on two dimensions of national culture identified by Hofstede (2001): individualism and uncertainty avoidance. The national cultural dimensions are derived from a psychological survey on national and organizational cultures conducted by sociologist Geert Hofstede between 1967 and 1973 in 66 countries. Subsequent studies have validated and extended Hofstede's results and have shown that scores related to cultural values have remained quite stable over time. Country scores on cultural dimensions are relative, and thus cultural values can be only used meaningfully through comparison.

The dimension of individualism describes the relationship between an individual and society. In countries presenting high levels of individualism, ties between individuals are loose, there is a lack of interpersonal connection and everyone is expected to look after himself and his immediate family. A society characterized by high levels of individualism can be defined as a society with a preference for social frameworks in which individuals are expected to take care of only themselves and their immediate families. A society presenting low levels of individualism exhibits high levels of group cohesion and larger social groups. In countries presenting low levels of individualism, social groups are larger, people take more responsibility for one

another's well-being, and individuals can expect their relatives or fellow group members to look after them.

The dimension uncertainty avoidance denotes the extent to which members of a society feel threatened by uncertain or unknown situations. Thus, this dimension captures the extent to which individuals feel uncomfortable with uncertainty and ambiguity. People living in uncertainty avoidant cultures attribute value to institutions that provide certainty and conformity (Hofstede 2001), and individuals promote an orderly structure in their organizations, institutions and personal relations. Countries presenting high levels of uncertainty avoidance maintain rigid codes of belief and behaviour and are intolerant towards deviant behaviours and ideas. Countries presenting low levels of uncertainty avoidance maintain a more relaxed atmosphere and are more tolerant towards deviance.

The above arguments suggest that in highly individualist societies, overconfidence and risk-taking are more common. In the same way, the above arguments suggest that uncertainty avoidant societies show a lesser tendency towards risk-taking.

Based on the above literature and discussion, individualism and uncertainty avoidance may be related to formal institutional structures and to the same financial structure and may encourage or discourage corporate risk-taking in financial firms and banks. This, in turn, should manifest more or less volatile earnings, respectively. Based on this effect, the following research hypotheses regarding the effects of cultural values on bank risk-taking are formulated:

- H1:** There is a positive association between national levels of individualism and bank risk-taking.
- H2:** There is a negative association between national levels of uncertainty avoidance and bank risk-taking.

Further, cultural values may have a weaker influence on large banks, as large banks may maintain better corporate governance practices in line with the community practices of the financial system in which they are positioned; large banks may also rely more on highly controlled management systems. Based on the above considerations, the following research hypothesis is formulated:

H3: The effects of cultural values on bank risk-taking are weakened in larger highly controlled banks.

10.3 Methodology and Variables

To verify the research hypotheses, we conduct a robust standard error analysis based on the OLS model.

The dependent variables considered are, alternately, three measures of bank risk-taking: Std(ROAA), Std(NIM) (Kanagaretnam et al. 2014) and *z-score* (Stiroh and Rumble 2006; Carretta et al. 2014; Kanagaretnam et al. 2014; inter alia).

Std(ROAA) is the standard deviation of Roaa and measures the volatility of Returns on Assets. Std(NIM) is the standard deviation of the Net Interest Margin and measures the volatility of bank earnings. The standard deviations reflect the degree of bank risk-taking and are computed for 2010–2014: riskier bank operations lead to more volatile earnings.

The third dependent variable is a *z-score* that is a proxy of bank stability and that denotes the distance from insolvency (Leaven and Levin 2009).

Specifically, $Z = (\text{ROAmean} + \text{CARmean})/\sigma\text{ROAA}$.

CARmean is the mean value of the capital asset ratio computed as equity divided by total assets.

ROAmean is the mean return on average assets.

σROAA is the standard deviation of returns on average assets.

The *z-score* measures the number of standard deviations between a bank and insolvency, and thus a higher *z-score* denotes that a bank is less risky and more stable.

As *z-score* is highly skewed, we smooth extreme values using its natural logarithm (Leaven and Levine 2009; Kanagaretnam 2014; Carretta et al. 2014).

To verify the research hypotheses, we use a baseline model that includes (10.1) risk-taking measures as a function of cultural values, a number of firm-specific and country-specific controls generally recognized as related to bank risk by the literature, and a dummy variable

(*comm*) that takes value 1 when a bank is a commercial bank and a value of 0 otherwise.

$$\begin{aligned}
 Y_{ik} = & \alpha + \beta_1 lempl_i + \beta_2 loan_i + \beta_3 equity_totasset_i + \beta_4 cost_income_ratio_i \\
 & + \beta_5 imploan_grossloan_i + \beta_6 totcap_ratio_i + \beta_7 lrgdp_mean_i \\
 & + \beta_8 idv_i + \beta_9 uai_i + \beta_{10} comm_i + \varepsilon_i
 \end{aligned} \tag{10.1}$$

The cultural values considered are individualism and uncertainty avoidance (Hofstede 1985, 1997, 2001, Hofstede et al. 2014). In countries with a high individualism score, there is a low level of group cohesion and a lack of interpersonal connection. Highly individualist societies emphasize self-orientation and autonomy (Hofstede 2001), suggesting risk-taking levels may be higher than in less individualistic societies. This, in turn, should lead to overconfidence and risk-taking in the banking system and should manifest in a lower *z-score* and in financial statements with more volatile Roaa and Net Interest Margins (Kanagaretnam et al. 2014).

The second cultural dimension considered in the analysis is uncertainty avoidance, which is defined by Hofstede (1991) as the “extent to which the members of a culture feel threatened by uncertain or unknown situations”. According to the above definition, countries presenting high levels of uncertainty avoidance may be characterized by a (relatively) lower propensity for risk-taking. This lower propensity for risk-taking may, in turn, affect the financial system, and therefore uncertainty avoidant societies may be characterized by more risk averse bank systems, and banks may be more likely to avoid high-levels of risk-taking (Kanagaretnam et al. 2014). This in turn should lead to a higher *z-score* and less volatility in earnings, and thus a positive relationship is expected between uncertainty avoidance and *z-score* and a negative relationship is expected between uncertainty avoidance and the standard deviation of Returns on Assets and Net Interest Margins.

The analysis includes several bank level variables to control for bank characteristics that may influence the relationship between national culture and bank risk-taking. These control variables are related to bank size, the financial characteristics of a bank and the quality of a bank’s lending. We control for bank size measured as the logarithm of the number of

employees (*lempl*). We control for the incidence of loans on total assets (*loans*) measured as the percentage ratio of total loans to total assets. The cost income ratio (*cost_income_ratio*) is also used as a control variable to consider bank cost efficiency. The ratio of equity to total assets (*equity_totasset*) and the total capital ratio (*tot_cap_ratio*) are control variables related to the soundness of a bank. Finally, the ratio of impaired loans to gross loans (*imploan_grossloan*) controls for loan quality.

For some firms, the variable considered is not available for the first year, so we replace it with the first available one to transform all firm-specific variables that vary over time into time-invariant ones.

We also include a country level variable to isolate the effect of national culture from the effect of other country characteristics on bank risk-taking. The country level variable considered in the model (10.1) is the Gross Domestic Product. We transform this country specific variable, which varies over time, into a time-invariant one and computes the mean value to obtain a variable that is equal for all banks in the same country and for all years under observation.

$$\begin{aligned}
 Y_{ik} = & \alpha + \beta_1 lempl_i + \beta_2 lempl_i * idv + \beta_3 lempl_i * uai + \beta_4 loan_i \\
 & + \beta_5 equity_totasset_i + \beta_6 cost_income_ratio_i \\
 & + \beta_7 imploan_grossloan_i + \beta_8 totcap_ratio_i + \beta_9 lrgdp_mean_i \\
 & + \beta_{10} idv_i + \beta_{11} uai_i + \beta_{12} comm_i + \varepsilon_i
 \end{aligned} \tag{10.2}$$

From the baseline specification, model (10.1) is augmented with the interaction between bank size (*lempl*) and cultural dimensions (*lempl * idv*; *lempl * uai*) to verify the third research hypothesis. Effects of individualism and uncertainty avoidance may be mitigated in larger banks because such banks may employ better corporate governance practices and highly controlled management systems that may affect corporate risk-taking and govern attitudes defined by the cultural characteristics of a given country.

The interaction in the model (10.2) captures any nonlinear effect in the relation between bank size and bank risk-taking, which may be moderated by cultural dimensions.

Models (10.1) and (10.2) are used to test the research hypotheses on a sample initially composed of the EU-15 countries (Austria, Finland,

Sweden, Spain, Portugal, Greece, Denmark, Ireland, the United Kingdom, Belgium, Germany, France, Italy, Luxembourg and the Netherlands).

Subsequently, to verify the robustness of the results, the analysis is repeated on a sample of the EU-28 countries but considering only those countries for which observations are available for more than 3 years.

10.4 Sample and Data

The reference sample includes the European banks for which balance sheets are available through the Bankscope Bureau Van Dijk database.

The banks present the following characteristics:

- Legal status: active banks;
- Specialization: commercial banks; cooperative banks; saving banks;
- Unconsolidated statement;
- World region: the European Union 28;
- Financial statement availability: for 2010–2014.

Before starting the analysis, observations of both extreme 1% tails of the sample distribution were trimmed. Moreover, only banks with non-missing observations of the dependent variables for at least 5 consecutive years are included.

Descriptive statistics of the panel data are presented in Table 10.1.

Panel data are used to determine a new database consisting of time-invariant variables to perform the OLS analysis. The dependent time-invariant variables have been computed. Variables not available for the first year have been replaced with the first available one.

To smooth extreme values, the logarithmic transformation of the *z-score* and *employee* variables has been used.

Descriptive statistics of the OLS bank variables and the distribution of banks across the EU-15 and the EU-28 countries (considering only those countries for which there are observations for more than 3 years) are presented in Tables 10.2, 10.3 and 10.4.

Table 10.1 Descriptive statistics of the panel data

Variable	Obs	Mean	Std. Dev.	Min	Max
Roaa	9180	0.31	0.47	-3.31	2.64
Net interest margin	8977	2.37	0.71	0.13	5.95
Loan	8977	1,430,157.00	3,389,467.00	6858.56	4,850,000,000.00
Total asset	9037	2,552,589.00	6,362,218.00	26,585.25	9,770,000,000.00
Equity/total asset	9079	8.94	4.06	1.45	51.52
Employee Cost	8375	366.22	602.89	7.00	6276.00
income ratio	8958	65.89	12.96	22.40	135.48
Imparier loans/gross loans	4855	6.96	6.06	0.14	35.35
Total capital ratio	6700	17.31	5.20	8.77	46.19

Source Elaboration by the author

Table 10.2 Descriptive statistics of OLS financial variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Sdroaa	1337	0.169	0.251	0.001	2.001
Sdnim	1336	0.203	0.134	0.017	1.362
Lzscore	1315	4.882	1.379	1.688	8.034
Lempl	1337	4.992	1.251	1.946	8.744
Loan	1337	61.423	14.581	6.610	92.312
Equity_totasset	1337	8.151	3.580	1.971	38.239
Cost_incom_ratio	1337	68.055	11.763	22.881	131.250
Imploan_grossloan	1337	5.084	3.830	0.141	35.346
Totcap_ratio	1337	16.698	4.866	8.790	41.190

Source Elaboration by the author

10.5 Results

The results of the estimation of the model (10.1) are shown in Tables 10.5 and 10.6. From the first baseline specification, it is possible to observe in Table 10.5 on the EU-15 countries that the coefficient

Table 10.3 Distribution of banks across countries: the EU-15

Country	Banks
Denmark	28
France	2
Germany	857
Greece	1
Italy	332
Luxembourg	1
The Netherlands	2
Portugal	6
Spain	13
Sweden	54
The United Kingdom	7

Source Elaboration by the author

Table 10.4 Distribution of banks across countries: the EU-28

Country	Banks
Croatia	6
Czech Rep	7
Denmark	28
Germany	857
Italy	332
Poland	9
Portugal	6
Slovenia	5
Spain	13
Sweden	54
The United Kingdom	7

Source Elaboration by the author

on the two cultural value variables—individualism and uncertainty avoidance—are both significant and have the predicted sign.

For countries presenting high levels of individualism, self-orientation and autonomy are emphasized, and this should lead to overconfidence and risk-taking. Countries presenting high levels of uncertainty avoidance are less tolerant of deviance, and tendencies towards risk-taking may be lower. Therefore, a significant positive relation is expected between individualism and bank risk-taking, and a significant and negative relation is expected between uncertainty avoidance and bank risk-taking.

Table 10.5 Estimation results: MOD 1—the EU-15

	Dep: std(roaa)				Dep: std(nim)				Dep: lz-score			
	Coef.	Std. Err.	t	P > t	Coef.	Std. Err.	t	P > t	Coef.	Std. Err.	t	P > t
Lempl	-0.008	0.006	-1.300	0.194	-0.008	0.003	-2.550	0.011	0.250	0.032	7.760	0.000
Loan	0.000	0.001	0.140	0.891	-0.002	0.000	-3.390	0.001	-0.003	0.003	-1.060	0.288
Equity_	0.011	0.003	3.170	0.002	0.004	0.002	2.140	0.032	-0.005	0.014	-0.320	0.748
totasset												
Cost_	0.003	0.001	3.720	0.000	0.000	0.000	0.850	0.395	-0.007	0.003	-2.160	0.031
income_												
ratio												
Imploan_	0.011	0.003	4.290	0.000	0.002	0.001	1.470	0.141	-0.031	0.009	-3.280	0.001
grossloan												
Totcap_	0.002	0.002	0.970	0.330	-0.001	0.001	-1.160	0.246	0.018	0.009	2.020	0.044
ratio												
lrgdp_mean	-1.014	0.252	-4.030	0.000	-0.443	0.112	-3.950	0.000	5.648	1.461	3.870	0.000
ldv	-0.004	0.002	-1.600	0.110	0.004	0.001	4.020	0.000	-0.021	0.009	-2.360	0.018
Uai	-0.011	0.003	-4.060	0.000	-0.003	0.001	-2.790	0.005	0.050	0.015	3.300	0.001
Comm	0.135	0.040	3.340	0.001	0.053	0.020	2.650	0.008	-0.916	0.196	-4.680	0.000
Cons	11.308	2.886	3.920	0.000	4.813	1.269	3.790	0.000	-56.076	16.577	-3.380	0.001
Number of obs	1303 F(10,129)				Number of obs 1303 F(10,129)				Number of obs 1283 F(10,127) 69,71			
	36,79				26,55							
Prob > F	0.0000 R-squared				Prob > F 0.0000 R-squared				Prob > F 0.0000 R-squared 0.3669			
	0.3827				0.2619							

Source Elaboration by the author

Table 10.6 Estimation results for MOD 1—the EU-28

	Dep: std(roaa)			Dep: std(nim)			Dep: lz-score						
	Coef.	Std. Err.	t	P > t	Coef.	Std. Err.	t	P > t	Coef.	Std. Err.	t	P > t	
Lempl	-0.010	0.006	-1.640	0.101	-0.009	0.003	-2.880	0.004	0.261	0.030	8.650	0.000	
Loan	0.000	0.001	0.760	0.450	-0.001	0.000	-3.040	0.002	-0.006	0.003	-1.960	0.050	
equity_	0.013	0.003	3.880	0.000	0.005	0.002	2.550	0.011	-0.017	0.013	-1.320	0.188	
totasset													
cost_	0.003	0.001	4.580	0.000	0.001	0.000	1.610	0.108	-0.010	0.003	-3.030	0.002	
income_													
ratio													
implan_	0.012	0.003	4.410	0.000	0.003	0.001	2.390	0.017	-0.038	0.009	-4.110	0.000	
grossloan													
totcap_ratio	0.002	0.002	0.920	0.359	-0.001	0.001	-1.020	0.307	0.019	0.009	2.000	0.046	
lrgdp_mean	-0.509	0.113	-4.490	0.000	-0.284	0.052	-5.480	0.000	3.184	0.364	8.740	0.000	
ldv	0.000	0.002	-0.040	0.964	0.004	0.001	4.770	0.000	-0.034	0.008	-4.450	0.000	
Uai	-0.006	0.002	-3.990	0.000	-0.002	0.001	-3.110	0.002	0.029	0.005	6.070	0.000	
Comm	0.124	0.039	3.190	0.001	0.048	0.019	2.580	0.010	-0.807	0.137	-5.890	0.000	
Cons	5.434	1.265	4.290	0.000	3.021	0.571	5.290	0.000	-27.715	4.029	-6.880	0.000	
Number of obs	1324 F(10,131)			Number of obs			1323 F(10,131)			Number of obs			1302 F(10,129) 69,92
	35,97			27,41									
Prob >F	0.0000 R—squared			Prob >F			0.0000 R—squared			Prob > F			0.0000 R—squared 0.3519
	0.3631			0.2526									

Source Elaboration by the author

For the same reasons, a significant negative relation is expected between individualism and *z-scores*, and a significant and positive relation is expected between uncertainty avoidance and *z-scores*. Indeed, the *z-score* is a proxy for bank stability, as it measures a bank's distance to default. Therefore, a high *z-score* implies a lower probability of default, and thus individualism is expected to be associated with a lower *z-score*, and their relationship is expected to be negative; uncertainty avoidance is expected to be associated with a higher *z-score*, and so this relationship is expected to be positive.

From the results and while considering the standard deviation of *roaa*—*std(roaa)*—as a dependent variable, a significant and negative relation is observed with uncertainty avoidance, and thus the cultural variable is negatively and significantly associated with bank risk-taking, while individualism is not significantly associated with bank risk-taking.

When the standard deviation of net interest margins—*std(nim)*—is used as the dependent variable, the coefficients of the two cultural value variables are significant and have the predicted sign. Uncertainty avoidance is negatively and significantly associated with bank risk-taking, while individualism is positively and significantly associated with bank risk-taking.

Finally, when using the natural logarithm of the *z-score* as the dependent variable, the two cultural value variables are significant with the predicted sign. Individualism is negatively and significantly associated with the *z-score*, and uncertainty avoidance is significantly and positively associated with the *z-score*.

Ultimately, results related to the first specification and to the EU-15 sample are consistent with the first and second research hypotheses.

From the control variables, we find that the ratio of equity and total assets is positively associated with bank risk-taking (i.e. the standard deviation of returns on average assets and net interest margins). Additionally, the incidence of impaired loans to gross loans and the *cost income ratio* are positively associated with bank risk-taking; specifically, the two control variables are positively associated with the standard deviation of returns on average assets and are negatively associated with the *z-score*.

The country level variable considered in the model, the Gross Domestic Product, is positively associated with bank risk-taking.

The dummy variable *comm* takes a value of 1 when a bank is a commercial bank. The coefficient of the dummy variable is significant and positive for the *std(roaa)* and *std(nim)* dependent variables and is significant and negative for the *z-score* dependent variable. These results allow to argue that commercial banks are riskier than savings and cooperative banks.

In moving on to consider the results of model (10.1) for the EU-28 sample—that only includes countries for which there are observations available for more than 3 years—it is possible to observe that the empirical analysis is in line with the results of the EU-15 sample and that it is consistent with the first and second research hypotheses (Table 10.6).

The coefficients of the two cultural value variables are significant and have the predicted sign. Individualism is positively and significantly associated with the standard deviation of net interest margins and is negatively and significantly associated with the *z-score* dependent variable. Uncertainty avoidance is negatively and significantly associated with the standard deviation of returns on average assets and the net interest margin; it is positively and significantly associated with the *z-score* dependent variable.

Results related to the control variables are consistent with those observed for the EU-15 sample. In addition, for the EU-28 sample, equity to total assets, impaired loans to gross loans and the cost income ratio are positively associated with bank risk-taking. More specifically, the equity to total asset ratio are positively associated with the standard deviation of returns on assets and with the standard deviation of net interest margins. The cost income ratio is positively associated with the standard deviation of returns on assets and is negatively associated with the *z-score*. The impaired loans to gross loans ratio are positively associated with the standard deviation of returns on assets and with the standard deviation of net interest margins and are negatively associated with the *z-score*.

The country level variable shows a positive relationship with bank risk-taking for the EU-28, and the dummy variable reiterates higher levels of risk-taking in commercial banks.

Tables 10.7 and 10.8 present the estimation results of the model (10.2), including the interaction terms used.

As was expected, when considering the EU-15 sample and the $std(roaa)$ dependent variable, the positive influence of individualism on risk-taking is mitigated in larger banks. Both cultural value variables are significant and with the predicted sign, but the coefficient of the interaction term $lempl * idv$ is significant and negative, so the positive influence of individualism on bank risk-taking is mitigated in larger banks, which is consistent with the third hypothesis.

Similar results are observed when considering the $std(nim)$ dependent variable for the EU-15 sample. Indeed, also in this case the positive influence of individualism on risk-taking is mitigated in larger banks, as the interaction term $lempl * idv$ is significant and negative.

Finally, similar results are observable when considering the $z-score$ dependent variable of the EU-15 sample. In this instance, the cultural value variable of uncertainty avoidance is positively associated with the dependent variable and has a positive influence on bank stability. However, this positive relationship is weaker for larger banks.

The reported results of the EU-15 sample are also observed for the EU-28 sample, as illustrated in Table 10.8.

These findings are consistent with the third research hypothesis and support the assumption that managers of large banks, through the use of highly disciplined and controlled financial management systems, may be less subject to the effects of their cultural background, as stated previously in the literature (Li et al. 2013).

Results on bank and country level control variables remain largely the same when the interaction terms are included.

10.6 Conclusion

This paper focuses on the relevance of cultural values in bank risk-taking. Using data related to the European banking system (the EU-15 and the EU-28) for the period following the outbreak of the financial crisis (2010–2014), the study aims to test the existence of a positive association between national levels of individualism and bank risk-taking and

Table 10.7 Estimation results for MOD 2—EU-15

	Dep: std(roaa)			Dep: std(nim)			Dep: lz-score								
	Coef.	Std. Err.	t	P > t	Coef.	Std. Err.	t	P > t	Coef.	Std. Err.	t	P > t			
Lempl	0.180	0.101	1.780	0.075	0.139	0.043	3.230	0.001	0.806	0.363	2.220	0.027			
lemp1 * idv	-0.003	0.001	-2.310	0.021	-0.002	0.001	-3.190	0.001	-0.003	0.005	-0.670	0.503			
lemp1 * uai	0.000	0.001	0.510	0.613	0.000	0.000	-1.370	0.170	-0.005	0.002	-2.370	0.018			
Loan	0.000	0.001	0.000	1.000	-0.002	0.000	-3.320	0.001	-0.003	0.003	-0.900	0.368			
equity_	0.009	0.003	2.860	0.004	0.004	0.002	2.050	0.041	-0.002	0.014	-0.170	0.863			
totasset															
cost_	0.002	0.001	3.100	0.002	0.000	0.000	0.370	0.715	-0.007	0.003	-2.230	0.026			
income_															
ratio															
implan_	0.011	0.003	4.320	0.000	0.002	0.001	1.440	0.150	-0.031	0.009	-3.330	0.001			
grossloan															
totcap_ratio	0.001	0.002	0.900	0.368	-0.001	0.001	-1.270	0.205	0.018	0.009	1.970	0.049			
lrgdp_mean	-0.954	0.233	-4.090	0.000	-0.441	0.114	-3.850	0.000	5.481	1.455	3.770	0.000			
ldv	0.013	0.007	1.820	0.069	0.013	0.003	4.500	0.000	-0.008	0.025	-0.330	0.741			
Uai	-0.012	0.003	-3.780	0.000	-0.001	0.001	-0.990	0.320	0.070	0.014	4.920	0.000			
Comm	0.145	0.040	3.670	0.000	0.059	0.020	2.980	0.003	-0.908	0.199	-4.560	0.000			
Cons	9.640	2.718	3.550	0.000	4.084	1.322	3.090	0.002	-56.507	16.710	-3.380	0.001			
Number of obs	1303			F(12,129)			Number of obs			1303			F(12,129)		
	32,06			24,29			1283			F(12,127)			60,46		
Prob > F	0.0000			R—squared			Prob > F			0.0000			R—squared		
	0.3939			0.2724			0.3697								

Source: Elaboration by the author

Table 10.8 Estimation results for MOD 2—theEU-28

	Dep: std(roaa)			Dep: std(nim)			Dep: lz-score							
	Coef.	Std. Err.	t	P > t	Coef.	Std. Err.	t	P > t	Coef.	Std. Err.	t	P > t		
Lemp1	0.116	0.114	1.010	0.310	0.128	0.044	2.920	0.004	0.881	0.382	2.310	0.021		
lemp * idv	-0.002	0.002	-1.550	0.123	-0.001	0.001	-2.510	0.012	-0.004	0.005	-0.840	0.402		
lemp * uai	0.001	0.001	0.940	0.346	-0.001	0.000	-1.610	0.107	-0.005	0.002	-2.060	0.040		
Loan	0.000	0.001	0.540	0.587	-0.001	0.000	-2.900	0.004	-0.005	0.003	-1.810	0.071		
equity_	0.011	0.003	3.450	0.001	0.005	0.002	2.460	0.014	-0.016	0.013	-1.230	0.218		
totasset														
cost_	0.003	0.001	4.230	0.000	0.000	0.000	1.280	0.201	-0.010	0.003	-3.220	0.001		
income_														
ratio														
imploan_	0.012	0.003	4.430	0.000	0.002	0.001	2.220	0.026	-0.039	0.009	-4.250	0.000		
grossloan														
totcap_ratio	0.001	0.002	0.810	0.421	-0.001	0.001	-1.140	0.253	0.018	0.009	1.950	0.051		
lrgdp_mean	-0.456	0.124	-3.670	0.000	-0.281	0.056	-4.980	0.000	3.088	0.399	7.740	0.000		
ldv	0.014	0.008	1.670	0.096	0.012	0.003	3.890	0.000	-0.014	0.026	-0.530	0.599		
Uai	-0.008	0.003	-3.100	0.002	0.000	0.001	0.140	0.888	0.047	0.009	5.230	0.000		
Comm	0.131	0.039	3.370	0.001	0.052	0.018	2.840	0.005	-0.797	0.141	-5.650	0.000		
Cons	4.126	1.540	2.680	0.007	2.339	0.698	3.350	0.001	-29.417	5.147	-5.720	0.000		
Number of obs	1324			F(12,131)			Number of obs			1302			F(12,128) 59.63	
	32,04			24,91										
Prob > F	0.0000			R-squared			Prob > F			0.0000			R-squared	
	0.3724			0.2620									0.3547	

Source Elaboration by the author

the existence of a negative association between national levels of uncertainty avoidance and bank risk-taking. The paper also aims to verify whether the influence of cultural values on bank risk-taking may be weakened in larger, heavily controlled banks.

The results demonstrate that individualism shows a positive association with bank risk-taking and that uncertainty avoidance shows a negative association with bank risk-taking. Significant and positive (negative) relationships are observable between individualism (uncertainty avoidance) and the standard deviation of returns on average assets and the standard deviation of net interest margins. Significant and negative (positive) relationships are observable between individualism (uncertainty avoidance) and the *z-score*, a proxy for bank stability and riskiness. The results also show that as banks expand, the relationship between culture and bank risk-taking weakens.

The findings of the paper are of relevance to the financial system. While economic theories suggest that bank risk-taking decisions should be determined by economic and financial considerations and by formal compliance with rules, our empirical analysis suggests that cultural values may guide risk-taking decisions and may lead to the use of new practices.

Results are related to the highly globalized European financial system, which is governed by uniform rules of supervision and risk management. However, despite this, cultural values matter, and banks operating in less individualistic countries presenting high levels of uncertainty avoidance prefer lower levels of risk, and have lower levels of net interest margin volatility, lower levels of earnings volatility and higher *z-scores*.

Therefore, this study reiterates that culture may interact with social, economic and political forces to produce results and outcomes, and so cultural values may constitute important forces in addition to institutions and regulations. These findings may improve bank management practices and may spur a new awareness that even in globalized financial systems, the formal observance of common rules is not sufficient to ensure proper risk management; it is necessary to consider the relief of informal institutions (e.g. culture) to improve financial decisions.

This study is subject to several limitations. First, the sample is unbalanced in that many more observations are available for some countries than others. Second, relationships between national culture and risk-taking are associations and cannot be defined as causal relations. Third, the OLS model does not control for any endogeneity problem. Future developments in empirical research should overcome such limitations by expanding the reference sample and by applying econometric models capable of addressing endogeneity problems and considering causal relations.

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11

Risk-Taking of the European Banks in CEECs: The Role of National Culture and Stake Vs Shareholder View

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11.1 Introduction

Since the time that the Central and Eastern European countries (CEECs) opened their markets to accept foreign ownership of banks, starting the processes of privatization and internationalization (through inflows), the European Bank system has evolved by considering new strategies, in relation to this openness, above other forces such as competition, crises, regulation, innovation and so on.

In the literature, it is not yet entirely clear why European banks decided to go to CEECs. Explanations of this phenomenon can be found in excessive domestic competition (Andrieş and Căprarua 2014), or in the support of clients during the internationalization process, or simply a desire to expand their presence to new countries in order to

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ride the wave of competition. In any case, the number of foreign owners in these countries has increased and studies on performance or efficiency show different results, although only the results on the importance of CEECs for the establishment of foreign branches, subsidiaries and strategic acquisitions in the banking and economic systems are shared in the literature. Starting from the interaction between the current literature on risk culture in banks and the line of research on internationalization in transitional economies, where the issue of risk is more relevant than in other contexts, we develop a study focused on the influence of national culture on bank risk-taking.

The national culture is measured by Hofstede (2001) in six dimensions: power distance, individualism, masculinity, uncertainty avoidance, long-term orientation and indulgence. Not all dimensions are used at the same time in the literature about financial sector.

This study aims to understand the impact of national culture on risk-taking by the European banks investing in CEECs. In addition, we inquire about the ownership effect (shareholders or stakeholder owned banks). In a further index, we include concerns on the level of reform developed to account for institutional development in countries in transition. These elements and results contribute to the completion of the European context for the understanding of the banking system, revealing the internationalization behaviour of these types of financial institutions and giving the opportunity to make policy decisions or strategies concerning internationalization issues and bank regulations, especially for banking union goals and financial system integration. Our contribution to the literature serves as, to the best of our knowledge, the first study with an analysis of national culture and risk-taking of banks by ownership in CEECs, while other studies considered risk and internationalization from different points of view (Berger et al. 2015; Goetz et al. 2016; Ellul and Yeramilli 2013). Practitioners too will gain benefits from this work in their decision-making and planning strategies abroad.

This study elaborates the intersection of the studies on the relationship of national culture and risk-taking in corporations (Li et al. 2013; Mihet 2013) and the studies on risk-taking in banks (Bhagat et al. 2015;

Buch and De Long 2008). We regress risk-taking, the dependent variable, with two dimensions of national culture variables, the independent variables, to find if they affect risk in some direction. The control variables related to the banks and the country variables are necessary to evaluate the effectiveness of regression; two variables are about the countries, and the others give information on the bank itself.

This study is outlined as follows: first, there is a literature review that establishes a relation between national cultures and financial systems. The work continues with a discussion of the risks linked to internationalized banks or firms and the dimensions used to measure national culture. Second, the session data, the methodology and variables are described. Finally, the results are explained and discussed, and conclusions are drawn.

11.2 The Ownership Impact of the European International Banks on Risk Taking

The dimensions of National Culture (NC) affect the financial system mechanisms in different ways. The preference towards banks rather than stock markets of a country depends on higher uncertainty avoidance (Kwok 2006). Aggarwall and Goodell (2010) confirm and reinforce this result adding the inquiry of individualism and power distance, which imply a preference for equity markets when their levels are high. Individualism is conducive to long-term financing of growing firms in market-based systems (Lee 2000). Individualism is relevant for the firms' growth in the presence of financial constraints: in fact, when individualism is high, the obstacles are overcome through the ability of the entrepreneur or manager in relation to the bank (Boubakri 2016), while the power distance is negatively related to growth. It is clear the NC affects the behaviour of operators and the approach of financing firms; it reflects an evident importance of the NC for operators as well as for banks and their risk, especially if the bank internationalises. The expansion in other markets requires the management of the differences between countries of origin and destination, as well as tailored strategies

to arrange the business model and successful elements to survive the internationalization process: all these aspects make the risk evaluation of operations and financial services supply more complex.

The geographic expansion of banks mitigates risk, not through the impact of loan quality, but by decreasing idiosyncratic local risk (Goetz et al. 2016; Akhigbe 2003). Choi et al. (2010) find that the cross-border M&As lead to a stabilization of earnings, even if Buch and De Long had already shown in 2008 the reduction of risk for banks by acquiring foreign banks.

While the method of expanding abroad is an interesting topic, other relevant features can impact the risk of multinational banks, such as the distance of the country of destination from the country of origin and the levels of the dimensions of NC in the two countries.

CEECs are facing a change in their financial systems and banking structures, while the internationalization process has improved bank performance. The existing studies in this context reach different results in relation to the old and new Europe, likely according to the differences between these two areas. The liberalization process is continuing, and it is not to be taken for granted that the inflows will continue; in fact, the high quality of market discipline can be an impediment to foreign banks (Bertus et al. 2008).

In the literature, national culture is used to evaluate the risk seeking of firms, in fact, the behaviour of multinationals also depends upon the decisions made according to the cultural background of the employees within the firm. Likewise, in banks, decisions are affected by the national culture of the organization and managers (Carretta et al. 2010). Ownership is another important factor to understand the likelihood of preferring risky strategies (Mihet 2013). The propensity for risk should determine the choice of the country of destination since studies in this topic observe an impact of cultural characteristics on risk-taking. The observation of risk-taking allows us to understand if the risk culture of Western European banks internationalized in CEECs has encouraged more risk-taking, and if we find differences between the groups: Stakeholder Value (STV) and Shareholder Value (SHV).

The studies on risk culture in the banking system are few and they require an in-depth examination of cultural phenomena because one of the several variables can affect risk-taking in determining the riskiness of the bank itself. Even if the banks are treated as enterprises, we have to remember that they have a strategic double role of transferring financial flows and serving as an instrument for political economy. When they develop their own business, they cannot assume all of the risks, as in entrepreneurial activity; this is the reason why risk-taking is a relevant topic. The escalation of risk awareness in this type of financial institution implies constant attention to the changes in and evolution of regulation. In fact, from this view, they take entrepreneurship risks beyond the typical risk of their own businesses. The internationalization process is a particularly risky activity, especially in transitional economies, but in the current global world, it is a choice that has to be made in coherence with the other strategies and banks' own business model (Ferri et al. 2015; Ayadi and De Groen 2014).

One issue that has been studied less often is the impact of the ownership structure of the parent bank on the behaviour of the daughter bank. The Cooperative banks have been shown to take much less risk than profit-maximizing banks (Hesse 2007). However, it is not clear whether this finding extends to the daughter banks of cooperative groups.

Individualism and power distance are the two dimensions of NC in which we are interested. The first is more commonly used as an independent variable in finance and it always returns significant results, even if the meaning varies according to the aims of the author, so in Li et al. (2013) it predicts the rule of law, in Mihet (2013) it is the mirror of the decisions made by overconfidence and over-optimism (Ashraf et al. 2016). Instead, Boubakri and Saffar (2016) believe the ability to overcome financial constraints is approximated by individualism itself. If individualism is positively related with risk-taking, as shown in previous studies, we must predict a movement in the same direction, but it is necessary to remember the banks analyzed in this study are in a non-developed context with a banking structure not completely reformed, where results are not always aligned with other contexts.

HYP 1 Risk-taking of banks in CEECs increases if individualism increases in the same geographic area.

Power distance is the basis for the culture of risk; when this dimension is high, decisions are made without an effective dialogue between levels (Ashraf et al. 2016). The bottom-up process in assessing the environment is not applied because the communication channel is always vertical, but top-down (Boubakri and Saffar 2016). The culture of risk in the Bank Holding Company (BHC) is imposed in an authoritarian manner and the subsidiaries and branches lose autonomy (regardless of whether or not they keep the BHC's model). Reasoning in a prudential way strictly compliant with the procedure and without taking riskier decisions (Mihet 2013) restrains risk. This compliance with guidelines of the mother bank inhibits banks with high levels of power distance from taking greater risk.

HYP 2 Risk-taking of banks in CEECs decreases if the power distance increases in the same geographic area.

The European cooperatives can be affected by different features of the countries in which they operate (Fiordelisi and Mare 2014). The two models, SHV and STV, are both compatible with non-collectivism (Ferri and Leogrande 2015), so some ownership effect in terms of different models is expected. If HYP3 is true, the risk culture of BHCs is indifferent for evaluating the risk-taking of their daughters in countries where the reform of banking structure is not complete.

HYP 3 The banks that are owned by shareholders are related to risk-taking with the same sign of banks with stakeholders holding.

11.3 Methodology and Results

The national culture is measured by Hofstede (2001) in six dimensions: power distance, individualism, masculinity, uncertainty avoidance, long-term orientation and indulgence. The scores assigned are in a range of 0–100, and in our sample, the measure can vary from 20 to 80 for individualism with a mean of 44, while power distance is from 40 to

100 and the mean is 73; therefore, CEECs are not very individualistic and have a strong presence of hierarchical mechanisms.

Risk-taking measures can express the overall risk taken through the volatility of bank earnings (Std(ROA), with normalized ROA). In fact, a shared belief is that volatile earnings are the consequence of risky operations (John et al. 2008; Zhang 2009) and the risk embodied in long-term investment results from R&D investments (R&D expenses to capitalization) (Li et al. 2013). Mihet (2013) includes the *z*-score of each firm, and it is, therefore, interesting to evaluate the risk-taking of banks through *z*-scores (Ashraf et al. 2016; Bhagat et al. 2015; Berger et al. 2015; Mihet 2013) as well. *Z*-score is calculated as $Z = (\text{ROA} + \text{CAR})/\sigma(\text{ROA})$, where ROA is earnings before taxes and loan loss provision divided by assets, CAR is the capital-asset ratio, and $\sigma(\text{ROA})$ is the standard deviation of the ROA over the entire sample period. The *Z* statistic indicates the number of standard deviations that a firm's losses (negative profits) can increase to deplete equity, making the firm insolvent (De Nicolò 2000).

The other measures considered in banking are: distance to default and measures related to the stock market as bond yield spreads, volatility of bank stock returns and the variance of BHC's stock returns (Goetz et al. 2016; Choi et al. 2010; Buch and DeLong 2008); however, in this study we cannot use these types of variables.

The ownership measure is, as usual, a dummy to isolate the model of banks or the ownership of CEECs, thus we analyze: the banks owned by Western European BHCs, in turn, grouped into STV and SHV to capture different results by models, and banks with Eastern European owners, in turn, separated into the state-owned banks and branches and subsidiaries owned by private BHC formed CEECs. The crisis years are always isolated through the dummy: equal to 0 if until the year 2008 is excluded, 1 otherwise.

The data to measure the risk-taking are from Bankscope, and national culture data are from the website managed by Hofstede. The sample is composed of 328 Eastern European banks in 13 countries. Table 11.1 presents the statistical summary of variables of banks considered in the model, while Tables 11.2, 11.3 and 11.4 show the variables explanatory of financial structure in CEECs, both by all banks and groups studied, only a subset of these variables are used in the relation analysis.

Table 11.1 Summary of variables used in the model

Variable	Obs	Mean	Std. dev.	Min	Max
Z-score	1595	16.016	10.874	3.567	46.737
NC_PDISTANCE	1995	72	15	40	100
NC_INDIV	1995	43.688	18.385	20	80
Size	1995	6.910	1.692	1.811	10.778
NIM	1595	4.236	1.515	2.046	8.894
GDPcapita	1595	1.261	1.303	4.609	5.201

Note See Table 11.5 for variable descriptions

Table 11.2 Summary of key variables of the banking sector in CEECs

Variable	Obs	Mean	Std. dev.	Min	Max
Assets (M€)	1995	3377.531	6065.817	0.163	47962.312
Tier1	787	15.138	10.883	-15.9	211.655
Loans (M€)	1985	2028.211	3714.923	0.326	35503.710
TOT_DEP (M€)	1987	2683.735	4874.874	0.661	37805.251
CIR	1985	75.685	61.649	1.023	884.646
INTEXP_INT	870	3.696	6.295	0.12	265.582
OBS (M€)	1946	668.412	3782.901	-840.533	150318.445
NPR_GRLOANS	1207	11.064	11.906	0	95.9

Note See Table 11.7 for variable descriptions

To evaluate the effects of culture on risk-taking, we use the unobservable individual effects. While ordinary least squares (OLS) or general linear models (GLS) are not applicable because of the characteristics of the data set, some authors have overcome this objection through the hierarchical linear mixed model. When the variables to be checked are not several, there are other solutions to avoid collinearity. The data set is panel data, and the scores of national culture are time invariant as to years and they change country by country. The individuals (the banks) are not observable, so the problems of multi-collinearity are solved through the Hausman–Taylor (1981) estimator for error component models:

We create four different vectors, grouping different types of variables present in the panel and the (μ) catches the error-in-time-invariant variables and all those variables with problems of endogeneity. (Baltagi and Badi 2013)

Table 11.3 Summary of key variables of the banking sector in CEECs by West European SHV and ST banks

Variable	WE SHV						WE ST					
	Obs	Mean	Std. dev.	Min	Max	Obs	Mean	Std. dev.	Min	Max		
Assets (M€)	802	4183.591	6601.572	1634.152	38162.051	346	4262.808	6067.896	10.670	36608.421		
Tier1	356	15.5	8.1	-15.9	49.5	146	13.9	6.6	2.8	38.8		
Loans (M€)	797	2546.199	3870.4	.500	24401.617	343	2506.994	3343.106	.326	18728.113		
TOT_DEP (M€)	796	3350.626	5353.323	.661	30924.054	345	3454.084	4989.797	4.893	30073.182		
NIM	660	4.262	1.492	2.046	8.894	279	4.071	1.398	2.191	8.894		
CIR	797	71.799	59.84503	1.023	884.640	346	74.760	44.227	18.411	594.361		
INTEXP_INT	755	3.855	9.677528	.12	265.582	323	3.195	1.569	.67	10.679		
OBS (M€)	802	1036.341	5761.557	-840.533	150318.423	338	601.175	900.472	-4.771	4403.426		
NPR_	506	9.729	11.038	0	95.991	228	9.929	8.056	.14	43.05		
GRLOANS												

Note See Table 11.7 for variable descriptions

Table 11.4 Summary of key variables of the banking sector in CEECs by East European owned and State-owned banks

Variable	EE ownership					State-owned				
	Obs	Mean	Std. dev.	Min	Max	Obs	Mean	Std. dev.	Min	Max
Assets (M€)	626	2030.944	5230.751	12.636	47962.31	169	4447.783	8952.428	32.26458	47962.31
Tier1	230	15.3	16.4	0.43	211.6	66	14.8	9.9	4.8	61.0
Loans (M€)	624	1252.566	3693.227	3.235355	35503.71	169	2807.037	6414.188	3.235	35503.71
TOT_DEP (M€)	625	1590.687	4139.692	4.213787	37805.25	169	3434.962	7091.656	10.275	37805.25
NIM	483	4.275	1.649	2.046	8.894	130	4.703	1.838	2.191	8.894
CIR	621	83.272	76.615	17.749	767.474	167	82.017	57.480	20.058	656.757
INTEXP_INT	587	3.808	1.837	0.45	19.811	163	3.873	2.188	0.613	19.812
OBS (M€)	585	266.982	965.226	-3.6411	10736.342	159	611.885	1753.079	-3.641	10736.341
NPR_	372	12.490	12.379	0	87.61	100	15.872	13.836	1.84	87.61
GRLOANS										

Note See Table 11.7 for variable descriptions

The unobserved, panel-level random effect is assumed to have a zero mean and finite variance and to be independently and identically distributed (i.i.d.) over the panels.

The idiosyncratic error is assumed to have a zero mean and finite variance and to be i.i.d. over all of the observations in the data, and is the z-score.

The time-varying variables are assigned at two different vectors: (GDP per capita) with exogeneity, uncorrelated with variables and (size, EBRD score of banking sector liberalization: banre_intr, NIM) embodies the endogenous variables with which it is likely correlated. Both (Power distance) and (NC_Indiv) contain the time-invariant variables assumed to be exogenous in the first vector and endogenous in the second.

Table 11.5 Hausman-Taylor estimation with dummies

z_score	Coef.	Std. err	z	P > z	[95%]Conf. interval
TVexogenous					
GDPcapita	-6.161	2.452	-2.52	0.012	-1.101 -1.371
stakev_bank	1.904	0.785	2.43	0.015	0.365 3.444
sharev_bank	0.723	0.627	1.15	0.249	-0.505 1.952
state_bank	1.554	0.847	1.83	0.067	-0.107 3.215
eeuropown	-0.778	0.703	-1.11	0.269	-2.156 0.600
crisis	2.400	0.208	11.49	0.000	1.990 2.809
TVendogenous					
size	0.781	0.212	3.67	0.000	0.364 1.197
banre_intr ~ i	-1.373	0.395	-3.48	0.001	-2.147 -0.598
NIM	1.359	0.120	11.29	0.000	1.122 1.595
Tlexogenous					
NC_Pdistance	-0.458	0.119	-3.84	0.000	-0.692 -0.224
Tlendogenous					
NC_Indiv	-0.441	0.107	-4.10	0.000	-0.652 -0.230
_cons	61.604	12.93	4.76	0.000	36.254 86.953
Sigma_u	13.501				
Sigma_e	2.706				
rho	0.961(fraction of variance due to u_i)				

Note TV refers to time-varying; TI refers to time-invariant

Hausman-Taylor estimation: xtaylor z_score \$xvars \$dummies, constant (NC_Pdistance NC_Indiv) endog(NC_Indiv size banre_intrali NIM)

Global xvars NC_Pdistance NC_Indiv size NIM GDPcapita banre_intrali; global dummies stakev_bank sharev_bank state_bank eeuropown crisis; Number of obs = 1461; Group variable: id_bank, Number of groups = 271, Obs per group: min = 1, avg = 5.4, max = 10, Random effects u_i ~ i.i.d. Wald chi2(10) = 321.89, Prob > chi2 = 0.0000

The firm-level control variables are connected through z -scores, so size is always in positive relation with the z -scores. If it is confirmed, it will reinforce the results linked to the hypotheses, as the movement of NIM should be in the same direction as the dependent variable. The country level control variables have two dimensions: GDP per capita, often used for these types of studies, and the level of progress of reforms in the banking sector, used for CEECs.

The hypotheses about the relation between risk-taking and NC dimensions are significantly confirmed; when individualism and/or power distance increase, the z -score decreases, such that the HYP 1 is confirmed. The NIM and size have a positive relation with the z -score; these variables are firm-specific control variables and the coefficients have a predictable sign because NIM is an item related to ROA, and we thus have a corroboration of the effectiveness of the estimation run. The coefficient of the variable on liberalization of the banking sector also has a rational sign; in fact, when the liberalization and privatization level of a country is increasing, the stability initially decreases as a result of enhanced regulation (Table 11.5).

Table 11.6 Hausman-Taylor estimation by period of crisis

Z_score	Years < 2008 ^a		Years > 2008 ^b	
	Coeff.	$P > z $	Coeff.	$P > z $
GDPcapita	1.19	0.012	5.031	0.019
Size	0.833	0.005	0.268	0.192
banre_intr ~ i	-2.222	0.000	-1.601	0.000
NIM	1.014	0.000	0.985	0.000
NC_Pdistance	-0.584	0.000	-0.633	0.000
NC_Indiv	-0.580	0.000	-0.660	0.000

^axthtaylor z_score \$xvars, constant(NC_Pdistance NC_Indiv) endog(NC_Indiv size banre_intrali NIM), if crisis ==1; Number of obs = 736; Number of groups = 221; Obs per group: min = 1; avg = 3.3; max = 4; Wald chi2(5) = 159.79; Prob > chi2 = 0.0000; sigma_u => 14.139543; sigma_e => 1.0554782

^bxthtaylor z_score \$xvars, constant(NC_Pdistance NC_Indiv) endog(NC_Indiv size banre_intrali NIM), if crisis ==0; Number of obs = 725; Number of groups = 212; Obs per group: min = 1; avg = 3.4; max = 6; Random effects u_i ~ i.i.d. Wald chi2(5) = 76.62; Prob > chi2 = 0.0000; sigma_u => 11.579777; sigma_e => 2.3533713

In particular, the stakeholder valued banks (cooperative and saving owned banks), and state-owned banks are related to the z-score in a positive, statistically significant way. Banks of Eastern European holdings have shown negative signs, even if this is not statistically significant. Thus, we can assert that the foreign-owned banks are negatively related to risk-taking, especially if the holdings are cooperatives or savings.

In Table 11.6, the effect of the crisis is investigated and any impact of the crisis is indicated; the directions of relations are confirmed if compared with the previous results.

Table 11.7 Description of variables

Variables	Description
Z_score	$Z = (ROA + CAR) / \sigma(ROA)$, where ROA is earnings before taxes and loan loss provision divided by assets, CAR is the capital-asset ratio, and $\sigma(ROA)$ is the standard deviation of the ROA over the entire sample period. The Z statistic indicates the number of standard deviations that a firm's losses (negative profits) can increase to deplete equity, making the firm insolvent (De Nicolo` 2000).
GDPcapita	It compares GDP on a purchasing power parity basis divided by population as of 1 July for the same year.
size	$\ln(\text{Total asset})$
Tier1	Tier1 ratio %
loans	Loans in M €
TOT_Dep	Deposits and short term funding
NIM	Net interest margin (%)
CIR	Cost to income ratio (%)
INTEXP_INT	Interest expences/interest-bearing liabilities
OBS	Off balance sheet in M €
NPR_GRloans	Non-performing loans/gross loans (%)
crisis	A Dummy variable, 0 if year < 2008, 1 otherwise
State_banks	a dummy variable, owned by the state
Sharev_bank	a dummy variable, largest owner Western European shareholder bank
Stakev_bank	a dummy variable, largest owner Western European savings or a cooperative bank
europown	a dummy variable, largest owner Eastern European bank

(continued)

Table 11.7 (continued)

Variables	Description
banre_intr ~ i	<p>1 Little progress beyond the establishment of a two-tier system.</p> <p>2 Significant liberalization of interest rates and credit allocation; limited use of directed credit or interest rate ceilings.</p> <p>3 Substantial progress in the establishment of bank solvency and of a framework for prudential supervision and regulation; full interest rate liberalization with little preferential access to cheap refinancing; significant lending to private enterprises and significant presence of private banks.</p> <p>4 Significant movement of banking laws and regulations towards BIS standards; well-functioning banking competition and effective prudential supervision; significant term lending to private enterprises; substantial financial deepening.</p> <p>4+ Standards and performance norms of advanced industrial economies: full convergence of banking laws and regulations with BIS standards; provision of a full set of competitive banking services. "+" and "-" ratings are treated by adding 0.33 and subtracting 0.33 from the full value. Averages are obtained by rounding down, for example, a score of 2.6 is treated as 2+, but a score of 2.8 is treated as 3-</p>
NC_Pdistance	The extent to which less powerful members of a society accept and expect that power is distributed unequally (Hofstede 2001)
NC_Indiv	A society in which the ties between individuals are loose. Everyone is expected to look after himself and his immediate family only. Collectivism stands for a society in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty (Hofstede Hofstede 2001)

11.4 Conclusion

Building a new body of literature about risk culture is necessary to make an analysis of the determinants of risk-taking. In financial intermediation, the national culture can explain not just the success of operations abroad, but the economic results of banking activities as well, as these are strongly influenced by the degree of risk taken. The issue of risk is fundamental in multinational banks given that the country of

destination has an impact on risk for the branch or subsidiary, especially in terms of culture.

Individualism and power distance significantly affect the risk-taking as measured by z-score. The same direction of individualism and risk-taking can be explained by the probable presence of financial constraints, that implies a greater relation between people during the negotiation and the increase of the presence of relationships in banking. Low-levels of collectivism always imply more negotiation, leading to a more carefully considered granting of loans, but not necessarily one that is better informed of the relative risk. The direct relation of the bank with a manager or entrepreneur could force the assignment of the loan, independent from the actual project risk.

From the point of view of branches and subsidiaries, we find lower risk-taking if the power distance dimension is low. When the autonomy of daughter banks is lesser, as in the case of higher level power distance, the risk assessment procedures are less flexible, resulting in a lower level of risk or at least the risk required by BHC.

The control variables give reasonable signs, for example the positive relation of the EBRD index, which means the level of reform to liberalize, privatize and regulate the banking sector in CEECs, increases, at least initially, inducing instability. This result suffers the limits of the measure we used as a proxy of risk-taking. The coefficient of the size is positive as usual.

The results on SHV and STV suggest that banks with cooperative BHCs in CEECs have the same behaviour as commercial banks when facing the cultural characteristics of a host country; it can likely be caused by the homogenous instability of CEECs submitted to constant reforms.

The results obtained by this study may help regulators to consider the different models in daughter banks' global operations and could assist professionals in planning risk management and internationalization activities due to the analysis of NC in the country of destination. The contribution we make is to build the literature on the relevant topic of risk culture in banks, especially in terms of internationalization.

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12

Banks' Risk Culture in Residential Mortgage and Cross-Selling Policies: Evidence from the Euro Area

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12.1 Introduction

Risk culture is defined as the underlying assumptions (and how they concretize in norms, values and artefacts) related to the way in which

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the board members identify, understand, discuss and act on such risks (Institute of Risk Management 2012). The main culture features that can affect the bank risk exposure are the risk awareness, risk-taking and the risk management and controls and they can affect all day-by-day activities (Financial Stability Board 2014; Carretta and Bianchi 2016).

A sound risk culture consistently supports appropriate risk awareness, behaviours and judgements about risk-taking within a strong risk governance framework (Financial Stability Board 2014). It should emphasise the importance of achieving an appropriate risk-reward balance consistent with the institution's risk appetite; it is a substantial determinant of whether a bank is able to successfully execute its agreed strategy within its defined risk appetite.

Culture regulates how business models answer to changes in the environment (Richter 2014) and the analysis of the lending industry during the financial crisis scenario is a useful stress test for evaluating the business model reaction.

During the financial crisis, the reduction of the GDP growth had a significant impact on residential real estate loans (Wilcox 2009) and in the Euro Area, the effect was even higher with respect to the overall value of loans to households (including all other consumer lending solutions) (Table 12.1).

During the period 2006–2014, the European market showed, on average, a decrease in the value of new loans offered but the trend of

Table 12.1 Real estate lending, lending and GDP trend

	Δ GDP (%)	Δ Loans households (%)	Δ Residential real estate loans (%)
2006	5.84	7.85	11.10
2007	0.62	5.83	5.59
2008	-5.86	1.90	-2.36
2009	4.30	1.37	4.28
2010	2.97	4.10	4.40
2011	1.90	1.44	2.63
2012	0.86	0.17	2.07
2013	2.98	-0.42	-0.08
2014	4.67	-0.43	2.49
Pairwise correlation with GDP		14.68	68.07

Source Hypostat and ECB data processed by the authors

Table 12.2 New real estate loans, interest rate and real estate price

	Δ new residential loans (%)	Interest rate on new residential loans (%)	Δ real estate price index (%)
2006	9.84	4.67	6.42
2007	-1.35	5.54	4.46
2008	-30.46	5.95	1.73
2009	-26.74	4.65	-3.48
2010	5.92	4.19	0.83
2011	-4.46	4.40	1.05
2012	-4.01	4.06	-1.72
2013	-0.19	3.68	-2.01
2014	13.16	3.38	0.18
Correlation with new residential loans		-62.09	36.63

Source Hypostat and ECB data processed by the authors

this variable is not coherent over time. Moreover, the analysis of the trend of new residential real estate loans seems to be not fully explained by the simple interest rate applied to the new loans or the value of underlying real estate asset (Table 12.2).

The value of loans issued is negatively affected by the interest rate dynamics due to the higher cost of loans for debtors, which reduces the demand for loans due to the lower sustainability of the interest payments (Hillebrand and Koray 2008). The increase in the value of the housing sector is positively related to the amount of loans offered because the demand for mortgage loans is positively related to the demand for housing that drives the short-term real estate prices (e.g. Tsatsaronis and Zhu 2004), and the access to credit, everything else being equal, is easier in a growing real estate market due to the increase in the value of real estate assets (Goetzmann et al. 2012). There is no consensus in the literature about the direction of causality between credit availability and house-price growth (Adelino et al. 2012), and house-price growth affects the credit available for banks that are offering loans characterized by an above-average loan to value (hereinafter LTV) (Basten and Koch 2015).

During the last decade, the world banking industry experienced a trend of increasing concentration (e.g. De Nicolò et al. 2004), and financial intermediaries tended to offer a portfolio of diversified services to their customers in order to maximize the value of the banking relationship.

The literature shows that the possible advantages and disadvantages of cross-selling opportunities may be related to banks' features and normally the maximum advantages are related to banks being big enough to benefit from economies of scale and scope (Goddard et al. 2008). The literature shows that the existence of cross-selling opportunities in the banking sector may imply additional opportunities and risk for the market players but there is a consensus that, in a developed banking market, all players try to obtain advantages related to selling multiple services to their customers in order to increase their market power (Claessens and Klingebiel 2001).

A cross-selling strategy also stabilizes the performance achieved by a lender that increases the different types of services that contribute to the overall yearly performance (Bosi et al. 2011). Cross selling could represent a useful instrument to reduce the overall risk of the bank, coherently with a lower board-approved risk appetite and a sound bank's risk culture (Financial Stability Board 2014).

The last financial crisis demonstrates that banks offered real estate lending solutions to new customers even when there were already signals of the expected effect of the crisis, and marginal and risky debtors were also financed during the crisis (Demyanyk and Van Hermet 2011). The main explanation of the higher risk assumed by the banks is normally related to the opportunity to securitize loans and to sell the lending portfolio risk to other investors but an alternative (or better and additional) explanation of the risk-shifting strategy may be related to banks stabilizing the performance by increasing cross-selling revenues.

Starting from the traditional wisdom of the existence of benefits related to a bank's income diversification (e.g. Diamond 1984), the chapter evaluates if the advantages related to cross selling are specifically relevant to lenders exposed to the residential mortgage market. The hypothesis tests whether a bank can maximize and stabilize the performance achieved, as for other financial intermediaries specialized in the short-term and non-guaranteed consumer lending (e.g. Caratelli 2011), using all the information available for offering services that are coherent with customers' needs and maximizing the economic value of the bank relationship.

The chapter presents a brief literature review on the main effects of cross selling on the performance and risk of the bank (Sect. 12.2) and evaluates the relevance of the phenomenon in the residential mortgage market by looking at a sample of European banks (Sect. 12.3).

The results show that the exposure to real estate may affect the cross-selling policy and that the size of the effect depends not only on macro-economic drivers but also on banks' features and an excessive specialization in real estate loans may increase the negative effects related to the cross-selling policies.

12.2 Literature Review

Diversification of banks' income sources is desirable for both efficiency and risk management purposes due to the expected advantages related to a diversification strategy. In particular, an increase in income diversification—that is, a shift from interest income, which is the traditional banking lending activity, to non-interest income and non-traditional banking activities—may reduce total risk due to the fact that the two lines of business may have different sensitivities with respect to the overall trend in the economy (e.g. Smith et al. 2004).

Empirical evidence demonstrates that the drivers of non-interest income are not perfectly correlated with those affecting interest income and that the correlation of revenues related to the two line of business is quite low (e.g. Rose 1989). Banks characterized by a higher diversification of income guarantee a higher degree of operating income stabilization and, therefore, a more stable stream of profits.

The literature also presents some arguments against this conventional wisdom that could be related to one of the following issues:

- The increase in the risk of losing customers
- Cost structure and income volatility
- Capital requirements

An excessive use of cross selling by a lender may be disappointing for the debtor and the risk of losing the customer will increase proportionally with the cost of each service sold to the customer. Normally, the higher the fee per service requested, the higher the probability that the debtor will look for alternative lenders operating in the same market and will become less interested in cross-selling additional services (De Young and Roland 2001).

The choice to increase the number of services offered to each customer implies a higher investment in technology and the human capital necessary for identifying and offering different types of services. The increase in the bank's fixed costs implies a higher exposure with respect to any volatility in the demand for the financial services from its customers (Stiroh 2004). The higher risk related to the non-interest income may be unsustainable for the bank especially if its financing policy is based on the fixed-term contracts over a short-term period (Demirguc-Kunt and Huizinga 2010).

The current regulatory framework penalizes banks with a more diversified portfolio of financial services offered and requires more capital reserves for diversified banks. The capital requirement penalization could be justified on the basis of the lower monitoring incentives that characterize banks offering diversified services, which may cause a decrease in the portfolio average loan quality and a lower expertise of the lender in offering new services compared to the traditional lending business (Acharya et al. 2006).

The relevance of benefits and costs related to cross selling is bank specific and it may be not stable over time on the basis of the market conditions in which the bank is operating. Empirical evidence demonstrates that income diversification increases risk-adjusted returns but the results are different on the basis of the bank's size: smaller banks can make higher gains from increasing non-interest income, but only when they have a very small non-interest income share to start with (Chiorazzo et al. 2008).

Mortgages are normally the first service requested by a customer that offers the lender an opportunity to establish a long-term relationship characterized by repeated sales of financial services and which may allow the lender to maximize the revenues related to cross selling (McKechnie and Harrison 1995).

Long-term relationships with clients may reduce the information asymmetry and allow the bank, during the life of the lending contract, to collect information necessary for a more complete debtor's risk evaluation and the probability of default may be reduced due to a more accurate risk evaluation (Puri et al. 2001).

The information collected for the risk profiling can also be used for cross selling financial products, and the success of the strategy may

increase with time, due to the established relationship between the bank and its clients (Hellmann et al. 2008).

Banks may even strategically envision these entrenched cross-selling benefits to lending activities and, therefore, proactively lower lending rates on mortgages to those clients they believe could be interested in cross-selling products in the future (Lepetit et al. 2008). Empirical evidence shows that the interest rate applied to customers potentially interested in cross-selling products is significantly lower with respect to the standard market conditions and it decreases over time with the increased stability of client relationships (Degryse and Caryseele 2000).

12.3 Empirical Analysis

12.3.1 Sample

The sample considers all banks in the Euro Area for which Bankscope has detailed information about the value of loans related to residential mortgages. The time period analyzed encompasses 2005–2014 and considers banks based in 18 countries: Germany, Portugal, France, Spain, Finland, Netherlands, Austria, Ireland, Switzerland, Italy, Cyprus, Estonia, Slovenia, Belgium, Greece, Lithuania, Luxembourg and Latvia. From the starting sample of all banks in the Euro Area for the time period analyzed (1819), only around 30% disclose the amount of exposure to residential mortgages in their balance sheet and the level of disclosure is different country by country (Table 12.3).

The table shows that the most represented country in the sample is Germany (86.2%) and the other well-represented countries are Portugal (4.73%), France (3.02%), Spain (1.37%) and Finland (1.10). All the other countries represent less than 1% of the banks in the sample.

The sample is quite stable over time because more than 80% of the banks have information available over the entire period and the sample is not affected by a survivorship bias problem. Banks are classified on the basis of the real estate exposure, following the approach proposed by Eisenbeis and Kwast (1991), into real estate banks (REBs) and not real estate banks (NoREBs) considering as a threshold an exposure to real estate loans equal to 30%. The role of bank specialization is changing

Table 12.3 Sample description

Country	Banks		Year	Banks	
	Number	Percentage (%)		Number	Percentage (%)
Germany	1568	86.20	2014	1735	95.38
Portugal	86	4.73	2013	1776	97.64
France	55	3.02	2012	1767	97.14
Spain	25	1.37	2011	1761	96.81
Finland	20	1.10	2010	1600	87.96
Netherlands	17	0.93	2009	1658	91.15
Austria	8	0.44	2008	1556	85.54
Ireland	7	0.38	2007	1544	84.88
Switzerland	6	0.33	2006	1530	84.11
Italy	5	0.27	2005	1492	82.02
Cyprus	4	0.22			
Estonia	4	0.22	Bank spe-	Banks by year	
Slovenia	4	0.22	cialization	REBs (%)	NoREBs (%)
Belgium	3	0.16			
Greece	2	0.11	Minimum	26.81	73.19
			%REB		
Lithuania	2	0.11	Average	50.68	49.32
			%REB		
Luxembourg	2	0.11	Maximum	74.29	25.71
			%REB		
Latvia	1	0.05			

Source Bankscope data processed by the authors

over time, as expected, but on average the sample is quite representative of both types of banks (50.68% REBs and 49.32% NoREBs) even if year by year the sample composition changes significantly (REBs change from a minimum of 26.81% to a maximum of 74.29%).

12.3.2 Methodology

The proxy constructed for analyzing the real estate loans is the ratio between the new residential mortgages exposure and the overall value of loans for each bank in the sample, using the formula:

$$REexposure_{it} = \frac{\text{New Residential Mortgages}_{it}}{\text{Loans}_{it}} \quad (12.1)$$

where higher values of the index imply an increasing exposure of the bank i at time t on the residential real estate lending with respect to the previous year. The value of **New Residential Mortgages** $_{it}$ is computed by starting from the outstanding residential mortgage of the bank i at time t as written in the balance sheet multiplied by the average ratio for the country of residence between new residential mortgages and existing mortgages.¹

The cross-selling measure is constructed on the basis of the role of different income components in determining the annual net income for the bank. Following the approach proposed by Lepetit et al. (2008), the measure is constructed as follows:

$$DIVC_{it} = 1 - (\text{NETS}_{it}^2 + \text{COMMS}_{it}^2 + \text{TRADS}_{it}^2 + \text{OTHERS}_{it}^2) \quad (12.2)$$

where: **NETS** $_{it}$ is the interest receivable minus the interest payable divided by the interest income for the bank i at time t ; **COMMS** $_{it}$ is the share of net commissions income divided by the net operating income for the bank i at time t ; **TRADS** $_{it}$ is the share of net trading income divided by the net operating income for the bank i at time t ; **OTHERS** $_{it}$ is the share of non-interest income divided by the net operating income for the bank i at time t .

The proxy may assume positive values from 0 to 0.5 and it is equal to zero when diversification reaches its minimum, and equal to 0.5 when there is complete diversification.

A preliminary analysis of the impact of real estate exposure on the cross-selling activity considers the pairwise correlation between the two proxies across the overall time horizon and with respect to a EURO GDP trend and a housing-market index.² In order to consider the impact of the bank's size, the analysis considers the full sample and a sample that is split by the bank size (total assets) into four quartiles (one equal to smaller banks and four equal to bigger banks).

Once analyzed the correlation among variables, and the analysis of the implications for the banking industry is discussed by considering the risk and the return for each bank iwn the sample. Our proxies of risk and the return for the sample are the return on assets (ROA) and the Z-Score, respectively.

The ROA is measured as:

$$\text{ROA}_{it} = \frac{\text{Operating Income}_{it}}{\text{Total Assets}_{it}} \quad (12.3)$$

The Z-Score represents an accounting proxy of the bank stability (Laeven and Levine 2009; Foos et al. 2010; Altunbas et al. 2011; Demircug-Kunt and Huizinga 2010) measured as:

$$Z - \text{Score}_{it} = \frac{\text{ROA}_{it} + \left(\frac{\text{Total Equity}_{it}}{\text{Total Asset}_{it}} \right)}{\sigma \text{ROA}_{it}} \quad (12.4)$$

where the Z-score represents a proxy of the bank's risk measure as the ROA of the bank i at time t (ROA_{it}) plus a leverage proxy ($\frac{\text{Total Equity}_{it}}{\text{Total Asset}_{it}}$) divided by the standard deviation of the ROA during the last 3 years (ROA_{it}). Following the literature (Kohler 2012), the analysis will consider the natural logarithm of the Z-Score instead of using the gross value.

The analysis of the impact of real estate lending and cross selling on the banks' return and risk is determined using the following formulas (Chiorazzo et al. 2007) in a random effect panel regression model:

$$\begin{aligned} \text{ROA}_{it} = & \alpha_t + \gamma_1 \text{DIVC}_{it} + \gamma_2 \text{RExposure}_{it} + \delta_1 \text{OTHERs}_{it} \\ & + \delta_2 \text{TRADs}_{it} + \delta_3 \text{COMMs}_{it} + \delta_4 \text{ASSET}_{it} + \delta_5 (\text{ASSET}_{it})^2 \\ & + \delta_6 \text{GROWTH}_{it} + \delta_7 \text{LOAN}_{it} + \delta_8 \text{EQUITY}_{it} + \delta_9 \text{NPL}_{it} \\ & + \delta_{10} \text{HOLDING}_{it} + \sum_{k=1}^n \varphi_k \text{Country}_i^k + \varepsilon_{it} \end{aligned} \quad (12.5)$$

$$\begin{aligned} \ln(Z - \text{Score}_{it}) = & \alpha_t + \gamma_1 \text{DIVC}_{it} + \gamma_2 \text{RExposure}_{it} \\ & + \delta_1 \text{OTHERs}_{it} + \delta_2 \text{TRADs}_{it} + \delta_3 \text{COMMs}_{it} + \delta_4 \text{ASSET}_{it} \\ & + \delta_5 (\text{ASSET}_{it})^2 + \delta_6 \text{GROWTH}_{it} + \delta_7 \text{LOAN}_{it} + \delta_8 \text{EQUITY}_{it} \\ & + \delta_9 \text{NPL}_{it} + \delta_{10} \text{HOLDING}_{it} + \sum_{k=1}^n \varphi_k \text{Country}_i^k + \varepsilon_{it} \end{aligned} \quad (12.6)$$

where the new dependent variables are the following:

ASSET_{it} and ASSET_{it}^2 are, respectively, the natural log and the square of the natural log of bank assets deflated with the GDP deflator and both of them evaluate the impact of the size and economy of scale on the bank's return and risk;

$GROWTH_{it}$ is the growth rate of real bank assets with bank assets deflated by the GDP, which represents a proxy for the bank manager's preference for risk-taking;

$LOAN_{it}$ is the ratio between the total loans and bank assets and measures the effects of lending specialization on the risk-adjusted returns of the bank's portfolio;

$EQUITY_{it}$ is the ratio between the equity and bank assets and it measures the leverage exposure for the bank;

NPL_{it} is the share of non-performing loans to total loans and it is a proxy of the ex-post default risk of the lending portfolio; and

$HOLDING_i$ is a dummy variable equal to one if the bank is a holding or an independent entity and zero otherwise;

$Country_i^k$ is a set of n country dummy variables that allow us to evaluate the country fixed effects in the sample.

In order to determine whether the role of the real estate exposure is different on the basis of the degree of specialization of the bank in real estate lending, the data analysis also considers the following equations:

$$\begin{aligned}
 ROA_{it} = & \alpha_t + \theta_1 DIVC_{it} \times REB_{it} + \theta_2 DIVC_{it} \times NoREB_{it} \\
 & + \theta_3 REexposure_{it} \times REB_{it} + \theta_4 REexposure_{it} \times NoREB_{it} \\
 & + \delta_1 OTHERS_{it} + \delta_2 TRADS_{it} + \delta_3 COMMS_{it} + \delta_4 ASSET_{it} \\
 & + \delta_5 (ASSET_{it})^2 + \delta_6 GROWTH_{it} + \delta_7 LOAN_{it} + \delta_8 EQUITY_{it} \quad (12.7) \\
 & + \delta_9 NPL_{it} + \delta_{10} HOLDING_{it} \\
 & + \sum_{k=1}^n \varphi_k Country_i^k + \varepsilon_{it}
 \end{aligned}$$

$$\begin{aligned}
 \ln(Z - Score_{it}) = & \alpha_t + \theta_1 DIVC_{it} \times REB_{it} + \theta_2 DIVC_{it} \times NoREB_{it} \\
 & + \theta_3 REexposure_{it} \times REB_{it} + \theta_4 REexposure_{it} \times NoREB_{it} \\
 & + \delta_1 OTHERS_{it} + \delta_2 TRADS_{it} + \delta_3 COMMS_{it} + \delta_4 ASSET_{it} \\
 & + \delta_5 (ASSET_{it})^2 + \delta_6 GROWTH_{it} + \delta_7 LOAN_{it} \quad (12.8) \\
 & + \delta_8 EQUITY_{it} + \delta_9 NPL_{it} + \delta_{10} HOLDING_{it} \\
 & + \sum_{k=1}^n \varphi_k Country_i^k + \varepsilon_{it}
 \end{aligned}$$

where the new formulas consider separately the impact of cross selling and residential mortgage lending on the specialized real estate banks (respectively, $DIVC_{it} \times REB_{it}$ and $REexposure_{it} \times REB_{it}$) and non-specialized banks (respectively, $DIVC_{it} \times NoREB_{it}$ and $REexposure_{it} \times NoREB_{it}$).

All the panel regression analyses are performed considering the full sample and the four subsamples constructed on the bank's size (from the first to fourth quartile based on the total assets) in order to test whether the benefits/costs related to cross selling are affected by the bank size (Kohler 2012).

12.4 Results

A preliminary comparison of the real estate exposure and the cross-selling level for banks classified on the basis of the banks' size allow us to identify some interesting differences between larger and smaller banks (Table 12.4).

Banks with a near-to-the-average size (classified in the second and third quartile) earn more from the cross-selling activities than other banks and the results are consistent over time. The average real estate exposure of these average-sized banks is always higher than 40% not significantly different with respect to the average value of the bigger players (Fourth quartile). The comparison of the time trend of real estate exposure and cross selling opportunities allows us to identify some significant differences in the time horizon analyzed (Fig. 12.1). The correlation between the two proxies is frequently negative and the lower correlation is related to 2007, the starting year of the financial crisis and one of the worst years for the real estate market. The maximum levels of correlation are achieved before the crisis (2005–2006) and after years of little to no correlation, in 2013, the correlation starts to increase.

Having identified the average trend for the entire sample, a detailed analysis of the bank features may allow us to better understand the impact of real estate exposure and cross-selling opportunities on the yearly performance (Table 12.5).

Banks with higher cross-selling activities ($DIVC_{it}$) often have a better return on assets. This result is coherent with the hypothesis that an

Table 12.4 Real estate exposure and cross selling for banks classified by size (average values)

	Size	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
REExposure	1Q	0.415	0.202	0.424	0.350	0.363	0.371	0.377	0.361	0.366	0.366
	2Q	0.754	0.495	0.440	0.486	0.444	0.497	0.454	0.447	0.431	0.443
	3Q	0.580	0.486	0.551	0.485	0.438	0.470	0.445	0.456	0.459	0.451
	4Q	0.605	0.550	0.509	0.487	0.446	0.475	0.430	0.441	0.451	0.466
DIVC	1Q	0.304	0.369	0.311	0.273	0.350	0.308	0.307	0.306	0.306	0.293
	2Q	0.322	0.393	0.333	0.300	0.367	0.325	0.327	0.325	0.327	0.335
	3Q	0.323	0.394	0.327	0.307	0.366	0.328	0.330	0.325	0.331	0.334
	4Q	0.314	0.367	0.324	0.297	0.345	0.320	0.319	0.319	0.315	0.319

REExposure is computed as the ratio of new residential mortgages with respect to the total loans while DIVC is a proxy of cross selling computed on the basis of the incidence of interests, fees, trading and other not interest components with respect to the operating income. Banks in the sample are classified into fourth quartiles on the basis of the total asset value (1Q are the smaller banks while 4Q are the bigger ones in the sample)

Source Bankscope data processed by the authors

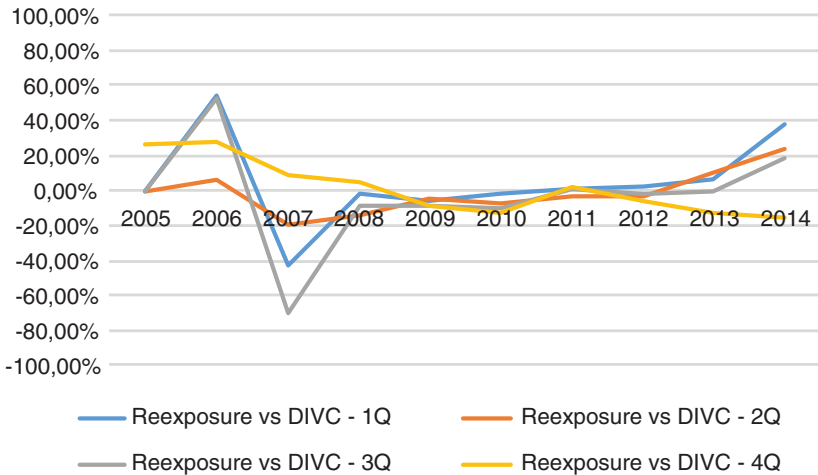


Fig. 12.1 Correlation analysis: real estate mortgages vs. cross selling *REExposure* is computed as the ratio of new residential mortgages with respect to the total loans while *DIVC* is a proxy of cross selling computed on the basis of the incidence of interests, Fees, trading and other non-interest bearing components with respect to the operating income. Banks in the sample are classified into fourth quartiles on the basis of the total asset value (1Q are the smaller banks while 4Q are the bigger ones in the sample). Source Bankscope data processed by the authors

increasing income related to cross-selling maximizes the performance of the bank due to the advantages related to using customers' information to identify additional services that could be interesting for the debtors (De Young and Rice 2004). The positive effect of the cross selling on the banks' performance is higher and more significant for non-specialized real estate banks, which supports the hypothesis that the advantages are primarily for banks with a diversified lending policy (Stiroh and Rumble 2006).

The real estate exposure is positively related to the performance achieved but it is statistically significant only for the banks that are classified into the second and third quartile. When the percentage of residential real estate lending is statistically significant, the impact of the exposure on the bank's performance is higher for those specialized in real estate.

Table 12.5 The role of real estate exposure and cross selling on the bank's performance (ROA)

	All	1Q	2Q	3Q	4Q
All	0.862***				
$DIV_{it} \times REB_{it}$	0.832***	0.190	1.384***	1.375***	1.008***
$DIV_{it} \times NoREB_{it}$	0.862***	0.170	1.570***	2.184***	0.732**
$RExposure_{it} \times REB_{it}$	0.0966	-0.362	2.010*	3.616***	0.079
$RExposure_{it} \times NoREB_{it}$		-0.665	3.200	-0.381	3.885
OTHERS _{it}	-0.475***	-0.018	-1.464***	0.631***	-0.502***
TRADS _{it}	0.212	-3.588***	12.52***	-0.718	-0.300
COMM _{it}	-0.465***	-0.996***	-1.756***	-2.297***	-0.953***
ASSET _{it}	-0.039	-0.069	-1.498	1.484*	0.561**
ASSET ₂	0.001	0.008*	0.123	-0.110*	-0.027**
GROWTH _{it}	0.133***	0.054	0.281**	-0.081	0.129
LOAN _{it}	-0.315***	0.037	0.018	-0.157	-0.533***
EQUITY _{it}	0.041***	0.049***	0.058***	0.020***	0.026***
NPL _{it}	-0.484***	-0.169*	-0.725	-0.181	-1.235**
HOLDING _i	0.026	-0.113	-0.745*	0.021	0.002
α_t	0.944**	0.284	-0.384	-7.310***	-1.752
Country fixed effect	YES	YES	YES	YES	YES
Observation	7788	1737	1900	1993	1640
Banks	1515	450	495	474	368
R ²	0.166	0.626	0.274	0.339	0.133

The table presents results of an OLS panel regression analysis (fixed effects) of the ROA for each bank at time t . Independent variables are the degree of cross selling (DIVC), the Real estate and not real estate bank status (respectively, REB and NoREB), the percentage of the new residential real estate lending exposure with respect to total loans (REExposure), the income related to trading (TRADS), the income related to fees (COMMs), the other income (Other), the total assets (ASSET) and the square of total assets (ASSET²), the total asset growth (GROWTH), the percentage of loans on total assets (Loan), the leverage (Equity), the role of non-performing loans (NPL) and a dummy for the holding status (Holding). The analysis is performed considering the full sample (All) and four subsample constructed on the basis of the bank size (1Q are the smaller banks while 4Q are the bigger ones in the sample)

Source Bankscope data processed by the authors

* Statistically significant 90%

** Statistically significant 95%

*** Statistically significant 99%

Regarding all the other income proxies, revenues related to service fees ($COMMS_{it}$) and other types of services provided ($OTHERS_{it}$) are normally lower for banks that are more profitable and results are statistically significant for all bank sizes except for smaller banks (1st quartile).

Considering the banks' balance sheet features, the assets growth ($GROWTH_{it}$), the amount of loans ($LOAN_{it}$), the leverage ($EQUITY_{it}$) and the role of non-performing loans (NPL_{it}) are related to the performance achieved by the banks for both the entire sample and the sample reclassified on the basis of the bank size. As expected, banks that perform better are those that are experiencing growth using limited leverage without a full specialization toward lending products and are thus able to reduce the role of NPL.

The analysis of the bank's risk shows some interesting differences with respect to the performance analysis especially when the real estate bank status is taken into account (Table 12.6).

Cross selling is positively linked with the risk assumed by the bank supporting the hypothesis that an excessive diversification of financial services offered may increase the bank's risk due to the lack of skills and knowledge necessary for managing a diversified portfolio of activities (Lepetit et al. 2008). The negative effects related to income diversification strategies are more relevant for real estate banks with respect to other banks and the results are in line with the hypothesis that in a stressing scenario real estate banks could be more exposed to a risk of default (Blasko and Sinkey 2006). An excessive specialization on real estate seems to undermine the possibility to achieve benefits related to performance risk reduction while banks that are already offering diversified financial services may stabilize their ROA using cross-selling strategies.

Regarding all the other income proxies, revenues related to other types of service provided ($OTHERS_{it}$) are normally safer for the banks that are more diversified in their income returns. Considering the banks' balance sheet features, the lender's size ($ASSET_{it}$), the assets growth ($GROWTH_{it}$), the amount of loans ($LOAN_{it}$), the leverage ($EQUITY_{it}$) and the role of non-performing loans (NPL_{it}) and the holding status ($HOLDING_i$) are related to the banks' risk. Riskier banks are those that are larger and growing more, are prevalently specialized in offering loans and those that are financed predominantly

Table 12.6 The role of real estate exposure and cross selling on the bank's risk (Z-Score)

	All	All	1Q	2Q	3Q	4Q
$DIVC_{it} \times REB_{it}$	1.138***	1.408***	1.950**	0.009	1.578*	1.577**
$DIVC_{it} \times NoREB_{it}$	0.399**	0.556	2.595**	-0.591	2.394**	-0.604
$RExposure_{it} \times REB_{it}$		0.336*	4.735	-1.210	8.155**	0.358*
$RExposure_{it} \times NoREB_{it}$		7.280*	4.196	-0.337	0.887	19.000**
$OTHERS_{it}$	-1.360***	-1.348***	-3.089***	-0.511	-1.469*	-1.460***
$TRADS_{it}$	-0.568	-0.544	-6.164	2.035	-4.212	-0.373
$COMMS_{it}$	0.050	0.067	3.244***	-0.063	1.753	-0.438
$ASSET_{it}$	0.383***	0.372***	0.117	-3.285	5.171*	-0.360
$ASSET^2_{it}$	-0.014*	-0.014*	-0.006	0.297	-0.344*	0.024
$GROWTH_{it}$	-0.305**	-0.284**	-0.349	-0.414*	-0.498**	-0.048
$LOAN_{it}$	0.988***	0.940***	-0.139	-0.038	0.721*	1.738***
$EQUITY_{it}$	0.089***	0.091***	0.053***	0.110***	0.065***	0.137***
NPL_{it}	1.661***	1.631***	0.672	2.763***	6.383***	-0.465
$HOLDING_{it}$	-0.897***	-0.864***	-0.237	-1.352	-0.826	-0.647*
α_t	1.348	1.314	2.556*	10.670	-19.25*	4.498
Country fixed effect	YES	YES	YES	YES	YES	YES
Observation	7719	7719	1716	1896	1978	1612
Banks	1511	1511	448	495	472	367
R^2	0.150	0.151	0.052	0.071	0.123	0.330

The table presents results of an OLS panel regression analysis (fixed effects) of the Z-Score for each bank at time t . Independent variables are the degree of cross selling ($DIVC$), the Real estate and not real estate bank status (respectively REB and $NoREB$), the percentage of the new residential real estate lending exposure with respect to total loans ($RExposure$), the income related to trading ($TRADS$), the income related to fees ($COMMS$), the other income ($Other$), the total assets ($ASSET$) and the square of total assets ($ASSET^2$), the total asset growth ($GROWTH$), the percentage of loans on total assets (Loan), the leverage (Equity), the role of non-performing loans (NPL) and a dummy for the holding status (Holding). The analysis is performed considering the full sample (All) and four subsamples constructed on the basis of the bank size (1Q are the smaller banks while 4Q are the bigger ones in the sample)

Source: Bankscope data processed by the authors

* Statistically significant 90%

** Statistically significant 95%

*** Statistically significant 99%

through equity with a higher exposure to NPLs and without a holding status. The results related to each controlling variable are not consistent between banks of different sizes and they are more relevant for banks of above-median size.

12.4.1 Robustness Test

As a robustness test of the analysis, we perform the same regression analyses considering the stock of existing debt and the analysis of new residential loans for a sample without Germany.

The value of existing debt may be different with respect to the value of the new residential real estate loans due to the fact that the value of existing loans may also be affected by the vintage of the loan and the difference between the current and past market conditions. The analysis of the impact of cross selling on the stock of existing loans is presented in the following tables (Tables 12.7, 12.8).

The analysis of the mortgages outstanding does not show any significant differences and all the main drivers identified by the new loans analysis are confirmed by the existing stock data. The fitness of the statistical models is comparable and the results are confirmed by the analysis related to the REB and NoREB status and the samples that are reclassified by bank size.

The sample is characterized by an over-exposure with respect to German banks that may affect the possibility of generalizing the results and their implications on the overall European market. The main differences that characterize the market are the role of savings banks (the so-called Sparkassen), the market segmentation and the role of public lenders (for further details see, among others, Deutsch and Tomann 1995). The results of the role of cross selling and mortgage exposure on the ROA and Z-Score for the banks not resident in Germany are summarized in Table 12.9.

The results obtained without Germany show that, as for the entire sample, banks with higher performance and risk are those that also show higher cross-selling activities and for both the risk and return proxies, the link is stronger for banks that are specialized in real estate

Table 12.7 The role of real estate exposure and cross selling on the bank's performance (ROA)

	All	All	1Q	2Q	3Q	4Q
DIV_{it}	0.972***	-	-	-	-	-
$DIV_{it} \times REB_{it}$	-	0.911***	0.134	1.473***	1.229***	0.912***
$DIV_{it} \times NoREB_{it}$	-	1.105***	0.299*	1.694***	2.189***	1.335***
RE_{it}	0.014	-	-	-	-	-
$RE_{it} \times REB_{it}$	-	0.020	0.070	0.230	0.477***	0.012
$RE_{it} \times NoREB_{it}$	-	-0.197	-0.125	0.238	-0.360	-0.681
$OTHER_{it}$	-	-0.464***	-0.012	-1.569***	0.684***	-0.491***
$TRAD_{it}$	0.434**	0.427**	-3.650***	15.570***	0.002	-0.298
$COMM_{it}$	-0.379***	-0.381***	-0.962***	1.852***	-2.065***	-0.851**
$ASSET_{it}$	-0.040	-0.038	-0.067	-1.465	1.712**	0.562**
$ASSET_{it}^2$	0.001	0.001	0.008*	0.12	-0.126**	-0.027**
$GROWTH_{it}$	0.172***	0.168***	0.059	0.282**	-0.096	0.153
$LOAN_{it}$	-0.236***	-0.225***	0.038	0.038	0.107	-0.509***
$EQUITY_{it}$	0.044***	0.043***	0.049***	0.059***	0.022***	0.021***
NPL_{it}	-0.762***	-0.761***	-0.169*	-0.654	-0.019	-1.256***
$HOLDING_{it}$	0.085	0.077	-0.133	-0.789*	0.174	-0.016
α_t	10.560***	-10.470***	0.343	5.732*	-4.551*	-4.094
Country fixed effect	YES	YES	YES	YES	YES	YES
Observation	7833	7833	1737	1901	2009	1664
Banks	1520	1520	450	495	478	371
R^2	0.155	0.156	0.626	0.271	0.305	0.172

The table presents the results of an OLS panel regression analysis (fixed effects) of the ROA for each bank at time t . Independent variables are the degree of cross selling (DIVC), the Real estate and non-real estate bank status (respectively, REB and NoREB), the percentage of the residential real estate lending exposure with respect to total loans (REExposure), the income related to trading (TRADs), the income related to fees (COMMs), the other income (Other), the total assets (ASSET) and the square of total assets (ASSET²), the total asset growth (GROWTH), the percentage of loans on total assets (Loan), the leverage (Equity), the role of non-performing loans (NPL) and a dummy for the holding status (Holding). The analysis is performed considering the full sample (All) and four subsamples constructed on the basis of the bank size (1Q are the smaller banks while 4Q are the bigger ones in the sample)

Source: Bankscope data processed by the authors

* Statistically significant 90%

** Statistically significant 95%

*** Statistically significant 99%

Table 12.8 The role of real estate exposure and cross selling on the bank's risk (Z-Score)

	All	All	1Q	2Q	3Q	4Q
$DIVC_{it} \times REB_{it}$	1.277***	-	-	-	-	-
$DIVC_{it} \times NoREB_{it}$	-	1.467***	2.073**	0.229	1.730**	1.704**
$RE_{it} \times NoREB_{it}$	-	0.912**	2.019*	-1.072	1.453	-0.458
RE_{it}	0.041	-	-	-	-	-
$RE_{it} \times REB_{it}$	-	0.024	-0.111	-0.865*	-0.151	0.056
$RE_{it} \times NoREB_{it}$	-	0.356	0.045	-0.503	-0.649	2.558*
$OTHERS_{it}$	-	-1.355***	-3.072***	-0.732	-1.657*	-1.425***
$TRAD_{sit}$	-0.472	-0.457	-6.203	6.362*	-2.308	-0.334
$COMM_{sit}$	0.124	0.142	3.009**	0.070	1.627	-0.396
$ASSET_{it}$	0.377***	0.365***	0.113	-3.329	6.414**	-0.299
$ASSET_{it}^2$	-0.014*	-0.014*	-0.007	0.300	-0.438**	0.021
$GROWTH_{it}$	-0.294**	-0.278**	-0.391	-0.383*	-0.492**	-0.038
$LOAN_{it}$	0.945***	0.909***	-0.123	-0.017	0.777*	1.639***
$EQUITY_{it}$	0.090***	0.091***	0.054***	0.107***	0.067***	0.134***
NPL_{it}	1.178***	1.166***	0.702	2.629***	6.637***	-1.153
$HOLDING_i$	-0.862***	-0.840***	-0.030	-1.506	-0.707	-0.631*
α_t	-25.920**	-26.110**	-7.664	15.270*	-20.590*	-19.300
Country fixed effect	YES	YES	YES	YES	YES	YES
Observation	7761	7761	1716	1897	1993	1636
Banks	1516	1516	448	495	476	370
R^2	0.156	0.157	0.049	0.078	0.141	0.336

The table presents results of an OLS panel regression analysis (fixed effects) of the Z-Score for each bank at time t . Independent variables are the degree of cross selling ($DIVC$), the real estate and non-real estate bank status (respectively, REB and $NoREB$), the percentage of the residential real estate lending exposure with respect to total loans (RE_{it}), the income related to trading ($TRAD_{sit}$), the income related to fees ($COMM_{sit}$), the other income ($Other$), the total assets ($ASSET$) and the square of total assets ($ASSET^2$), the total asset growth ($GROWTH$), the percentage of loans on total assets ($Loan$), the leverage ($Equity$), the role of non-performing loans (NPL) and a dummy for the holding status ($Holding$). The analysis is performed considering the full sample (All) and four subsamples constructed on the basis of the bank size ($1Q$ are the smaller banks while $4Q$ are the bigger ones in the sample)

Source: Bankscope data processed by the authors

* Statistically significant 90%

** Statistically significant 95%

*** Statistically significant 99%

Table 12.9 The role of real estate exposure and cross selling on the non-German bank's performance (ROA) and risk (Z-Score)

	ROA		Z-Score	
$DIVC_{it}$	1.577*	–	1.376**	–
$DIVC_{it} \times REB_{it}$	–	1.730*	–	1.616**
$DIVC_{it} \times NoREB_{it}$	–	0,819	–	–0,025
REexposure	–0,025	–	0,240	–
$REexposure_{it} \times REB_{it}$	–	–0,025	–	0,230
$REexposure_{it} \times NoREB_{it}$	–	13,690	–	16.360**
$OTHERS_{it}$	–0,555	–0,549	–1.075***	–1.069***
$TRADS_{it}$	0,595	0,564	–0,404	–0,410
$COMMS_{it}$	0,323	0,313	–0,437	–0,458
$ASSET_{it}$	0,135	0,153	–0.639*	–0.632*
$ASSET_{it}^2$	–0,008	–0,009	0.036*	0.035*
$GROWTH_{it}$	0.797*	0.820*	–0,011	–0,034
$LOAN_{it}$	–0.982*	–0.980*	1.069**	1.017**
$EQUITY_{it}$	0.062***	0.067***	0.040***	0.048***
NPL_{it}	–3.739***	–3.714***	–3.952***	–3.912***
$HOLDING_t$	–0,167	–0,171	–0,097	–0,080
α_t	0,002	–0,258	6.038***	5.889***
Country fixed effect	YES	YES	YES	YES
Observation	482	482	477	477
Banks	133	133	133	133
R^2	0.248	0.253	0.320	0.332

The table presents results of an OLS panel regression analysis (fixed effects) of the ROA and The Z-Score for each bank at time t . Independent variables are the degree of cross selling (DIVC), the real estate and non-real estate bank status (respectively, REB and NoREB), the percentage of the residential real estate lending exposure with respect to total loans (REexposure), the income related to trading (TRADS), the income related to fees (COMMS), the other income (Other), the total assets (ASSET) and the square of total assets (ASSET²), the total asset growth (GROWTH), the percentage of loans on total assets (Loan), the leverage (Equity), the role of non- performing loans (NPL) and a dummy for the holding status (Holding). The analysis is performed considering all the banks that are domiciliated outside Germany
Source Bankscope data processed by the authors

* Statistically significant 90%

** Statistical significant 95%

*** Statistical significant 99%

lending. The statistical fitness of the models is even higher with respect to the entire sample even if the role of different sources of income (commission, trading and other income) in explaining the performance and the risk is significantly lower.

12.5 Conclusion

Cross-selling activities are influenced by the amount of residential real estate loans offered by the bank and the results are consistent and independent of the bank size. The linkage strength is affected by the market conditions in the real estate market, as well as the overall trend of the economy. The impact of cross-selling opportunities on the bank's performance and risk is affected by the characteristics of the bank and excessive specialization in real estate lending may reduce the advantages related to an income diversification strategy. The bank size affects both the performance and the risk of the bank but it does not affect the relevance of real estate exposure as a driver of cross-selling opportunities.

Our results support the hypothesis that cross selling is a key driver of banking activity especially of diversified players that can maximize their annual performance and reduce their risk exposure by increasing the number of services sold to each customer. Cross selling activity may provide a contribution to reduce the board-approved risk appetite and it is in line with a sound bank's risk culture.

Cross selling may represent a useful instrument to increase the performance and to reduce the risk of the bank but it cannot be considered as a sole and sufficient solution. Specialized real estate banks do not fully take advantage of the income diversification opportunities and an excessive specialization of the lender may negatively affect its capability to maximize profits and reduce risk.

Notes

1. The ratio by country of the new and existing residential mortgages for the European Countries is constructed using Hypostat statistics.
2. Our proxy of the GRP trend is the annual rate of change of the GDP in the Euro Area provided by Eurostat and the proxy for the housing-market dynamics is the Eurostat HPI index for the Euro Area.

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13

Supporting an Effective Risk Culture in Private Banking/Wealth Management

Paola Musile Tanzi

“Each customer is unique”, starting from this perspective, the most recurring promise of the private banking/wealth management players becomes: “Each of our solutions is unique”, which sounds good, but behind this promise there are a lot of risks. If everything is unique, then it is almost impossible and extremely expensive to keep the overall situation under control. While much less exciting, the most serious promise to the client should be: “We are able to keep your risks under control”, and this promise becomes reliable, if the private bank/wealth management unit’s risks are also under control.

That is why two of the biggest challenges in the private banking/wealth management area are related to the following:

1. How to combine risk management’s need for standards and the private banking/wealth management promise of customization.

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2. How to comply with the rapidly evolving regulatory environment, which implies being able to invest in terms of risk culture, risk management and risk control, while maintaining an appropriate cost–income ratio. As a result of an increasingly prudential regulation, combined with the AML landscape, plus the input on product and customer suitability, the pressure on wealth managers is growing fast, as are IT and HR expenses.

In this chapter, our proposal is to adopt this double risk-based view, looking at the main trends in private banking/wealth management. In our view, the choice of business model is the strategic starting point, according to the ECB: “The key risk that stands out relates to banks’ business models and profitability”.

(ECB, Banking Supervision: SSM priorities 2016). In the following two paragraphs, first of all, the private banking/wealth management promise of customization is combined with the monitoring of risks, in a MiFID 2 perspective. Secondly, the private banking/wealth management business sustainability is placed under observation.

13.1 How to Combine Risk Management’s Need for Standards and the Private Banking/Wealth Management Promise of Customization

In everyday language, the term “personalization” is frequently opposed to “standardization”, adding a positive note to the former and a negative one to the latter. In reality, the identification of “standards” implies the existence of processes, in which quality parameters have been set and must be complied with and this is not a negative element. Higher levels of customization assume the impossibility to perform a series of checks. In the service delivery process, it is necessary to balance items that contain a strong “dose” of risk control, with the opportunity to build a unique and customized service for the client. This is not impossible, but the dichotomous view between standardized services and customized services must

be expanded, along with the acknowledgement that many different professional skills are involved, in providing the service, specifically in private banking/wealth management. Between the two extremes of “Pure Standardization” and “Pure Customization”, there are at least three other strategies, with different customer and producer roles in the design, fabrication, assembly and distribution stages (Lampel and Mintzberg 1996).¹ What varies in the intermediate stages is the level of involvement of the customer and, consequently, the increasing difficulty of reviewing the final result on the part of the producer.

Rather than the creation of large-scale economies, linked to the production of a single product or service, typical of “Pure Standardization”, in “Segmented Standardization”, the producer makes a set of standard components, “available on the shelf”, designed on the basis of needs, identified on different markets.

In “Customized Standardization”, the customer is involved in the production phase of the service, participating in the assembly of a set of standard components.

In “Tailored Customization”, the producer creates unique goods or services, based on a “prototype”, proposed to the customer.

Finally, the “Pure Customization” is based on a partnership with the customer involved in the design phase of the product or service.

The quality control of the process has to be guaranteed to the client in each of the stages (in reality is a *continuum*), but the increasing difficulty of exercising control will have an influence on the price of the service provided.

Each operator, on the basis of their own market of reference, identifies the stage at which the exercise of quality control occurs at levels of adequate protection for the customer and, at the same time, of economic sustainability for the producer. On the other hand, the differentiation of the price for the customer should allow each customer to obtain the level of personalization/customization that he can support economically.

In this regard, in Europe, the MiFID framework emphasizes the centrality of the customer. The “*Know your customer*” principle is the categorical imperative, already affirmed by the MiFID 1 Directive and confirmed by the MiFID 2 Directive.²

Given the promise of customization in the field of private banking/wealth management, the operators cannot be positioned among low value-added services, for which the intermediary might exempt themselves from the client's suitability test. In line with the promise of personalization and the offer of high value-added services, the expectation of the private client is of maximum protection from the intermediary as requested in Article 25 *Assessment of suitability and appropriateness and reporting to clients* (2014/65/EU Directive).

In the configuration of the service, should be taken into account:

1. the nature of the services offered or provided to the client or potential client, with regard to the type, object, size and frequency of the transactions;
2. the nature of the products being offered or considered, including different types of financial instruments;
3. the retail or professional nature of the client or potential clients or (...) their classification as eligible counterparties.

1. First of all, the MiFID 2 framework requires the verification of the professional knowledge and experience of the investment firm, distinguishing between persons giving investment advice or giving information: "(1) *Member States shall require investment firms to ensure and demonstrate to competent authorities on request that natural persons giving investment advice or information about financial instruments, investment services or ancillary services to clients on behalf of the investment firm possess the necessary knowledge and competence to fulfil their obligations... Member States shall publish the criteria to be used for assessing such knowledge and competence*" (art. 25, 2014/65/EU Directive). Knowledge, competences and experience appropriate to the role were already the key characteristics required by MiFID 1. With respect to this regulatory framework, MiFID 2 provides for further evolution and imposes a change of pace. Article 25, in fact, requires that the European Securities and Markets Authority (ESMA) indicates guidelines capable of providing specific criteria for the investment company to assess the competences of its personnel that provide advisory services or provide information

to customers on behalf of the company on investment services and financial markets. Based on this request, and following its own policy, on 17 December 2015, ESMA approved the *Guidelines for the assessment of knowledge and competence*: “The purpose of these guidelines is to specify the criteria for the assessment of knowledge and competence required under Article 25 of MiFID II, in accordance with Article 25 of the same Directive. ESMA expects these guidelines to promote greater convergence in the knowledge and competence of staff providing investment advice or information about financial instruments.... The level and intensity of knowledge and competence expected for those providing investment advice should be of a higher standard than those that only give information on investment products and services”.³ In this way is stronger the consequence that the risk culture must be “into the business” (Carretta 2016) inside a customer-oriented organization (Power et al. 2013).

Also with regard to the nature of the investment services offered, the investor protection standards are the highest in relation to investment advice and portfolio management services: “(2) *When providing investment advice or portfolio management the investment firm shall obtain the necessary information regarding the client’s or potential client’s knowledge and experience in the investment field relevant to the specific type of product or service, that person’s financial situation including his ability to bear losses, and his investment objectives including his risk tolerance so as to enable the investment firm to recommend to the client or potential client the investment services and financial instruments that are suitable for him and, in particular, are in accordance with his risk tolerance and ability to bear losses*” (art. 25, 2014/65/EU Directive). Without this kind of information, if the intermediary is not able to personalize the service and assess its suitability, it should refrain from providing it.

Providing low value-added investment services, the standard of conduct required becomes the *appropriateness*. Moreover, MiFID 2 underlines that: “*Information provided by investment firms to clients in relation to their execution policy often are generic and standard and do not allow clients to understand how an order will be executed and to verify firms’ compliance with their obligation to execute orders on term most favourable to their clients. In order to enhance investor protection it is appropriate to specify the principles concerning the information given by investment firms to*

their clients on the execution policy and to require firms to make public, on an annual basis, for each class of financial instruments, the top five execution venues where they executed client orders in the preceding year and to take account of that information and information published by execution venues on execution quality in their policies on best execution” (2014/65/EU Directive).

2. Regarding the nature of the products being offered, the standpoint of MiFID 2 is highly innovative and emphasizes that the levels of protection in the “downstream” relationship with the customer are not sufficient. MiFID 2 imposes a prior “upstream” assessment, involving the top management and the control functions, in particular, the compliance function, which involves an activity of “product mapping”, conducted by intermediaries, either producers or distributors, in order to evaluate the coherence between the product characteristics and the profile of the target.⁴ The robust investor protection passes through the “*product governance*” regulations, which empower the role of top management and internal control systems, in the design phase of complex products and/or the decision to commercialize them. In the case of inadequate action on behalf of internal *product governance*, MiFID 2 strengthens the power of the ESMA and the national authorities, allowing them to intervene, following a “*product intervention*” approach.⁵

The change of the control framework leads to a reflection at the organizational level in the private banking/wealth management sector, driving providers to maintain high service standards, MiFID compliant, while maintaining the promise to customize the service offered to the client.

3. The modular nature of the investor protection concerns, not only, the nature of the service provided, but also the different types of target: “*One of the objectives of this Directive is to protect investors. Measures to protect investors should be adapted to the particularities of each category of investors (retail, professional and counterparties). However, in order to enhance the regulatory framework applicable to the provision of services irrespective of the categories of clients concerned, it is appropriate to make it clear that principles to act honestly, fairly and professionally and the obligation to be fair, clear and not misleading apply to the relationship with any clients*” (2014/65/EC Directive). Retail clients are entitled to receive the

highest level of protection required by regulations; only under certain subjective and objective customer conditions and only through a series of written communications, initiated by the customer on their own initiative, may private individual investors waive the protection provided for by the directive.⁶ With regard to the characteristics of private banking/wealth management and the level of protection that the client expects in the relationship with the private bank or the financial advisory firm, this condition is totally anomalous, not so much in terms of the objective requirements, but in terms of (the presence of) subjective requirements (the client's knowledge, experience and competences).

Therefore, the standards of conduct of the intermediary are those required, when dealing with retail customers.

Underlying the promise of personalization and high quality, the implicit promise in private banking is keeping the risk for the customer under control; this is an ambitious goal, which is affordable if the client is fully aware of the risks involved. To achieve this condition, the private client requires the highest level of protection and transparency, which the law reserves to retail clients.

It is useful to note that the centrality of the principle of “*know your client*” and the recurring use of the term “standard” in the MiFID 2 directive (157 instances) are not conflicting, but rather complementary, because the latter is an assurance of quality, not only technical, referring to objective parameters, but also relational, referring to the characteristics of the client.

13.2 How to Comply with the Regulatory Framework Keeping the Cost–Income Ratio Under Control: A Magnificent Obsession

In connection with what has been presented in the previous paragraph, the promise of personalization in wealth management services must be compatible with strong risk control safeguards for the customer, a promise on which depends, not only the intermediary's ability to remain on the market, but also his reputation. The extensive personalization of the service, not allowing the “serial” control of risk, requires a dedicated

monitoring of risk, the cost of which is sustainable, only in the case of substantial projects. In industrial sectors, where risk perception on the part of end users is high, the absence of serial-based controls, would alarm the customer (for example, in the automotive industry, the lack of serial controls on the ABS system would put at risk the reputation first of all of the carmaker). In the same way, in the financial sector, the term “serial”, associated with risk management on behalf of clients, should be attributed to the rigor and methodological robustness of the measurements was carried out. The uniqueness of the control process is justified, just in the case of projects, capable of supporting such a cost.

Having made these observations, regarding the range of services and their sustainable level of customization, it is understandable that competitors are heterogeneous in terms of size, vocation and positioning.

Among these, some competitors are performing in private banking/wealth management with an integrated and broad range of services; others may choose to cover a specific activity in the area of investment needs, for example, by concentrating their activities on portfolio management services, while others opt to conduct independent investment advisory. There are no compulsory choices.

With regard to investment services, from a strategic point of view, the MiFID framework, along with MiFID 2, permits a wide range of possibilities. For instance, looking at the high value-added services, investment advice and investment management, in both cases, the business model choice is not unique. Offering investment management services, the different strategic option could be to provide a variety of asset management solutions “in house” or the adoption of an open architecture model, partially or fully open, more or less “guided”. Also offering investment advisory services, the variety of business models depends on that the intermediary may choose to offer independent advisory or non-independent advisory.

The implications, depending on the business model adopted, are in terms of the way the service is remunerated: the independent advisory service is incompatible with the perception of inducement, the remuneration for the intermediary must be entirely derived from the customer and the wide range of solutions, made available to customers.⁷

Furthermore, the choice of the degree of open architecture becomes a strategic decision, because opening the business structure entails the reduction of the margin and the increase of the assumption of operational risks.

It is increasingly apparent that there are multiple business models in the private banking/wealth management area: in recent years, “the industry has reinvented itself”, in terms of the content of the services, the target audience and the professional roles involved, to the point of feeling the need to “change the lexicon”, using the expression “wealth management”, to emphasize the sector’s transformation. A multitude of heterogeneous competitors face off against each other, with very different business models from each other.⁸

The uncertainty of the boundaries in private banking spreads and infects the lexicon: the amplitude of the sector leads to the term “wealth management”, being used in some cases to emphasize the desire of the intermediary to manage the entire assets of the client, in others, to indicate the higher end of the private market or the methodology of overall financial planning, adopted to support the client’s service.

Therefore, in its broadest sense, the activity of private banking/wealth management could include the provision, not only of investment services, but also of liability optimization, insurance and retirement planning, tax planning, estate planning and art advisory: in this way, the range of services can extend to cover any other type of service, capable of providing added value to the activity of the protection and transmission of family wealth (Musile Tanzi 2004; Evensky et al. 2011; Cassis and Cottrell 2015; Capgemini 2016).

The expansion of the range of services is encouraged by the possibility of using external solutions, in the search for “best-in-class” solutions for the customer. However, the outsourcing solution requires the internal availability of highly skilled individuals to select the best suppliers, to control them and to “package” the best proposals to customers. This promise is the basis of the open architecture models in private banking/wealth management. Using third-party suppliers implies greater attention to the operational risk profile, linked to organizational procedures, the adequacy of the information system and the behaviour of the

staff involved in such processes. The open architecture information flows and procedures involve a multiplicity of actors outside the company perimeter, thus increasing the complexity of governing them, as they are not directly under control. The price paid, not only in terms of reputation, by those in private banking, who “opened their architecture” to a supplier, such as Madoff, has been high. The recourse to this aspect was already explicitly contained in the first European MiFID Directive on investment services (MiFID 1).

Therefore, in the present scenario, innovation in private banking/wealth management is supported by a number of important contextual elements that, on the one hand, help to modify expectations towards the service among end customers and, on the other hand, change the game plan among operators in the sector, particularly at the European level.

- In terms of the macroeconomic scenario, low-interest rates, high market volatility and low growth are a combination that raises the level of uncertainty for investors, increasing the importance of the ability to control risk on behalf of customers, the most serious promise made by the private banking/wealth management industry. This scenario affects the expectations of end investors, as well as the margins for banks deriving from various business areas. As the Global Financial Stability Report underlines in April 2016: “*Difficulties in business model transitions and legal costs have led to extraordinarily weak earnings results at several large European banks, while market turbulence has also affected other revenue streams, especially trading revenues and even wealth management*” (IMF 2016).
- In terms of banking regulation and financial services, the vectors of change are sufficient to redesign the business models of the operators, in particular, the following:
 1. the implementation of the CRD IV Directive highlights the contribution in terms of stability and limited capital absorption by the private banking/wealth management sector, in comparison with others, but at the same time requires the raising of standards of governance, in prudential terms, for all operators in the sector: the control of risk by the intermediary becomes the crucial element upon which to build the strategy of the operators;

2. the implementation of the MiFID II Directive, from January 2018, obliges a review of the design of processes at the level of the distribution of investment services, requiring a rethink. As underlined in the previous paragraph, the raising of standards in processes, along with greater transparency in pricing, will require a careful assessment of the sustainability of some activities, in particular, investment advisory services, since higher levels of personalized service in all economic sectors correspond with higher levels of cost to the producer and a higher price for the final customer.
- The macro-trend of taxation and anti-money laundering regulation has increased the sensitivity of operators in the sector to avoid sanctions, the amount of which, in the case of niche players, could endanger their very existence.
 - In terms of information technology, innovation is relentless and has become an integral component of the business model, in terms of impact on the range of services, distribution choices, IT risk and operational risk.

Faced with these regulatory and market drivers, the need to strengthen the internal control systems increases structural costs and also compliance costs, which in terms of the development of the sector, must be capable of being seen as investments. That could be possible only if the risk culture is in the company's DNA, but "*Board must understand the risk culture of their organization in conjunction with their business model and not take it for granted*" (Carretta and Bianchi 2016).

In this perspective, the most serious issue and consequence in this field is not related to the bank capitalization, but to the heavy cost structure: selecting a sample of 40 European specialized banks and investment companies, focused on private banking,⁹ the cost-income ratio was on average almost 80% and at least 50% of them had a cost-income higher than 82% at the end of 2015 (see Table 13.1). As a result of this, the private banking/wealth management profitability is low.

Based on what has been observed, private banking/wealth management services can be seen as a knowledge-based business area, for which the incidence of staff remuneration policies on the cost structure of the

Table 13.1 European private banking specialized players: selected sample, Year 2015, ranking by net fees and commissions value

Bank name	Country	Return On Avg Equity (ROAE) %	Cost to income ratio %	Total capi- tal ratio %	Tier 1 ratio %	Net fees and com- missions mil EUR	A/B %	Net fees and com- missions mil EUR A	Operating income mil EUR B
Fideuram-Intesa Sanpaolo Private Banking Spa	IT	38.48	36.80	16.70	16.70	1.135	86	1.135	1.326
Compagnie Odier SCA	CH	13.85	85.54	25.70	25.70	820	82	820	996
Banque Pictet & Cie SA	CH	6.76	85.14	16.10	20.70	736	78	736	940
Union Bancaire Privée - UBP	CH	1.33	92.08	24.40	24.30	466	67	466	694
HSBC Trinkaus & Burkhardt AG	DE	7.88	70.91	12.60	10.30	441	59	441	748
Edmond de Rothschild (Suisse) S.A	CH	4.39	88.33	31.10	n.a.	430	73	430	587
Bank J. Safra Sarasin AG	CH	6.95	73.30	n.a.	n.a.	427	59	427	718
BSI AG-BSI SA	CH	6.49	78.19	22.78	21.91	421	55	421	770
Rothschild et Compagnie Banque SCS	FR	45.44	62.58	12.58	n.a.	351	96	351	367

(continued)

Table 13.1 (continued)

Bank name	Country	Return On Avg Equity (ROAE) %	Cost to income ratio %	Total capi- tal ratio %	Tier 1 ratio %	Net fees and com- missions mil EUR	A/B %	Net fees and com- missions mil EUR A	Operating income mil EUR B
EFG Bank European Financial Group SA	CH	4.21	90.33	17.40	n.a.	347	54	347	645
Mirabaud SCA	CH	12.89	88.22	21.06	21.06	210	78	210	270
Banque de Neufilize OBC Financière Syz & Co	FR	6.47	74.53	n.a.	n.a.	179	51	179	350
BNP Paribas Wealth Management SA	FR	-13.12	119.85	14.90	14.90	147	86	147	172
Notenstein La Roche Privatbank AG	CH	-51.66	111.29	n.a.	n.a.	117	48	117	244
Banque Privée 1818 SA	FR	18.03	82.08	19.00	19.00	112	71	112	159
Banque Transatlantique SA	FR	6.69	90.61	n.a.	n.a.	108	86	108	126
	FR	21.80	58.14	n.a.	n.a.	88	62	88	142

(continued)

Table 13.1 (continued)

Bank name	Country	Return On Avg Equity (ROAE) %	Cost to income ratio %	Total capi- tal ratio %	Tier 1 ratio %	Net fees and com- missions mil EUR	A/B %	Net fees and com- missions mil EUR A	Operating income mil EUR B
Dreyfus Söhne & Cie. AG	CH	5.76	58.36	33.34	33.34	86	73	86	119
Banquiers-Les Fils Dreyfus & Cie. SA									
Banquiers									
EFG Bank AG	CH	-1.67	95.67	18.40	18.40	78	28	78	276
HSBC Private Bank (UK) Ltd	GB	5.78	59.27	36.13	35.57	73	21	73	338
PKB Privatbank AG	CH	4.39	82.31	18.97	18.97	70	65	70	107
Finanza e Futuro Banca SpA	IT	46.54	57.04	10.73	n.a.	68	100	68	68
Banca Esperia SpA	IT	3.58	87.05	12.60	12.50	65	79	65	83
Falcon Private Bank Ltd	CH	15.79	86.74	19.00	19.00	64	50	64	127
IWBank Private Investment SpA	IT	-3.68	97.96	21.37	19.40	61	59	61	103
Banca Leonardo Spa	IT	2.59	68.84	26.94	26.74	51	47	51	109
Merck Finck & Co Privatbankiers	DE	0.28	107.68	23.50	n.a.	49	81	49	60

(continued)

Table 13.1 (continued)

Bank name	Country	Return On Avg Equity (ROAE) %	Cost to income ratio %	Total capi- tal ratio %	Tier 1 ratio %	Net fees and com- missions mil EUR	A/B %	Net fees and com- missions mil EUR A	Operating income mil EUR B
Barclays Bank (Suisse) SA	CH	12.31	86.96	15.40	13.10	48	29	48	163
Bank J. Van Breda en Co NV	BE	8.29	55.60	15.92	14.49	45	33	45	134
Bantleon Bank AG	CH	6.46	63.31	36.87	36.87	42	136	42	31
EFG Private Bank Limited	GB	12.78	75.53	24.50	n.a.	42	37	42	115
BBVA (Suiza) SA	CH	4.93	72.89	n.a.	54.44	36	68	36	53
Banca Patrimoni Sella & C. SpA	IT	12.46	72.32	15.83	15.80	31	59	31	53
Banca Popolare di Sondrio (Suisse)	CH	4.51	78.52	n.a.	n.a.	31	36	31	84
Banca del Sempione	CH	5.41	77.72	n.a.	n.a.	27	76	27	36
Schroder & Co Bank AG	CH	11.16	90.50	25.40	25.40	26	39	26	67
Maerki Baumann & Co. AG	CH	1.71	97.21	17.00	17.00	26	78	26	33
Saxo Privatbank A/S	DK	9.72	69.84	14.30	n.a.	25	62	25	41

(continued)

Table 13.1 (continued)

Bank name	Country	Return On Avg Equity (ROAE) %	Cost to income ratio %	Total capi- tal ratio %	Tier 1 ratio %	Net fees and com- missions mil EUR	A/B %	Net fees and com- missions mil EUR A	Operating income mil EUR B
Semper Constantia Privatbank AG	AT	6.11	86.90	22.69	20.21	25	70	25	35
Bank CIC (Schweiz) AG-Bank CIC (Switzerland) Ltd	CH	2.81	82.16	n.a.	n.a.	22	21%	22	105
Average		7.87	79.96	20.75	22.23				
Median		6.47	82.12	19.00	19.40				
Standard Deviation		15.06	16.44	6.88	9.56				

Source: *Bankscope*

company, which provides the services, is relevant. Furthermore, the private banking/wealth management business models are supported by complex ICT systems, in order to keep under control risks on behalf of clients and own risk (Janssen and Kramer 2015) and to comply with the internal and external, multiple authority-based regulations (Carretta et al. 2015).

Without a strong risk culture set by the Board, it is a kind of “*Mission Impossible*”.

For this reason, the biggest worldwide wealth management global player, UBS Group AG in its Annual Report 2016 affirms: “*A strong and dynamic risk culture is a prerequisite for success in today’s highly complex operating environment. We are focused on fostering and further strengthening our culture as a source of sustainable competitive advantage. By placing prudent and disciplined risk-taking at the center of every decision, we want to achieve our goals of delivering unrivaled client satisfaction, creating long-term value for stakeholders...*”

Our risk appetite framework combines all the important elements of our risk culture, expressed in our Pillars, Principles and Behaviors, our Risk Management and Control Principles, our Code of Conduct and Ethics, and our Total Reward Principles. Together, these aim to align the decisions we make with the Group’s strategy, principles and risk appetite. They help provide a solid foundation for promoting risk awareness, leading to appropriate risk taking and the establishment of robust risk management and control processes” (UBS Group AG 2016a).

Already in its Compensation Report 2015, UBS underlined: “*We strengthened our emphasis on values to support cultural change within the firm. Therefore, we not only take into account what was achieved, but also how the objectives were achieved”* (UBS Group AG 2015b).

13.3 Conclusions

The private banking/wealth management sector shows a lot of promises to its customers. The most serious promise is the ability to control risk on behalf of clients. This promise is unreliable, if the ability to keep its own risks under control, is not manifested by the private bank/wealth manager.

As argued in this chapter, the “*know your client*” principle and the “standard” requirements requested by the MiFID framework are not conflicting, but complementary and the second ones are a kind of assurance from the client point of view. A strong risk culture requests stand-ard process that is fully compatible with a client-oriented organization.

The rapidly evolving regulatory environment implies for the wealth manager being able to invest in terms of risk management and risk control. The challenge is also how to keep under control the structure of cost–income ratio. In the recent years, the business for some wealth managers was close to the limit. In the current scenario, the income side is quite uncertain, with the only certainty of costs. This is why it is so important that the risk culture becomes effective and able to push all the organization to become more risk aware, without losing entrepreneurial spirit. The increasingly prudential regulation, the AML conduct regulation, the regulatory inputs on product and customer suitability put pressure on wealth managers’ IT and HR expenses, as in each organization the individual accountability consists in transforming costs in incomes and “starting at the Top” (BIS 2005), to ensure a strong risk culture by the Boards.

Notes

1. “*Although pure aggregation and pure individualization are perceived as opposing logics, this influence has not led to the emergence of two distinct groups of strategies. Instead, we find a continuum of strategies, depending on which functions lean to standardization and which to customization... But the best solution is not necessarily a compromise. In just the operating processes, some firms tilt one way or the other because of the needs of the customers they choose to serve, while others favor intermediate positions. The latter reflect an organization’s ability to customize partway back in its value chain, while retaining standardization for the rest. Since the cost of customization tends to increase in proportion to the number of product changes, it makes sense to customize the downstream functions first*” (Lampel and Mintzberg 1996).
2. The MiFID 1 framework (Markets in Financial Instruments Directive 2004/39/EU and 2006/73/EU) was revised in the light of regulatory

limitations identified following the financial crisis of 2008, when the European Commission approved the MiFID Review, or MiFID 2, also known as Directive (2014)/65/UE of the European Parliament and the Council of 15 May 2014 on markets in financial instruments. This amends Directive (2002)/92/EC and Directive (2011)/61/UE and the associated Regulation (UE) N. 600/2014 of the European Parliament and the Council of 15 May 2014 on markets in financial instruments and amends Regulation (UE) n. 648/2012. MiFID 2 comes into force on 3 January 2018.

3. Cfr. ESMA; Final report, *Guidelines for the assessment of knowledge and competence*”, December 2015.
4. “2. *When providing investment advice or portfolio management the investment firm shall obtain the necessary information regarding the client’s or potential client’s knowledge and experience in the investment field relevant to the specific type of product or service, that person’s financial situation including his ability to bear losses, and his investment objectives including his risk tolerance so as to enable the investment firm to recommend to the client or potential client the investment services and financial instruments that are suitable for him and, in particular, are in accordance with his risk tolerance and ability to bear losses.* 3. *Member States shall ensure that where an investment firm provides investment advice recommending a package of services or products bundled (...) the overall bundled package is suitable. Member States shall ensure that investment firms (...) ask the client or potential client to provide information regarding that person’s knowledge and experience in the investment field relevant to the specific type of product or service offered or demanded so as to enable the investment firm to assess whether the investment service or product envisaged is appropriate for the client. Where a bundle of services or products is envisaged (...), the assessment shall consider whether the overall bundled package is appropriate. Where the investment firm considers, on the basis of the information received under the first subparagraph, that the product or service is not appropriate to the client or potential client, the investment firm shall warn the client or potential client. That warning may be provided in a standardised format. Where clients or potential clients do not provide the information referred to under the first subparagraph, or where they provide insufficient information regarding their knowledge and experience, the investment firm shall warn them that the investment firm is not in a position to determine whether the service or product envisaged is appropriate for them. That warning may be provided in a standardised format*” (2014/65/EC Directive).

5. ESMA had already published a survey in early 2013 on the subject of “*Retailization in EU*”, warning against the fact that retail investors have neither the skills nor the experience to evaluate products that present a highly complex profile, and therefore run the risk of incurring unexpected losses. Faced with this situation, ESMA published an Opinion in February 2014 on the subject of “*MiFID practices for firms selling complex products*”, underlining the fact that the design process should be demand-driven and not determined by the needs of the intermediary, and in March 2014 published a document focusing on *good practices* that intermediaries are called to follow when they produce and/or distribute structured products.
6. Annex 2 of 2014/65/EC Directive confirms the taxonomy already established by MiFID 1, and stipulates that “*Clients who may be treated as professionals on request*”: “... *Investment firms shall therefore be allowed to treat any of those clients as professionals provided the relevant criteria and procedure mentioned below are fulfilled. Those clients shall not, however, be presumed to possess market knowledge and experience comparable to that of the categories listed in Section I.*

Any such waiver of the protection afforded by the standard conduct of business regime shall be considered to be valid only if an adequate assessment of the expertise, experience and knowledge of the client, undertaken by the investment firm, gives reasonable assurance, in light of the nature of the transactions or services envisaged, that the client is capable of making investment decisions and understanding the risks involved. The fitness test applied to managers and directors of entities licensed under Directives in the financial field could be regarded as an example of the assessment of expertise and knowledge.

In the case of small entities, the person subject to that assessment shall be the person authorised to carry out transactions on behalf of the entity.

In the course of that assessment, as a minimum, two of the following criteria shall be satisfied:—

the client has carried out transactions, in significant size, on the relevant market at an average frequency of 10 per quarter over the previous four quarters,—

the size of the client’s financial instrument portfolio, defined as including cash deposits and financial instruments exceeds EUR 500 000,—

the client works or has worked in the financial sector for at least one year in a professional position, which requires knowledge of the transactions or services envisaged.

Member States may adopt specific criteria for the assessment of the expertise and knowledge of municipalities and local public authorities requesting to be treated as professional clients. Those criteria can be alternative or additional to those listed in the fifth paragraph.”

7. In UK, the Retail Distribution Review forced the adoption of clear business model, posing high standard for the independent financial advice, but “*One of the results of the RDR is that it has created an ‘advice gap’ for customers who are seeking to make investments but do not have access to advice for a variety of reasons such as cost, trust and knowledge. This issue has become so widely reported that the Government has announced the Financial Advice Market Review which will examine how financial advice, considered in its broadest sense, could work better for consumers*”, Brewin Dolphin Annual Report 2015, see also Ring (2016).
For a literature review on “Business model”, see Zott et al. (2010).
8. For a literature review on “Business model”, see Zott et al. (2010).
9. The sample has been selected, using the Bankscope database.

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14

Attitude Toward Risk and Financial Literacy in Investment Planning

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14.1 Introduction

Dictionary definitions imply that risk in common language is related to negative events. For instance, the Oxford dictionaries' (Oxford dictionaries 2016) definition of risk refers to "a situation involving exposure to danger," and in additional explanations of risk is related to "the possibility that something unpleasant or unwelcome will happen." In the Cambridge dictionary, risk is "something bad that might happen" (Cambridge dictionary 2016). In financial and business glossaries, the definition of risk differs in being related to the uncertainty of both positive and negative events. In a financial framework, risk is defined as "the measurable uncertainty that an investment will not generate the expected returns" (Lexicon—The Financial Times 2016) or "the chance

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that an investment's actual return will be different than expected" (Investopedia 2016).

The contrast between the common-sense definition of risk and its technical financial definition represents our starting point for an analysis of attitude toward risk (or "appetite for risk") in lay man's financial investments. If risk is the likelihood of a negative outcome, a rational decision should obviously be to avoid or minimize risk. In contrast, if it is understood that risk is also related to a positive outcome, it may instead be rational to take risk. In financial markets, investors are driven toward unbiased asset allocations by knowledge of the (usually) positive relationship between risk and returns and thus awareness that positive returns are attained only by taking risk. Conversely, a lack of knowledge of a basic financial concept such as risk may represent an obstacle to optimal and efficient asset allocations.

Assuming that all relevant information about an investment is available and the investor understands and manages to analyze this information in order to assess risk and expected returns of an investment product, the decision to invest or not will only be influenced by risk tolerance. Thus, the same investment product may be purchased by an investor with a higher risk tolerance and not by an investor with a lower risk tolerance. Yet, in a market which is not ideal in such a way that every investor understands the available information and is able to use it to fully assess the risk and the returns of investment products, the lack of knowledge of the concept of financial risk may render available information ineffective in reducing the assessed risk, with the result that it remains high. We conjecture that the risk attitude of financially illiterate investors would, *ceteris paribus*, be more negative than the risk attitude of financially literate investors.

The aim of the present study is to investigate whether financially illiterate individuals have more negative attitudes toward risk in investments than financially literate individuals. Using survey data from three European countries collected in 2015, a measure of financial literacy is developed from answers to multiple-choice questions. The measure is compared to a measure of the survey respondents' risk attitude. Demonstrating a negative relationship between financial literacy and risk attitude will contribute to an increased understanding of investor's

behaviors. For instance, a negative attitude toward risk due to the inability to use the available information and to understand investment products may explain the preference for investments having low risk and low returns, deviating from optimal asset allocations. A low stock-market participation may be related to an unjustified negative risk attitude and, even in the case of stock-market participation, a negative risk attitude may cause an overreaction to a fall of the market with an increase of volatility. Strongly risk-averse investment behavior due to financial illiteracy, causing a negative risk attitude, may lead to decisions to delegate investment decisions. Even though delegating to a financially literate adviser should in general be rational, delegation also incurs an unknown risk of being a victim of financial fraud.

14.2 Previous Research on Financial Literacy and Risk Attitude

The analysis of investors' behavior, their attitude toward financial risk, and the role of financial literacy in risk assessment requires a clear conceptualization and definition of financial literacy. Several studies since the 1990s have proposed definitions of financial literacy. They all include as key elements (i) an ability to understand financial concepts, (ii) awareness of financial products, and (iii) skill in making effective financial decisions. In one of the first definitions, financial literacy was defined as "*the ability to make informed judgements and to make effective decisions regarding the use and management of money*" (Noctor et al. 1992). Later studies recognized the need to separate financial knowledge from financial skills. Knowledge of basic general economic principles (of inflation, interest, risk and returns, etc.) is considered as a prerequisite to develop financial skills defined as the ability to apply such knowledge in making financial decisions. The US President's Advisory Council on Financial Literacy (2009) referred to financial literacy as "*the ability to use knowledge and skills to manage financial resources effectively for a lifetime of financial well-being.*" In reviewing over 70 studies with the aim to identify the key elements of financial literacy in providing a comprehensive definition, Huston (2010)

reached the conclusion that “*financial literacy consists of both knowledge and application (ability) of human capital specific to personal finance.*” Remund (2010) reached a similar conclusion with a definition of financial literacy that includes a clear distinction between financial knowledge and financial skills, “*financial literacy is a measure of the degree to which one understand key financial concepts (knowledge) and possesses the ability and confidence to manage personal finances through appropriate, short-term decision-making and sound, long-range financial planning.*” Other studies (e.g., FSA 2005) have suggested that attitude toward making financial decisions should be included as a third element. It is then assumed that financial knowledge and the ability to apply the knowledge in making financial decisions would not be sufficient to avoid mistakes if individuals do not have confidence. Whereas confidence in making financial decisions reflects personal factors, perhaps influenced by psychological and cultural biases, financial knowledge and financial skills are objective and not as easily influenced by such biases. Even though financial knowledge and financial skill in themselves are not sufficient for making rational financial decisions if influenced by a negative attitude, low financial knowledge is still likely to substantially reduce the ability to make rational financial decisions. It should be noted that previous research on financial literacy (reviewed below) has usually been confined to merely measuring financial knowledge. Caution needs to be exercised then in interpreting the results of such studies bearing in mind that they may only be valid when applied to low levels of financial knowledge. It is at the same time unfortunate that most studies have only demonstrated low financial knowledge, thus reducing the possibility to investigate the consequence of high financial knowledge.

Several studies have examined how much people know about saving and investing. In 2003, the US National Association of Securities Dealers (NASD 2003) conducted an online survey to investigate investors’ level of financial knowledge. Ten basic knowledge questions were asked (e.g. what are the risks of investing in stocks, bonds, T-bills; what is the relationship between risk and returns, etc.). Respondents were people in the 21–69 age range who had made at least one stock, bond, or mutual fund transaction between October 2002 and early

April 2003. Despite the fact that the sample probably on average was more knowledgeable than the general population, the results showed that only 35% were able to answer seven out of the ten basic knowledge questions correctly. Almost 10 years later the Security and Exchange Commission (SEC 2012) conducted a survey of about 4800 participants within the American investors finding that many investors did not understand key financial concepts such as diversification or the differences between stocks and bonds, and were not fully aware of investment costs and their impact on investment returns. Lusardi and Mitchell (2006) reported similar results from other countries. They stressed that in a German survey conducted in 2003, most respondents (80%) were confident in their understanding of financial investments but only 42% could answer half of the survey questions correctly. In their paper, reference is made to a Japanese consumer finance survey showing that 71% of the adult respondents knew little about equity and bond investments, and more than 50% lacked any knowledge of financial products. Even in this case, much does not seem to have changed over time because a few years later, Sekita (2011) analyzed a Japanese nationwide representative sample of about 5000 individuals (males and females aged 20–69 years) and found that more than half failed to correctly answer a question, namely that, which is the more risky investment option of investing: whether in a single stock or in a stock mutual fund?

Some other research studies have investigated the possible consequences of low financial knowledge. In a study of retirement saving needs, Lusardi (2004) reported that participants in financial education seminars became more likely to hold stocks in their portfolios. In a case study of retirement planning by 225 employees of an American firm, Dolvin and Templeton (2006) found that the attendance of a seminar about the functioning of different investment options was associated with increased portfolio diversification and improved risk management. In their conclusions, the authors highlighted how improved financial knowledge made the employees switch to different risk–return combinations in order to create more efficient portfolios. By doing this, they reduced their negative risk attitude in such a way that they allocated a larger portion of their investments to equities. In analyzing data from a survey of Italian customers of one of the main national banks, Guiso

and Jappelli (2009) found that poor financial literacy is a significant factor in explaining low portfolio diversification. They also reported that only 39.9% of the respondents agreed that financial diversification means “to invest in assets to limit risk exposure.” In a study assessing the welfare cost of financial mistakes by Swedish households, Calvert and Campbell (2005) showed that more financially literate households are more likely to buy risky assets and invest more efficiently. Kimball and Shumway (2006) used data from a nationally representative sample of approximately 500 American adults and reported a large positive correlation between financial sophistication and rational portfolio choices.

Low financial literacy is not only related to suboptimal asset allocations. Using data from Chile, Behrman et al. (2010) showed that a lack of general financial knowledge may be associated with a later retirement age and other negative retirement outcomes. A positive role of financial literacy in financial good practices was found by Clark et al. (2003). Surveying a sample of American adults, they found that improving the understanding of basic financial principles made individuals likely to re-evaluate their savings and consumption related to retirement plans. A better understanding of how their future pension depends on savings encouraged many workers to increase their saving rate in order to achieve modified retirement goals. In their conclusions, the authors suggested that increased knowledge may lead households to become less risk averse and thus increase investments in assets with a higher level of risk and returns.

The role of financial literacy in explaining investors' risk attitude was examined by Agnew and Szykman (2004). They stressed that information overload has the potential to reduce risk taking and push investors to refrain from purchasing investment products. By testing different scenarios, it was found that increasing the number of investment options and decreasing the differences between options resulted in more choices of a default option (if present) or in not investing at all. The results furthermore showed that financially illiterate individuals choose the default options in 20% of cases, while the same frequency of choice of the default option for the financially literate individuals is 2%. In the study, it was also reported that financially illiterate individuals became overwhelmed by a choice task entailing comparisons between available investment alternatives. The consequence was that they preferred

“an easy way out”. Such a consequence for financially illiterate individuals was also noted by the Financial Service Authority in the UK (FSA 2004) in analyzing consumers’ understanding of financial risk. It was found that those who were most worried by risk actively sought to avoid being exposed. These individuals thus avoided investment or limit investment to saving accounts. At the same time, people with low and high financial literacy differ by the strategies they use to assess risk. Those having a low financial literacy would rely more on the fund managers’ reputation and information in the news than on a financial adviser. Those having a high financial literacy would instead rely on information about past performance, the fund manager, and available information about the company. In addition to this evidence, suggested effects of a negative risk attitude and low stock-market participation rate for investors with low financial literacy have been found in The Netherlands (van Rooij et al. 2011), Sweden (Almenberg and Dreber 2011); and France (Arrondel et al. 2012), while negative effects on retirement planning, due to a lack of financial literacy, have been found in the USA (Lusardi and Mitchell 2011; Yoong 2011), Japan (Sekita 2011), Germany (Pahnke and Honekamp 2010), Italy (Fornero and Monticone 2011), Sweden (Almenberg and Säve-Söderberg 2011), The Netherlands (Alessie et al. 2011), and Switzerland (Brown and Graf 2013).

Financial literacy seems to matter also when the quality of the investment is considered. Muller and Weber (2010) used data from an online survey of 3228 respondents. The survey conducted in 2007 in cooperation with a German newspaper (Frankfurter Allgemeine Sonntagszeitung) showed that less financially literate people are less likely than more financially literate people to invest in low-cost fund alternatives. Moreover, it was shown that financially literate investors make a more realistic return and risk assessments concerning their investments, indicating that financially literate people are better equipped to learn from their past financial mistakes.

The overall picture that comes out from the review of the research quite clearly supports the conclusion that a connection exists between financial literacy and financial behaviors and that a lack of financial literacy can explain a relevant part of the investment mistakes. Our next aim is to increase the understanding of this connection.

In previous studies, financial literacy is measured by using only few items (answers from 3 to 5 questions about financial knowledge) in investigating general financial principles (e.g., inflation, compound interest, and bond pricing), whereas data in our study are more extensive, by increasing both the quantity and quality of measurement. Furthermore, the data include ten items specifically developed to assess knowledge about risk in investment (or “investment risk”). Using a measure of financial literacy that best fits with the aim of the study to investigate the relation between financial literacy and risk attitude, the reliability and the validity of the results will likely increase. Aggregating data from three different countries will counteract cultural and national biases that would otherwise affect the external validity of the results. Moreover, a direct measure of risk attitude is used instead of being inferred indirectly from other measures. By asking people about their risk attitude in saving and investments without inferring it from their portfolio composition, we are able to measure their risk attitude isolated from any external influences (e.g., broker recommendations, financial advices, etc.) that would affect their investment decisions and asset allocation.

14.3 Study

14.3.1 Method

During 2014 a research network between universities, financial authorities and NGOs—the Consumer Finance Research Center (CFRC)—was developed with the aim to stimulate studies on financial literacy and consumer financial behavior. The Italian branch of the network at the University of Rome “Tor Vergata” (Rome, Italy) played a leading role in the organization and management of the network. In 2015, a survey of consumers’ financial literacy and financial behavior was conducted in different countries. Here we report the data collected in Italy, Spain, and Sweden. In all the countries, participants were adults (at least 18 years old) and stable residents of the country. A total number of 1150 individuals were recruited. At a national level, 500 observations were analyzed for Italy and Sweden and 150 observations for Spain. We choose to here report answers to a subset of ten multiple-choice

Table 14.1 Percentage distribution of correct answers to financial literacy questions in the country samples

	Number of correct answers										
	0	1	2	3	4	5	6	7	8	9	10
Italy%	7.8	8.6	11.2	11.4	15.3	13.3	11.8	11.2	7.2	2.2	0.2
	67.5						32.5				
Sweden%	22.8	8.3	9.6	7.9	9.3	13.2	8.5	8.3	9.1	2.7	0.2
	71.2						28.8				
Spain%	8.8	2.7	3.4	5.4	6.1	15.5	18.2	15.5	12.2	11.5	0.7
	41.9						58.1				

Source Consumer Finance Research Center (CFRC) 2015 financial literacy survey

Table 14.2 Percentage distribution of risk attitude in investment planning in the country samples

	Risk attitude (1 = Low; 7 = High)								"Do not know" OR "Prefer not to say"
	1	2	3	4	5	6	7		
Italy%	20.1	12.7	14.1	15.3	15.9	9.4	3.0	9.4	
Sweden%	13.8	12.4	10.7	20.1	8.6	5.8	2.8	25.6	
Spain%	22.3	10.8	18.9	12.8	12.8	8.8	2.7	10.8	

Source Consumer Finance Research Center (CFRC) 2015 financial literacy survey

questions related to knowledge of investment risks. The topics of the questions included default risk, liquidity risk, interest rate risk, risk diversification, and risk and mutual funds. The sum of correct answers to these questions is used as an index of financial knowledge. With the aim to test the role of financial literacy in explaining the attitude to risk in investment, the values of this index have been summarized in a dichotomous variable equal to one if the number of correct answers to the ten questions on financial risk knowledge is larger than 5 and zero otherwise. Table 14.1 shows the percentage distribution of correct answers in the three country samples.

Answers to the question "Thinking of your financial investments, how willing are you to take risks?" represented the direct measure of risk attitude. The respondents answered on a seven-step numerical scale ranging from one (low) to seven (high). The percentage distributions of the risk attitude in the three country samples are reported in Table 14.2.

14.3.2 Results and Discussion

A cross-tabulation of financial literacy and risk attitude reveals a more negative attitude toward risk in investments for individuals who are less financially knowledgeable than for those individuals who are more financially knowledgeable. To find statistical support for this observation, independent *t*-tests were performed comparing the risk attitudes by groups with high and low financial knowledge. The *t*-tests of the mean differences in the risk attitudes between individuals with high and low financial literacy are shown in Table 14.3. The two groups of individuals varying in financial knowledge are dichotomized by the number of correct answers lower than 6 or higher than 5, whereas risk attitude is measured on the 1–7 scale. The *t*-tests are reported separately for each country (Italy, Sweden and Spain). As may be seen, the results confirm that low financial literacy is related to a more negative attitude toward risk. Thus, the mean difference between the low and high financial literacy groups is statistically significant for all three countries. In Sweden, the difference is the highest (0.97), while in Italy it is the lowest (0.32).

The results suggest that financial literacy, even if only measuring financial knowledge, has an influential role in investment decisions. The fact that a lack of knowledge increases individuals' negative risk attitude may increase the likelihood that they misallocate their savings, with not only negative consequences for the investor but also for the functioning of the financial system. A hypersensitivity to risk biasing consumers

Table 14.3 *t*-tests of the mean differences in risk attitude between high and low financial literacy groups in the three different countries

	Risk attitudes [1–7]		
	Italy	Sweden	Spain
Low financial literacy (from 0 up to 5 correct answers on 10)	3.27	3.01	2.69
High financial literacy (at least 6 correct answers on 10)	3.59	3.98	3.54
Pr ($T < t$) =	0.0364**	0.0000***	0.0041***
* < 0.10; ** < 0.05; *** < 0.01			

Source Authors' analysis on data from the 2015 CFRC financial literacy survey

with low financial literacy may explain their reluctance to invest in the stock market and the acceptance of negative rates of return from investment grade bonds. At the same time, an extreme risk aversion and possibly lack of confidence in making investment decisions will expose financial consumers to the risk of buying investment products that are not suitable for their financial needs due to the misinterpretation of the functioning of the product or because of the inappropriate selling practices of brokers and issuers. At the same time, an investor who does not possess the basic knowledge about investments and is only looking for safe investment options may easily become the victim of financial frauds that promise zero risks and high returns.

14.4 Conclusions

This study investigated the conjecture that individuals with a lack of financial knowledge would have a negative risk attitude that may seriously bias their investments. Data from Italy, Sweden, and Spain collected in 2015 by three national surveys, related to the same research project and based on the same questionnaire, were used to measure financial literacy and risk attitude. The results showed that the risk attitude was on average more negative among the respondents who were classified as low in financial knowledge compared to those who were classified as high in financial knowledge.

The evidence that financial consumers lacking financial literacy (or only knowledge) have a negative attitude toward taking financial risks may have negative consequences both at a micro and macro levels. Individuals who overestimate the risk of investing in risky assets will not be able to construct optimal portfolios in a risk–return framework. At the same time, a preference to delegate the investment decisions to financially literate others may expose them to the risk of unfair selling practices or even to the risk of being the victim of financial frauds. If a high portion of investors in a financial market are affected by an extremely negative risk attitude, this would contribute to phenomena such as very high market volatility and irrational preferences for investment options with negative returns. The negative consequences of a

financial system with, on average, investors with poor knowledge should be a warning and a strong incentive to improve financial education in order to augment rational investments and bringing the market closer to being efficient.

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15

Bank Credit Risk Management and Risk Culture

Doriana Cucinelli and Arturo Patarnello

15.1 Introduction

Since the financial crisis, banks have taken special measures to mitigate the forthcoming financial losses caused by mismanagement of loan allocations and credit recoveries. Thus, at present, credit risk management is a critical component of the comprehensive approach to risk management in the banking sector (Arora and Kumar 2014). To improve the consistency of correct risk management in general and of credit risk management in particular, the financial authorities and the financial organizations published numerous documents on the good practices of risk management. In recent years, risk management has become a tool for spreading risk culture. The Financial Stability Board (2014) contends that “*a sound risk culture should emphasize throughout the institution the importance of ensuring that: (a) an appropriate risk-reward balance consistent with the institution’s risk appetite is achieved*”

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when taking on risks; (b) an effective system of controls commensurate with the scale and complexity of the financial institution is properly put in place; (c) the quality of risk models, data accuracy, capability of available tools to accurately measure risks, and justifications for risk taking can be challenged, and (d) all limit breaches, deviations from established policies, and operational incidents are thoroughly followed up with proportionate disciplinary actions when necessary”.

This study aims to underscore both the role and the collocation of the credit risk management system in a sample of Italian banks and the quality of processing and information flows linked to them.

The chapter is organized as follows: Sect. 15.2 provides a brief literature review and discusses the regulations on credit risk management as well as the role of the Chief Risk Officer (CRO). Section 15.3 describes the sample and the survey, while the results of the analysis are reported in Sect. 15.4. The last section presents the study’s discussion and conclusions.

15.2 Literature Review and Regulations

15.2.1 Literature Review

After the crisis of 2007, the financial authorities and the financial organizations emphasized the importance of ensuring a strong risk culture in financial institutions. In recent years, many documents have been published, emphasizing the importance of sound risk management and risk governance.

Banking is, by nature, a risky business, and because the Italian banking system is primarily focused on lending, credit risk is the most important risk that the banks must manage.

The financial crisis of 2007 and the various financial scandals of recent years, such as the Libor scandal, have highlighted the importance of a strong risk culture in the financial industry. Businesses understand the importance of a high-quality credit portfolio as evidence of a solid credit risk culture; the absence of a sound credit culture indicates that credit risk is managed inefficiently and the credit process is deficient in

a proper and rigorous credit risk analysis. In particular, the credit risk culture is the basis of credit risk management in that it is the primary driver of all lending decisions and may have a strong impact on profits resulting from the lending activities (Adje 2015). Caouette et al. (1998) defined the credit risk culture as the collection of principles, actions, deterrents and rewards within the lending organizations. However, this culture can only be developed if the principles are properly communicated throughout the organization and to all individuals within the organization.

To establish a sound credit risk culture and create the framework for such a culture, the financial intermediaries, especially banks, must communicate risk tolerance and risk appetite.¹ The Board of Directors has the primary role of promoting the credit risk culture throughout the bank structure because it is responsible for approving the credit policies that will be implemented by the management. The Board of Directors should also define the tone at the top,² and it has the important role of spreading the risk culture at all levels, from management to employees (management and operational structure).

In recent years, a clear and shared risk culture has become a strategic tool for the effective management of banks, which is a critical issue for the Italian banking system, given that a large portion of the industry has traditionally adopted a business model focused on lending activity. This choice has resulted in credit risk being the key risk due to its overwhelming influence on bank performance (Sinkey 1992) and bank stability (Spadaford 1988).

Supervisors have provided an extensive number of documents in recent years on risk management practices, risk governance and risk culture. Many studies have also examined the importance of integrated risk management,³ particularly in the 1990s and 2000s (Miller 1992; Santomero 1997; Colquitt et al. 1999; Microlis and Shaw 2000; Cumming and Mirtle 2001; Nocco and Stulz 2006; Al-Tamimi and Al-Mazrooei 2007; Matthews 2013).

Miller (1992), Santomero (1997), Colquitt et al. (1999), Microlis and Shaw (2000) and Cumming and Mirtle (2001) focus on the process of risk management in the organization and define the types of risks that are considered, those that are being absorbed and the way

these risks are being managed. Moreover, they assess the characteristics and the extent of integrated risk management. The study underscores the fact that the role of the risk manager, during those years, was continuously evolving and that the pure risk manager was increasingly becoming involved in the management of a broader spectrum of risks.

More recently, Al-Tamimi and Al-Mazrooei (2007) highlight that the UAE banks are somewhat efficient in managing risk and that risk identification and risk assessment and analysis are the most influencing variables in risk management practices. In addition, they note significant differences between national and foreign banks in the UAE with respect to all aspects of risk management, i.e. assessment, analysis, risk monitoring and control. Conversely, Matthews (2013), based on a sample of 25 Chinese banks, evaluates the performance of the risk management system in terms of its contribution to bank profitability and uses qualitative data, obtained from a questionnaire, to construct an index of risk management practice and organizational risk practices.

Among others, Diamond and Rajan (2009) emphasize that errors in bank governance played an important role in explaining the bad performances of banks during the financial crisis. In addition, Kirkpatrick (2009) finds that failures or weaknesses in corporate governance processes are one of the factors that led to the financial crisis. Moreover, Acharya et al. (2009) indicate that a strong and independent risk management system is a prerequisite for allowing banks to address today's risky financial environment.

The soundness of risk governance has become one of the most important aspects in the bank management. Mongiardino and Plath (2010) contend that good risk governance should consider at least three important aspects, specifically, (a) there should be a dedicated risk committee at the board level, (b) the majority of its members should be independent and (c) the Chief Risk Officer should participate in the bank's executive committees. Despite regulatory pressures, it seems that only a small number of banks have improved their risk governance since the beginning of the financial crisis.

Hau and Thum (2010) argue that although large banks usually have a CRO, the position and line of reporting do not ensure an appropriate level of accessibility. However, before the financial crisis of 2007,

the majority of banks did not even have a CRO, but only had an individual who oversaw risk management and reported directly to the chief financial officer. In other words, this individual did not have access to or influence on the short-or long-term strategies of the bank (Aebi et al. 2012). Hau and Thum (2010) further emphasize that the last financial crisis clearly demonstrated that the business of banks entails high risks. Therefore, they suggest that perhaps the CRO should hold a more important and powerful role within the bank organization. They also indicate that during the financial turmoil, banks with a CRO who reported directly to the Board of Directors performed significantly better than banks with CROs who reported to the chief executive officer. This evidence is consistent with the hypothesis that the reporting line of the CRO is important to explain the severity of a bank's crisis as the CEO and CRO may have conflicting interests and, for example, if CRO is required to report to CEO, the risk agenda may not receive the appropriate attention.

Ellul and Yerramilli (2013) study the role of risk management in banks by creating a risk management index based on the characteristics of the CRO, such as participation on the Board, remuneration, participation in executive committees and on the characteristics of the risk committee based on the members' backgrounds and on the number of meetings held. The authors further note that banks with a stronger risk management, i.e. with a higher risk management index, in place before the onset of the financial crisis revealed, during the financial turmoil, lower risk exposure, a smaller fraction of non-performing loans, a better operating performance and higher annual returns. "Overall, findings suggest that a strong and independent risk management system can curtail tail risk exposures at banks and possibly enhance value, particularly during crisis years" (Ellul and Yerramilli 2013).

At the same time, the effects of the crisis emphasized the relevance and importance of effective credit risk management processes, especially for commercial banks whose core business is lending, because their performances are strongly affected by credit risk. Recently, the analysis of the effectiveness and evolution of credit risk management has become an increasingly popular topic in the literature. However, some of the studies also focus on the effect the new requirements of the Basel III

framework may have on the risk management profile (Fatemi and Fooladi 2006; Anbar 2006; Abdelrahim 2013; Arora and Kumar 2014; Macerinskiene and Ivaskeviciute et al. 2014).

In particular, Arora and Kumar (2014) discuss three important aspects of credit risk management, namely, organization, policies and strategy, and operations and systems. Their study suggests that banks develop two separate areas for the CRM operations and systems, one at the transaction level and a second one at the portfolio level.⁴ They further note the importance of monitoring practices and the need for risk assessment at the credit portfolio level.

15.2.2 Risk Management Regulations

The 2007 turbulence stressed the crucial need for a strong governance and for effective internal control mechanisms to ensure the stability of banks. As a consequence, the actions of supervisors aimed at strengthening the framework of prudential rules have involved not only the capital adequacy profile but also a set of rules for the corporate governance system and for the internal control of banks (Basel Committee 2010; CEBS 2010; EBA 2011). Nonetheless, regulators claim that the credit risk is one of the most important risks that banks have to face.

One of the most important novelties introduced by the EBA in the field of risk management involves the primary role assigned to the internal control system. In particular, the EBA (2011) underscores the importance of a three-level line of defence.

At the first level, the risk management system has the responsibility of identifying, measuring and managing bank risks, and thus, its role is increasingly important and strategic. The internal control presides over the second line of defence via a role aimed at ensuring the efficiency and effectiveness of banking activity, especially for those businesses that may generate risks. Finally, the third line of defence is the evaluation and revision actions regarding the internal processes and the quality of the organizational design. This line of defence must be carried out by internal auditing.

With regard to risk management, the EBA (2011) stresses the advantage of a vertical structure, where the actions under the responsibility of risk management begin with the intervention of the credit committee whose members are appointed from within the Board. Thus, the activities of risk management involve the chief risk officer (CRO) and the credit risk function.

More generally, the CRO is asked to pursue a horizontal integration of all other second-level control functions (EBA 2011). The CRO thus becomes a strategic position in the bank because he is the person that must inform and train the employees and act as the conduit between the different control functions.

On 27 June 2013, Regulation (EU) n. 575/2013 (CRR) and Directive 213/36/EU (CRD IV) were published. These directives, which introduced to the European Union the rules as defined by the Basel Committee on December 2010, were intended to promote a more solid and resilient banking system.

The Directive 2013/36/EU (below CRD IV) establishes the new capital requirement for banks and specifically addresses issues regarding credit risk management and internal rating models. The CRD IV states a preference for IRB models when banks have to manage credit risks of significant level, while it suggests using the standardized model only when the credit risk is low. In the text of the CRD IV, the European Commission asks national supervisors to control lending activity, to ensure that it is based on solid and well-defined criteria and to ensure that the process for approving, amending, renewing and refinancing credit is clearly defined. In Italy, the CRD IV was implemented in the national regulations issued by Banca d'Italia, i.e. 285/2013 (4° update) and 263/2006 (15° update).

In the Appendix of the 285/2013 Regulation Banca d'Italia, the required standards for internal control and risk management are detailed. With regard to internal control, banks are required to describe their internal control system and to provide information on various aspects of it, such as the methodology and frequency of audits. With respect to risk management, and specifically credit risk management, Banca d'Italia asks banks to describe their lending processes for single transactions and their monitoring actions regarding credit portfolios.

In a more recent version, Regulation 263 details the main characteristics of the rules regarding both internal control and risk management. The regulation specifically emphasizes the responsibility of governance and management in planning and coordinating the functions as related to internal control and risk management. The main responsibility with respect to risk is assigned to the internal control team. This team is given complete oversight of the adequacy, functionality and reliability of controls to ensure that they are consistent with the bank's risk appetite framework. Internal control activities include three different and independent functions, namely, the compliance function, risk management and the internal audit. The 263 Regulation also assigns to the risk management team the role of defining the risk appetite framework and of implementing an adequate risk management system that complies with the definition provided by the Financial Stability Board (FSB), which published in 2013 the principles for an effective risk appetite framework.

Though the document focuses on the risk profile of SIFIs, the principles are also relevant for the supervision of financial institutions and financial conglomerates more generally, including insurance companies, securities firms and other non-bank financial institutions.

To ensure the effectiveness of the RAF, they also highlight the importance of adequately defining its main components, i.e. risk capacity, risk appetite, risk limits and risk profile of banks.

Considering the way the RAF may affect the risk management processes, the FSB document recognizes that a clear framework on bank risk may strengthen the risk culture of financial institutions and have a positive critical influence on the implementation of sound risk management practices.

The FSB mainly stresses the responsibilities of the Board of Directors and top management, i.e. the chief executive officer, chief financial officer and chief risk officer, in building a solid risk governance system.

From the same perspective, the Financial Stability Institute (2015) proposes the creation of a risk committee within the Board of Directors. This committee is to be independent from other committees, such as the control committee, and it is suggested that the chief risk officer (CRO) regularly attends the board meetings and be appointed to enhance the expertise of the board members regarding risk management issues.

Finally, the guidelines provided by the Basel Committee in 2015 on corporate governance principles for banks draw attention to proper risk management procedures and underscore the need for sound risk management systems to be independent and to be guided by an independent CRO who is equipped with adequate resources and able to easily access the bank's board to discuss all strategic issues regarding risk.

15.3 Sample and Survey

15.3.1 Sample

We examine a sample of 25 Italian banking groups that represent approximately 40% of the Italian banking system in terms of total assets. The respondents represent 28% of the initial sample to which the survey was addressed.

The sample includes eight commercial banks (five listed and three not listed), 13 cooperative banks (three of which are listed), two not listed saving banks, one listed investment bank and one not listed financial company (see Chart 15.1).

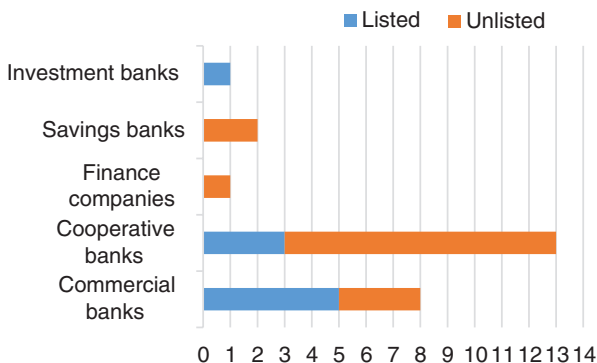


Chart 15.1 Sample composition by bank specialization

15.3.2 Survey

The survey examines a section of a questionnaire sent to the Italian banks during the first half of 2016 with respect to the organizational structure and the mode of operation regarding credit risk management and the role of the chief risk officer. The survey was conducted with the support of the AIFIRM (Italian Association of Financial Risk Manager).⁵

The entire questionnaire is divided into four sections. Section 15.1 collects information about the bank (eight questions); Sect. 15.2 analyses the organization's CRM system (13 questions); Sect. 15.3 investigates the CRM practices of the organization (36 questions) and Sect. 15.4 examines the organization's risk appetite framework (14 questions).

According to the aim of this study, the analysis is based on the issues investigated only in the first two sections. The boundaries, as stated, allow us to obtain adequate information on the credit risk management organization within the Italian banks and on the role of chief risk officer. This allows banks to highlight and consolidate their risk culture. In fact, the information serves as an important dissemination tool regarding the awareness of risk within the organization.

Moreover, through the questions proposed in these sections of our survey, the information investigated contributes to improving the effectiveness of the CRM system and guides decisions concerning risk governance in banks.

We asked four experts, two academics and two practitioners,⁶ to examine and assess the questionnaire's content and completeness

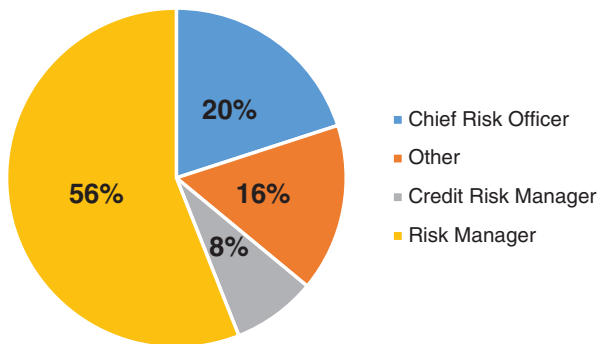


Chart 15.2 Participants on the survey

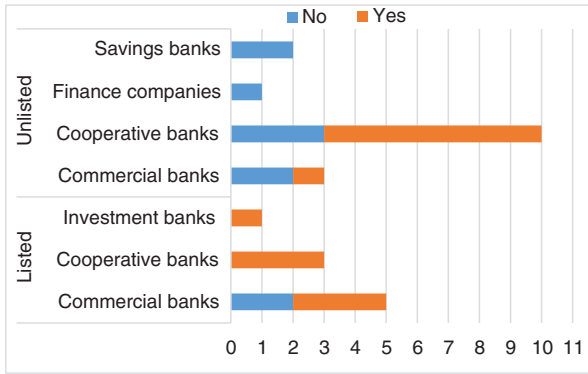


Chart 15.3 The increase in the number of CRM staff

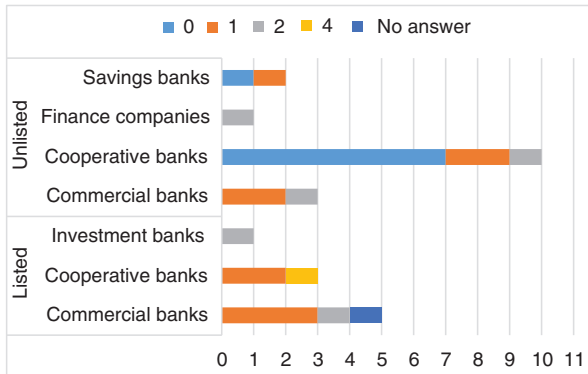


Chart 15.4 Number of credit committees in the credit risk management system

(DeVellis 1991; Al-Tamimi and Al-Mazrooei 2007; Abdelrahim 2013). All remarks and suggestions were considered to improve the quality of the survey.

The questionnaire was addressed mainly to the chief risk officer, but in some cases, the credit manager or the risk manager completed the questionnaire.

In 20% of the cases, the answers were provided by the CRO, whereas the risk manager responded in 56% of the cases, and the credit risk manager responded in 8% of the cases. The remaining surveys were completed by other individuals in the organization (Chart 15.2).

Results

The results and the findings obtained from the first and the second sections of the questionnaire are briefly discussed.

15.4.1 Credit Risk Management: Size and Organization

The number of employees involved in risk management gives evidence of the size and the relevance of the system. The average is 32 employees, with the biggest staff composed of 350 employees. On average, 45.5% of the personnel engaged in the risk management system are also involved in credit risk management.

If we consider bank specialization, banks with a larger risk management staff are commercial banks, while cooperative banks, with the exception of two large banks, have a risk management, staff of only two or three employees. When the staff is so limited, there is no real distinction between credit risk management and the wider risk management expertise and responsibilities as the personnel address primarily with credit risk issues.

According to the survey, a large percentage of the responding banks (60%) expects an increase in the number of full-time employees in the area of credit risk management (see Chart 15.3) with the employee base growing by 33%, on average, over the next year.

Eight unlisted banks (one savings bank and seven cooperative banks) do not have a credit committee external to the Board of Directors, while in all listed banks, there is at least one credit committee. One major cooperative bank has four credit committees external to the BoD (Chart 15.4). This is evidence of a more structured credit risk management system in listed banks, which are also usually the larger ones.

In banks that have committees external to the Board of Directors, the committee meetings are planned every 3 months (nine cases) or monthly (eight cases). In two listed banks, the risk committee meetings are not ruled by a stated calendar (Chart 15.5).

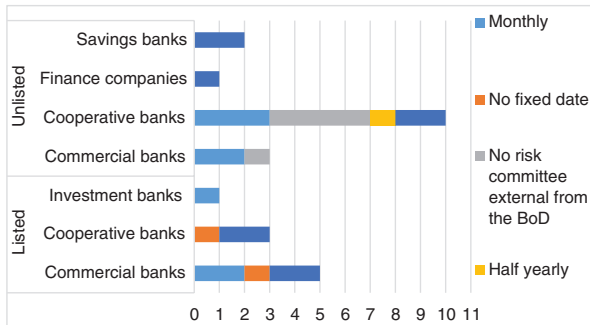


Chart 15.5 Number of meetings of risk committees external to the BoD

The frequency of the meetings provides further evidence about the growing attention given to the monitoring and management of risks. Considering the findings, it may also be concluded that the awareness of risk is independent of the size of the bank and of its status of either a listed or unlisted company.

Mogiardino and Plath (2010) argue that good risk governance includes a dedicated risk committee at the board level. Even supervisors, during the financial crisis, stressed that the control committee and the risk committee should be separate. In our sample, even in the few cases where a risk committee is in place, it is joined with the control committee. The requirements of the authorities, however, are beginning to change, though with regard to unlisted banks, the change is slow, for example, less than the 50% have a risk committee, which is separate from the control committee within the BoD (Chart 15.6). The FSB (2015) suggests that the risk committee created inside the BoD should be independent from the other committees, such as the internal control committee, and indicates that the main purpose of the committee should be to improve communications with top management with respect to awareness of risks.

The presence of the risk committee, both internal and external to the BoD, in general, should result in a stronger risk management function and an effective risk governance throughout the different corporate areas.

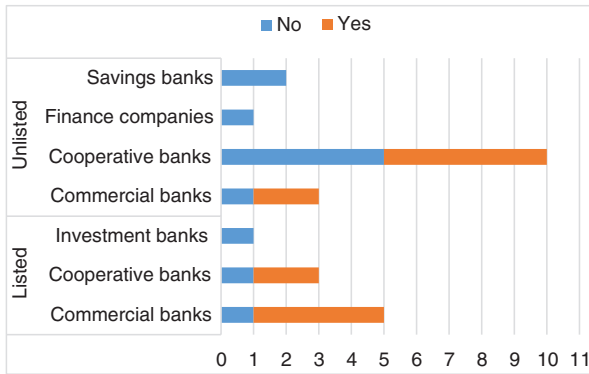


Chart 15.6 Presence of risk committee separate from the control committee inside the BoD

15.4.2 Credit Risk Model

One of the profiles under investigation concerns the adoption of internal rating models for managing credit risk. To address this issue, we must consider that the answers may depend on the timetable of the regulators with respect to validation processes.

The results indicate that while IRB models are still being used by a few banks, their use is often limited to only portions of the entire credit portfolio.

None of the banks in the sample have implemented a foundation IRB model, while five of the eight commercial banks have adopted the standardized model and three have adopted both the standardized approach and the advanced IRB for different credit portfolios. With respect to other specializations, one cooperative bank and the financial company use both the standardized approach and the advanced IRB model, while the remainder of the cooperatives, the savings bank and the investment bank have adopted the standardized approach (Chart 15.7).

The AIRB models are used primarily for assessing retail portfolios and corporate counterparties. The standardized approach is used for institutional borrowers and, in some cases, for rating portfolios of private clients.

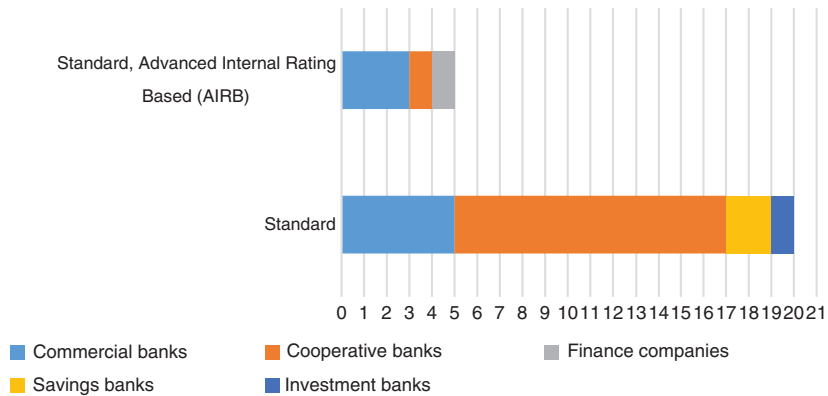


Chart 15.7 The credit risk models

15.4.3 Changing Role of Chief Risk Officer

The presence of the CRO on the Board of Directors and on the executive committees' evidence of the increasingly critical role the CRO plays in the strategic decisions of the bank. As a member of the executive committee, the CRO may have a stronger influence on Board decisions compared with the influence the CRO has when he is part of top management (Aebi et al. 2012).

The position of the CRO on the Board of Directors appears to be a widespread organizational solution that is more common in banks. For example, approximately 56% of the sample indicates that the CRO attends the BoD meetings (Chart 15.8); in two banks, the CRO serves on the executive committee compared to ten banks where he does not; finally, six banks confirm that the Board of Directors has not established an executive committee (Chart 15.9).

When both the credit risk committee and the CRO position are established within the bank's organization, the CRO is also a member of the credit risk committee in 77% of the banks in our sample (see Chart 15.10). However, even if the CRO serves on the credit risk committee, he is not usually responsible for making decisions. (Chart 15.11).

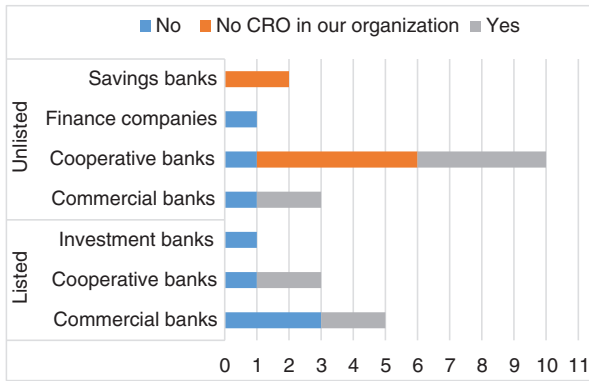


Chart 15.8 When the CRO attends the board meetings



Chart 15.9 When the CRO attends the executive committee

15.4.4 Reporting and Information Flow: An Important Tool of Credit Risk Culture

Our analysis finds that in 77% of the 25 Italian banks investigated, the CRO reports to the chief executive officer or directly to the Board of

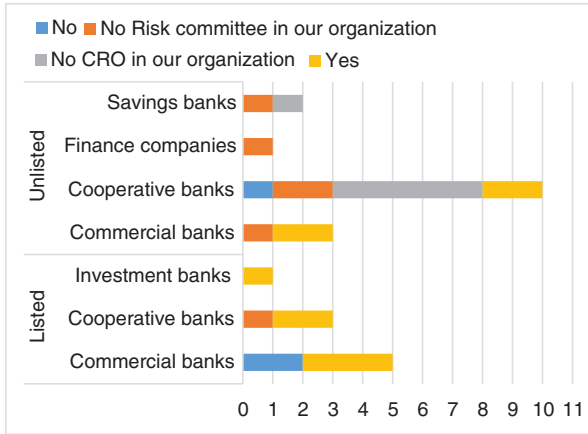


Chart 15.10 When the CRO attends the risk committee of the BoD

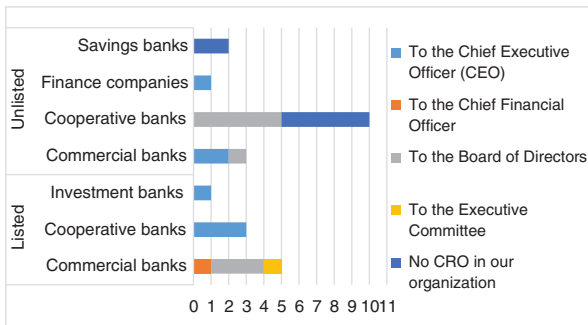


Chart 15.11 The CRO responsibilities in the risk committee

Directors. If we consider only respondents that declare the presence of a CRO in their risk management organization, the value increases to 89%. Only one listed commercial bank affirms that the CRO reports to the chief financial officer, and another indicates that the CRO reports to the executive committee (Chart 15.12). This represents a significant change occurred following the financial crisis. These changes in the reporting design must be regarded as structural improvements by banks aimed at increasing the risk culture. Moreover, they are an obvious symptom of the growing importance of the role of the CRO in the risk management process.

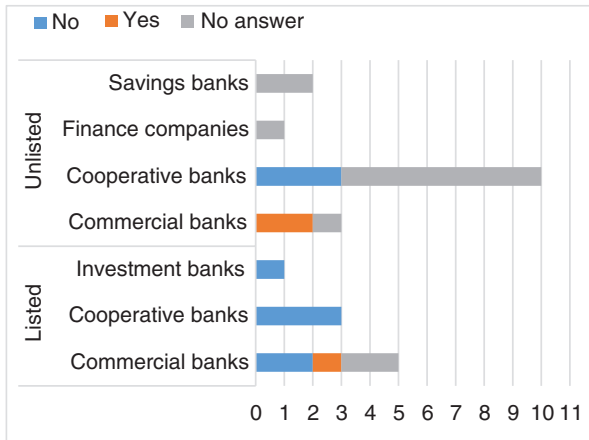


Chart 15.12 The reporting line of the CRO

These findings are consistent with the KPMG survey (2016) that investigated 20 important banks of different countries. Their survey emphasized the growing importance of the role of the chief risk officer after the financial crisis. Until that time, the CRO reported to the chief financial officer. Now, however, 80% of the total sample states that the CRO reports directly to the chief executive officer.

In most cases, the credit manager reports to the CRO; however, there are a few cases where the credit manager reports directly to the BoD, for example, if there is no CRO. There are also instances where the credit manager reports to the risk manager. This normally occurs in simplified organization structures with a small risk management staff (Chart 15.13).

The Board of Directors is informed of credit risk management activity on a quarterly basis in 15 of the cases in our study, and it is informed on a monthly basis in nine of the cases. There are no differences between listed and unlisted banks or among commercial, cooperative, investment and saving banks. Only one unlisted cooperative bank affirms that the Board of Directors is informed weekly on credit risk management issues (see Chart 15.14).

Consistent with the periodicity of the information provided to the BoD regarding credit risk management activity, the risk committee

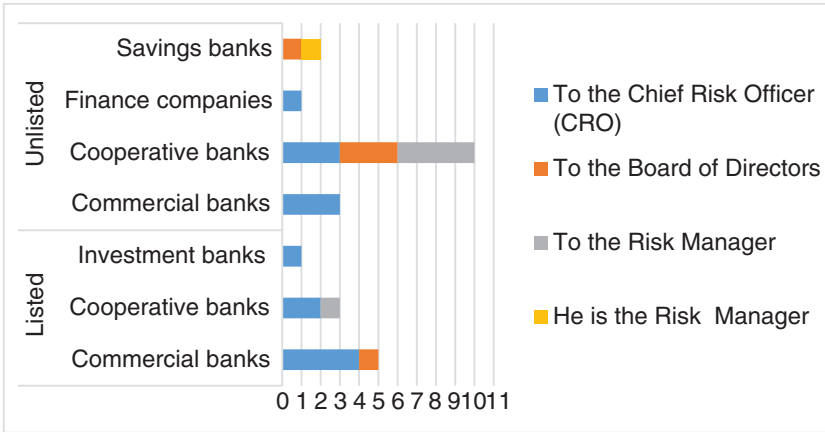


Chart 15.13 The reporting line of the credit risk manager

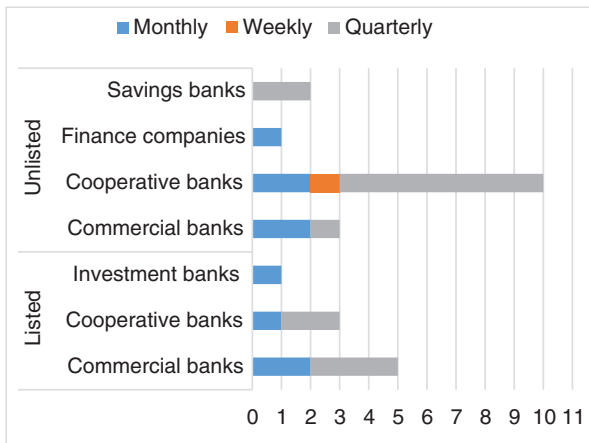


Chart 15.14 Credit risk management activity: information to the BoD

within the BoD is informed on the same issues, either quarterly or monthly, if such a committee exists. In one case, there was no established calendar for reporting to the board (Chart 15.15).

Usually, the chief risk officer is informed more frequently than the Board of Directors and the risk committee regarding credit management issues, and as a result, he is responsible for redirecting the

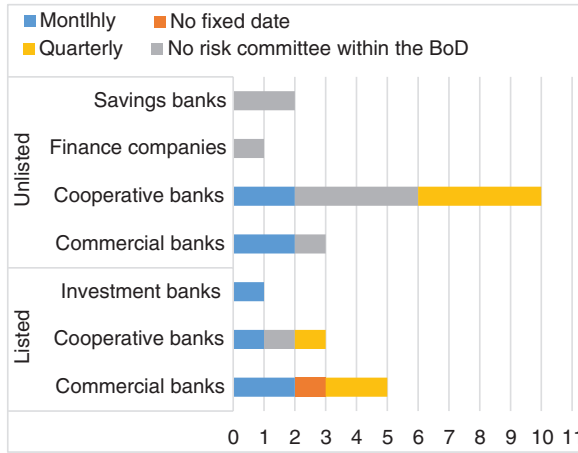


Chart 15.15 Credit risk management activity: information to the risk committee within the BoD

information to the BoD or the risk committee and discussing with these entities all relevant profiles associated with the credit risk policy.

In fact, the CRO plays the most important role in the risk management function as he represents a strategic connection between risk management as a second line of defence and both senior management and the BoD. It may be easily supposed that in recent years, the responsibilities of the CRO are continuously expanding and that the CRO is becoming the man in the middle as he aims to connect top management with risk management and to enforce better standards of governance.

Our survey finds that when the information flow involves the relationship between CRM and the CRO, the frequency is higher than in all previously addressed situations. The CRO is informed on a weekly basis regarding credit risk management activity (12 of 18 respondents claimed to have CRO positions). In some cases, the information is provided quarterly (one listed cooperative bank) and in other cases, it is provided monthly (one unlisted cooperative bank) (Chart 15.16). Only four banks stated that there is no timetable for updating the CRO.

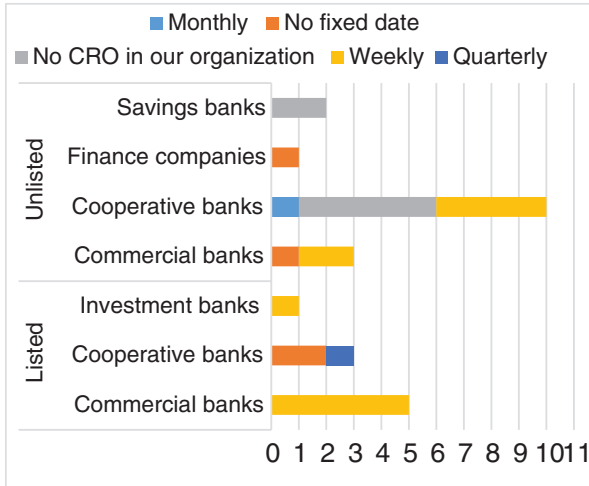


Chart 15.16 Credit risk management activity: information to the CRO

15.5 Discussion and Conclusions

The 2007 financial crisis and the recent financial scandals have highlighted the importance of a sound risk culture in the financial industry, especially for banks that consider risk management to be their primary business.

In this study, we underscored the role of credit risk management in Italian banks through a survey that included a sample of 25 domestic institutions in its investigation of credit risk management (CRM) policies and organization.

We expected that the focus on CRM may provide adequate information about the evolution of the whole risk culture in the Italian banking industry, as we still considered lending to be the core business of Italian banks and consequently considered credit risk to be the most important risk to manage.

The survey focused primarily on the structure and organization of credit risk management and on the changing role of the credit risk officer (CRO).

It is commonly accepted that a strong risk management system represents a prerequisite for promoting risk culture in banks and spreading its principles throughout the various levels of the organization.

However, our findings indicate that risk management teams are involved, for the most part, in credit risk management systems according to the assumption that credit is perceived, at least in the Italian financial market, as the primary source of risk for the banking business. This view is supported by the opinion of the majority of our respondents who expect, in the near future, an increase in the size of the credit risk management staff by, on average, 33%. Regarding the assessment of credit risk, the majority of the banks surveyed adopted the standardized approach, and only a few banks combined the standardized approach with the advanced IRB models. Our findings reveal a scenario where small banks generally use the standard approach, and only in the larger listed banks is credit risk assessment based on advanced IRB models, which, though more accurate in measuring risk, require heavy and costly investments. At the same time, we may suppose that the credit process and the assessment of credit risk have been strengthened at the transaction level, regardless of the bank size, even by improving the internal guidelines for granting credit, in order to deal with the decreasing quality of credit portfolios.

Our analysis, which focused on investigating the organizational structure of risk governance often found a formal separation between the risk committee and the control committee on the boards. This separation was likely due to the failure to distinguish the responsibilities regarding risk assessment and measurement from the responsibilities regarding the governance of risk-originating processes.

When adopted, the solution presented herein complies with the recommendations issued by regulators who suggest that the separation is an effective measure for ensuring the independence and efficient functioning of the committees.

The analysis also noted the growing and widespread roles of credit committees involved in risk management functions.

Due to the strategic position of risk management in the bank's organization, the CRO is assuming greater responsibilities that contribute to highlighting the corporate strategy and the risk appetite of the bank.

When the risk management system is vertically structured, according to the guidelines provided by EBA (2011), the responsibilities for risk management originate at the board level, the risk committee, which is then appointed by the BoD, identifies a CRO and a risk manager who share in overseeing risk management.

At the same time, the CRO is required to interact both with the second line of defence on risks and the governance of the bank. More generally, he is required to pursue the horizontal integration of all other second-level control functions (EBA 2011)

Our survey confirms that when the organizational chart provides for this position, the CRO usually directly reports to the CEO or to the Board of Directors and often attends the board and the risk committee meetings. Consequently, the CRO acts as a link between risk management and top management. This crucial role should permit the witnessing of how permeating the risk culture may be throughout the bank's organization.

Another profile of interest examined in the survey refers to the communication flow in risk assessment processes. Quality and promptness of information regarding risk must be considered essential for promoting risk culture. The FSB (2014), in its document on the guidelines for assessing risk culture, emphasizes the importance of effective communication. The risk culture should encourage transparency and open dialogue within the BoD and between management and the board on one side and between management and the personnel of all levels and at all points of the process of development on the other side to promote and identify processes and decisions that may result in an escalation of risk. Findings highlight that the CRO represents a fundamental vehicle aimed at supporting the communication flows regarding risk between the board and the team of risk management. The frequency whereby the credit manager informs the CRO of crucial credit risk issues and the information channelled by the CRO to the CEO or the BoD is evidence of the emphasis the organization has dedicated to managing credit risk.

The results indicate that the banks surveyed have established an adequate organizational design for their credit risk management system and have implemented a proper communication system. However, smaller

banks still maintain a more simplified risk management system and, consequently, a small team dedicated to credit risk management.

Nevertheless, as expected, the credit risk culture has become a core issue for many financial institutions, and as a consequence, the role of the CRO within the bank's organization is designed to bear increasing responsibilities to ensure the effectiveness of risk management and communication flows between top management and the bottom levels of the organization. Hence, the CRO is a key figure whose role is to spread and ensure a sound risk culture in banks.

Notes

1. Regulators have well defined the risk appetite framework and its components. COSO (2009) clarifies that risk tolerance reflects the acceptable variation in outcomes related to specific performance measures linked to objectives the entity seeks to achieve. The FSB (2013) defines risk appetite as the aggregate level and types of risks that a financial institution is willing to assume within its risk capacity to achieve its strategic objectives and business plan. The Institute of Risk Management (2012) declares that the board of management should consider risk appetite and risk tolerance as core elements of an enterprise risk management approach.
2. The FSB (2014) identifies the elements of a sound risk culture. Among the indicators indicative of a sound risk culture, the most important are the tone at the top, accountability, effective communication and challenge and incentives. The tone at the top is linked to the board and senior management as they "*are the starting point for setting the financial institution's core values and expectations for the risk culture of the institution, and their behavior must reflect the values being espoused. A key value that should be espoused is the expectation that staff act with integrity (doing the right thing) and promptly escalate observed non-compliance within or outside the organization (no surprises approach). The leadership of the institution promotes, monitors, and assesses the risk culture of the financial institution; considers the impact of culture on safety and soundness; and makes changes where necessary*" (FSB 2014, p. 2).
3. The integrated risk management addresses risk across a variety of levels in the organization, including strategy and tactics, and covers both opportunity and threat. Effective implementation of integrated risk management can produce numerous benefits that the organization

cannot usually obtain through a traditional risk management approach (Hillson 2006).

4. With regard to the transaction level, authors refer to the assessment, pricing, structuring of facilities, documentation, loan administration, estimation of credit risk and routine monitoring of accounts; while the operation and systems at the portfolio level include the monitoring of the portfolio at the macro level, the analysis of portfolio risk and management of problem loans.
5. The authors acknowledge AIFIRM, which provided important support in administering the survey to the member banks.
6. We acknowledge Paola Bongini (Unimib), Paola Schwizer (Unipr), Raffaele Barteselli (Banca Popolare di Milano) and Marino Ranzieri (CREDEM).

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16

Credit Rating Culture

Giacomo De Laurentis

16.1 Introduction

Credit ratings are commonly observed, discussed, and used by investors, even do-it-yourself retail investors. They are part of mass media communications on a daily basis and are an increasingly important issue in bank–customer relations, even when small- and medium-size firms are concerned, as banks have started to assign “internal ratings” to almost all types of borrowers. Credit ratings are a key issue in trials triggered by single investors, class actions, or public prosecutors, in case of default by the borrowers or, in some cases, of the sole downgrading of the borrower.

A credit rating culture is essential for at least three reasons: firstly, financial markets attract an increasing amount of investors with different financial literacy levels. Secondly, depositors face a higher bank default risk due to the bail-in requirements of new bank resolution

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regulations and, lastly, bank borrowers realize that the amount and price of bank lending depend on their credit ratings.

I present a recent inquiry on rating culture involving banks branch officers, professionals, and managers of a sample of banks. It confirms that the misleading messages of mass media are prevailing even among financial industry operators. At a broader level, with regard to Masters' students, many are surprised by the simple acknowledgment that for a given borrower a large set of different and non-aligned ratings can be available at the same time, while definitely obscure is the relation among "implied ratings" (those derived from prices and interest rates in the bond, equity, and credit derivatives markets), "external ratings" (those issued by the dozens of credit ratings agencies), and "internal ratings" (those assigned by individual banks, using proprietary data, models, and processes). In general, it is rare to find an adequate knowledge of the true and critical basic concepts behind credit ratings, as well as an adequate minimum knowledge of the key processes of rating assignment, quantification, and validation.

To clarify the extent of misinterpretations and the key concepts of credit ratings that should be part of a shared culture and of the basic educational processes, we will focus on the borrower/issuer credit rating, which is the rating aimed at (a) "discriminating" the borrowers' default risk in different rating classes and (b) "predicting the level" of the probability of default. I will not deal with other rating perspectives (to use the Basel Committee's wording) such as the rating of the loss given default (also called "severity rating"), or the rating of the facility/issue that is referring to the expected loss rate. Both these additional perspectives imply an assessment not only of the borrower itself but also of the specific collaterals and guarantees attached to a specific bond issue or bank facility.

16.2 The Inquiry

During the period 2012–2016, I have distributed a questionnaire to 177 participants attending open and custom executive programs at SDA Bocconi School of Management related to general management and regulation in

banking. Participants belong to a dozen important Italian banks and are a mix of area managers, professionals, and top managers.

Here I will focus on five questions. A useful exercise for the reader would be to try to answer these questions and then check out how close his/her answers are to the choices made by the majority of respondents, reported in the graphs below. The five questions are as follows:

1. May ratings be used for predicting defaults of individual borrowers? Yes or no.
2. Are ratings issued by rating agencies useful to classify corporate customers' default risk? Possible answers: (a) no, (b) yes, on a 1-year basis, (c) yes, 3 years in advance, (d) yes, 5 years in advance, (e) yes, 10 years in advance, (f) yes, 20 years in advance.
3. Are predictive performances of implied ratings (from credit spreads, CDS spreads, equity prices) higher than those of agencies' ratings? Yes or no.
4. Are predictive performances of internal ratings assigned by banks better than those of agencies' ratings? Yes or no.
5. Is the recognition of an ECAI (External Credit Assessment Institution) by the national supervisor based on the analysis of the rating assignment methodology used by rating agencies? Yes or no.

If your answers are well aligned with the most popular answers in the graphs below, it means that the typical misunderstandings of ratings have hit once again.

Question #1 tries to verify whether the proper significance of ratings is in the respondents' culture and whether it is clear how they should properly be used by investors. Question #2 is aimed at checking on which time horizons it is believed that agency ratings can produce useful insights into the default risk of rated entities. Questions #3 and #4 are devoted to assessing how well appreciated the typical relations among different families of ratings (implied, internal, and external) are in terms of predictive capability. The last question focuses on the relative importance of back-testing when validating ratings (and authorizing agencies to become ECAI based on the Basel II regulation), as well as on the possibility of verifying the "correctness" of rating assignment processes.

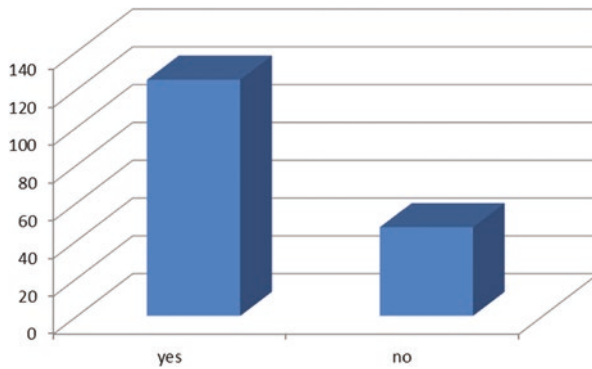


Fig. 16.1 May ratings be used for predicting defaults of single borrowers? *Source Author's*

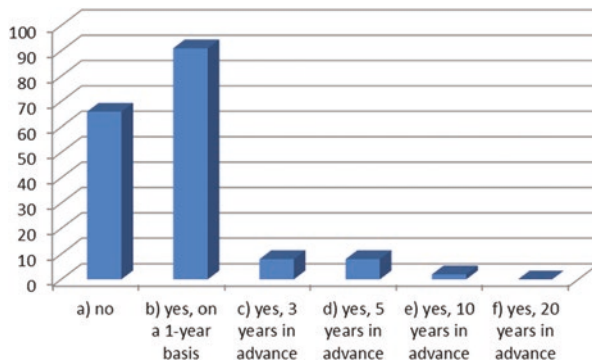


Fig. 16.2 Are ratings issued by rating agencies useful to classify corporate customers' default risk? *Source Author's*

Below, I give a very quick overview of the reported answers. A clearer and more extensive explanation of what a rating culture should encompass is provided later.

The large majority of respondents erroneously believe that ratings may be used to predict the default of a single borrower (Fig. 16.1), thus missing a key point in ratings' understanding. Figure 16.2 indicates that almost all respondents think that either agencies' ratings are useless or they can give a reliable indication only over a 1-year period:

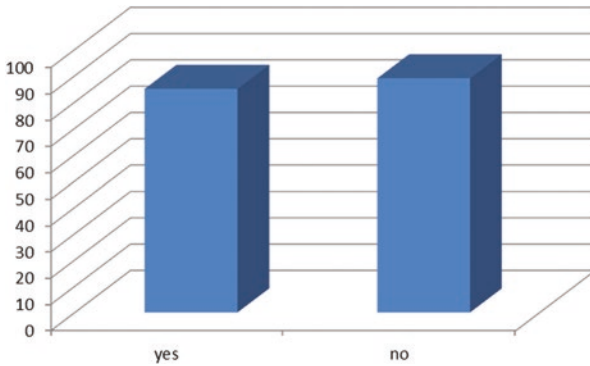


Fig. 16.3 Are predictive performances of implied ratings (from credit spreads, CDS spreads, equity prices) higher than those of agencies' ratings? *Source* Author's

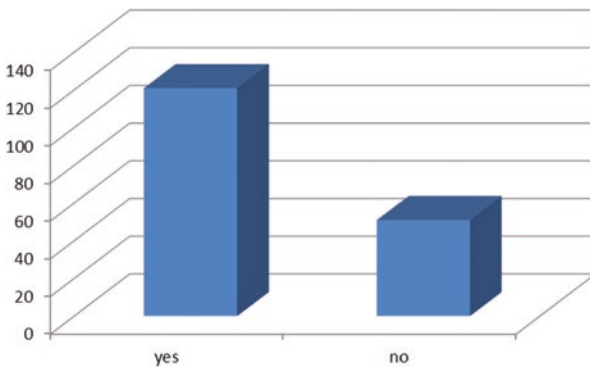


Fig. 16.4 Are the predictive performances of internal ratings assigned by banks higher than those of agencies' ratings? *Source* Author's

a very minority correctly believes that agencies' ratings can be profitably used over much longer periods of time. An almost equal split of respondents is reported in Fig. 16.3 between those affirming that agencies' ratings are a better predictor of default risk than implied ratings, and those believing the opposite; without setting the predictive time horizon both positions are questionable. The problem is similar in Fig. 16.4: the critical issue of time horizon is missed again; however,

in this case, the majority sticks with internal ratings. Unless respondents have a 1-year time horizon in mind, it is difficult to believe (and typically contradicted by empirical data) that the normally cheap rating production process used by banks may get better results than the much more expensive production process used by agencies. Not to mention that the rated entities differ from one another vastly and that, in case of large corporates, financial institutions, and sovereign, it is quite improbable that a single bank has better information than a rating agency. The answers to the last question indicate that the difficulty of checking the correctness of the rating assignment processes is largely underestimated and that it is not clear whether back-testing is the basis for validation.

The missed critical aspects of rating culture briefly outlined above have been systematically confirmed by in-class debriefs that have always followed the questionnaire filling. Similar results have been obtained over years by more informal checks in master classes at Bocconi University and other universities. The common factor of top managers, branch managers, professionals of different banks, and students attending masters in economics and management appears to be mass media content. In fact, that content is almost always based on the same misconceptions we have observed in our inquiry (Fig. 16.5).

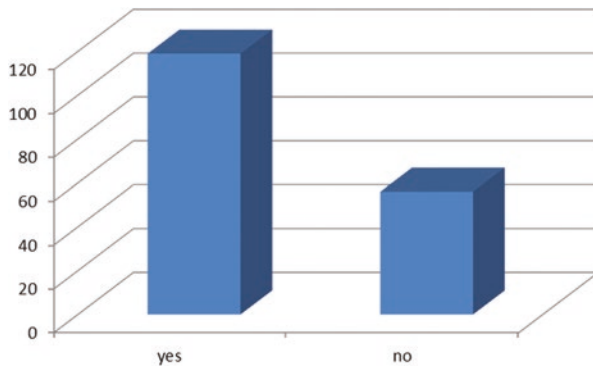


Fig. 16.5 Is recognition of an ECAI (External Credit Assessment Institution) by the national supervisor based on the analysis of the rating assignment methodology used by the rating agency? *Source* Author's

16.3 Credit Ratings and the Predictions of Single Defaults

The easiest way to understand the correct significance of ratings, how investors should properly use them, and how advisors should present them to their customers is to look at how ratings’ classification performance is assessed.

The key methodology for checking performance is back-testing. It is used by investors and banks and required by bank regulators.² Ratings are predictions. Comparing predictions made in time-zero with what has actually happened later (in 1 year, in 2 years, etc.) is the best approach for checking how good the predictions are and validating the rating system.

If we use Fig. 16.6 to back-test predictions, we can observe the correctness of predictions concerning single borrowers. Here, we compare a binary prediction (default or non-default) with future binary events (default or non-default) observed in a given time period, and we are able to measure two error types. Type 1 error consists of predicting a non-default when actual outcome is default. It is the most expensive type of error for the lender, as it is going to face a “loss given default” (LGD) equal to the outstanding amount at the time of default that will not be recovered by the lender by any work-out process (box at the bottom left). Type 2 error consists of predicting a default when the actual outcome is non-default (box at the top right). In this case, the cost of error is the missed interest margin for the lender, who is not going to grant a loan or to buy a bond because the prediction is that the borrower will default. It is apparent that, in this framework, we can test the correctness of the prediction concerning single borrowers as each single borrower will be in one of the four boxes in the table.

		Prediction at time-zero	
		non-default	Default
Events actually realized during the observation period that follows time-zero	non-default	Correct classification of non-defaulting borrowers	Type 2 error
	default	Type 1 error	Correct classification of defaulting borrowers

Fig. 16.6 Binary predictions versus binary future events. Source Author’s

The problem with this back-testing approach is that it cannot be used for rating systems, because the prediction is dichotomic, whereas a rating system uses multiple different rating classes for prediction, and all classes include default cases. The only difference within different rating classes is the ratio of expected default cases to the overall number of borrowers classified in the class. Back-testing a rating system requires checking

1. whether the observed ex post frequencies of default are different for different rating classes and whether they are monotonically increasing the worse the rating class (this is an assessment of the classification capability or rank-order capability of the system); and
2. whether the ex post frequency of default of each rating class is aligned with the ex ante probability of default that the observer had in mind for each rating class (this is an assessment of the calibration capability or predictive capability of the system).

The consequence is straightforward: you cannot back-test a single borrower's correct classification and, therefore, you cannot use a rating system for predicting whether a single borrower will go into default or not. Defaults occur in any rating class; they are simply differently frequent. A rating system is not promising to identify who will go into default and who will not. If you back-test a single borrower against the ex ante probability of default of a given rating class, you will inexorably conclude that the rating was wrong, because the probability is a number between zero and one (extremes excluded), whereas the actual ex post outcome for a single borrower is necessarily zero or one.

If somebody were able to make robust enough predictions on individual cases, he/she could easily win the game with current (external, internal, implied) ratings and become very rich by selling or using these predictions. Why do we rely on ratings rather than on single-case predictions? Because there is no analytical capability or expertise able to give dichotomic predictions that are robust enough. Probably, psychologists required to predict which of the teenagers of a town will take illegal drugs within the next year would answer: "we are not able to tell one-by-one who will get drugs or not, but we are able to classify teenagers in

groups having a different orientation (probability) to get illegal drugs.” This is not the optimal solution but it would probably be considered enough for differentiating actions in these groups for preventing boys and girls from going the wrong way. Assessing the job done by these psychologists will require looking at groups of teenagers classified in different classes and checking whether the frequency of teenagers the year after have taken drugs has been correctly ordered from worse to better classes and/or whether the frequency is aligned with the expected rate for each class. In no case, we would be in the position to blame the psychologists for not having predicted single cases.

A first conclusion is that validating and back-testing a rating system requires observing groups of borrowers (those belonging to a given rating class), and not single ones. What we need to check out is that the frequency by which borrowers classified at time-zero in a given rating class is: (a) decreasing when moving from worse rating classes to better rating classes (this is the classification power of the rating system); (b) similar to the probability of default that we assumed *ex ante* as characterizing different rating classes (this is the calibration capability of the rating system).

Do agencies’ ratings have classification and calibration capabilities? Let us use public data supplied by Standard and Poor’s on an annual basis for global corporates,³ in order to back-test the Agency ratings (Table 16.1).

Each number in the table indicates the annual default rate for a given year (indicated the row-head) in a given rating class (in the column-head). That is, the ratio between two numbers at the denominator is the number of borrowers classified in that rating class on January 1 and that at the numerator is the number of those same borrowers that have defaulted during the year (between January 1 and December 31).

It easy to realize that

1. in many single years there is not a monotonic ordered increase of default rates moving from better to worse rating classes, above all when considering investment grade classes (those equal or better than BBB-) where default rates are very low and few cases may alter the rates’ rank-ordering;

Table 16.1 One-year global corporate default rates by rating modifier (%)

	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC/C
1981	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.28	0	0
1982	0	0	0	0	0.33	0	0	0.68	0	0	2.86	7.04	2.22	2.33	7.41	21.4	
1983	0	0	0	0	0	0	0	1.33	0	1.33	2.17	0	1.59	1.23	9.8	4.76	6.67
1984	0	0	0	0	0	0	0	1.4	0	0	1.64	1.49	2.15	3.51	7.69	25	
1985	0	0	0	0	0	0	0	0	0	0	1.64	1.49	1.33	2.61	13.1	8	15.4
1986	0	0	0	0	0	0.76	0	0.78	0	1.82	1.18	1.12	4.68	12.2	16.7	23.1	
1987	0	0	0	0	0	0	0	0	0	0	0	0.83	1.31	5.95	6.82	12.3	
1988	0	0	0	0	0	0	0	0	0	0	0	2.34	1.99	4.5	9.8	20.4	
1989	0	0	0	0	0.58	0.9	0.78	0	0	0	0	2	0.43	7.8	4.88	33.3	
1990	0	0	0	0	0	0.76	0	0	1.1	2.78	3.09	4.5	4.89	12.3	22.6	31.3	
1991	0	0	0	0	0	0.83	0.74	0	0	3.7	1.14	1.05	8.72	16.3	32.4	33.9	
1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0.72	14.9	20.8	30.2
1993	0	0	0	0	0	0	0	0	0	0	1.94	0	0	1.3	5.88	4.17	13.3
1994	0	0	0	0	0.46	0	0	0	0	0	0.86	0	0	1.84	6.58	3.13	16.7
1995	0	0	0	0	0	0	0	0	0.64	0	1.56	1.12	2.77	8	7.5	28	
1996	0	0	0	0	0	0	0	0	0	0	0.65	0.56	2.37	3.74	3.85	8	
1997	0	0	0	0	0	0.37	0.35	0	0	0	0	0.41	0.72	5.3	14.6	12	
1998	0	0	0	0	0	0	0.27	1.06	0.67	1.06	0.72	2.6	7.56	9.46	42.9		
1999	0	0	0	0.36	0	0.24	0.27	0	0.31	0.55	1.34	0.91	4.22	10.5	15.6	33.3	
2000	0	0	0	0	0.24	0.57	0.26	0.89	0	0.82	2.06	5.83	10	11.6	36		
2001	0	0	0	0	0.58	0.25	0.24	0.49	0.28	0.52	1.22	5.6	5.84	17.2	22.5	45.5	
2002	0	0	0	0	0	0	1.1	0.88	1.07	1.58	1.77	4.81	3.27	10.2	19.9	44.4	
2003	0	0	0	0	0	0	0.2	0.54	0.5	0.97	0.28	1.72	5.34	9.52	32.7		
2004	0	0	0	0	0.24	0	0	0	0	0.67	0.52	0.46	2.35	2.84	16.2		
2005	0	0	0	0	0	0	0.17	0	0	0.37	0	0.51	0.79	2.64	2.96	9.09	
2006	0	0	0	0	0	0	0	0	0	0.39	0	0.5	0.55	0.82	1.57	13.3	

(continued)

Table 16.1 (continued)

	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC/C
2007	0	0	0	0	0	0	0	0	0	0	0	0.32	0.24	0.19	0	0.9	15.2
2008	0	0	0.44	0.41	0.32	0.21	0.6	0.19	0.61	0.73	1.22	0.66	0.68	3.14	3.45	7.59	27.3
2009	0	0	0	0	0.3	0.4	0	0.42	0.19	1.14	0	1.05	0.98	5.96	10.8	18	49.5
2010	0	0	0	0	0	0	0	0	0	0	0.84	0.36	0.57	0	0.74	2.12	22.7
2011	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0.42	1.27	4.47	16.4
2012	0	0	0	0	0	0	0	0	0	0	0	0	0.79	0.6	1.44	3.5	27.3
2013	0	0	0	0	0	0	0	0	0	0	0	0	0.26	0.76	0.83	4.65	24.3
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0.19	0.33	2.74	17
2015	0	0	0	0	0	0	0	0	0	0	0	0.26	0.22	1.73	2.03	4.26	25.7
Average	0	0	0.01	0.02	0.05	0.05	0.08	0.14	0.23	0.27	0.54	0.77	1.29	2.24	6.37	9.12	23.7
Median	0	0	0	0	0	0	0	0	0	0	0	0.66	0.72	1.73	5.34	7.41	23.1
Std. dev.	0	0	0.07	0.09	0.14	0.11	0.21	0.3	0.35	0.43	0.91	0.83	1.68	2.08	4.88	7.64	11.8
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	0	0	0.44	0.41	0.58	0.4	0.76	1.1	1.4	1.33	3.7	3.09	7.04	8.72	17.2	32.4	49.5

Source "2015 Annual Global Corporate Default Study And Rating Transitions," 2 May 2016, Standard & Poor's, <https://www.globalcreditportal.com/>

2. by averaging default rates through the 35 years considered, we get average rates that are well rank-ordered (as shown in the fifth row from the bottom);
3. the variability of annual default rates around their long-term mean (the standard deviation) increases the worst the rating class (as shown in the third row from the bottom); and
4. for a given rating class, there could be large differences between the average default rate and the actual default rate observed in a specific year. That is, the capability of the system to predict a specific level of the default probability may be poor when observed in a specific year.

Please now consider what is typically assumed as the probability of default (PD) of a given rating class is simply the long-term average default rate for that rating class. Also bank regulation, when considering internal ratings, clearly indicates that “447. PD estimates must be a long-run average of 1-year default rates for borrowers in the grade”⁴ and, more recently, the point has been reaffirmed: “Data used to calculate PDs. Modeled PD should be based on the observed historical average 1-year default rate.”⁵ An important notation is that rating agencies are paid to assigning ratings, which are ordinal indicators of risk (i.e., S&P’s scale goes from AAA to C). In addition, they try to discriminate risk in order to get a good rank-order among different rating classes. They do not target a specific PD. Also, the quantification (or calibration) of external ratings is in the hands of investors. Rating agencies simply give historical information on defaults, but it is up to the investor to choose: should I average default rates since 1980 up to now or would it be better to choose a different time window? Is it better to average default rates concerning industrial, service, financial, and insurance companies or, rather, to focus on a specific segment? Should I consider borrowers all over the world or is it better to average data concerning European companies only? Average default rates may vary according to the individual choices made by investors.

In summary, S&P’s ratings, as well as those of other large international rating agencies, show a good classification power as long as averages are considered, and show a much lower capability to produce ex post year-by-year default rates that stick with the probabilities of default that we associate to rating classes ex ante.

In conclusion, having said all that, how should ratings be used correctly by investors and their advisors?

First of all, an investor who buys bonds issued by a single issuer (suppose BBB-, Parmalat rating at the beginning of 2003, the default occurred later that same year) should know that it has bought bonds that typically defaults in about three cases out of one thousand within 1 year (0.27% is the average annual default rate that we can see in Table 16.1).⁶ However, ex post, if the investor has bought bonds issued by a single issuer, he will never find a default rate close to 0.30% on his/her investment, because a single issuer at year-end is either defaulted or not-defaulted, and therefore the only “default rate” that will be observable on this investment will be either 100% or 0%.

If the investor has no rating culture, he will certainly blame the agency if the default has occurred, and he will silently enjoy the bond interest return rate if no default has occurred.

A fair investor and/or an ethical advisor, having a genuine risk appetite of about 0.3%, would never buy bonds from a single issuer. Only if you buy bonds from a large number of issuers sharing the same BBB-rating class, you can hope to get anything close to 0.3%. Actually, historical evidence in Table 16.1 suggests that you could end up with default rates ranging between 0 and 1.33% (that is about five times more than expected), depending on which year you made the investment. Therefore, there is a second requirement for using ratings properly: to repeat the investment in many years.

Only when you diversify issuers and years of investments, ex post numbers tend to match ex ante expectations. These two rules are “naturally” satisfied by institutional investors (such as investment funds and pension funds) and banks. Consider banks. They have thousands of borrowers and they make loans every year: that is why ratings are key tools for estimating default rates, expected losses, and provisions to be set in annual income statements, and that is why they are also key tools (used) in the calculation of capital requirements having to protect these institutions from the variability of yearly outcomes against the expected results, which can be achieved only on a long-term basis.

In conclusion, would you still answer “yes” to the question: may ratings be used for predicting defaults of single borrowers?

16.4 Ratings' Time Horizons

The second question of the questionnaire was: "Are ratings issued by rating agencies useful to classify corporate customers' default risk? Possible answers: (a) no, (b) yes, on a 1-year basis, (c) yes, 3 years in advance, (d) yes, 5 years in advance, (e) yes, 10 years in advance, (f) yes, 20 years in advance." As observed in Fig. 16.2, the large majority of respondents answered either no or 1 year. Instead, when ratings are correctly used, satisfying the two requirements stated in the previous paragraph, they can provide a fair indication of risk over longer periods than 1 year.

Here again, we can back-test agencies' ratings and get an empirical assessment of their effectiveness. What we need is to calculate the "cumulative default rates" for different observation periods after time-zero (when the rating is set). The only difference with the annual default rates discussed in the previous paragraph is that now at the numerator we put the number of entities considered at the denominator that has defaulted over a longer period of time than 1 year. If this period is 2 years, we get the 2-year cumulative default rate; if the period considered is 3 years, we get the 3-year cumulative default rates, and so on. Therefore, we can consider a table similar to that presented in Table 16.1 for each period considered.⁷ For each period, and therefore for each table, let us take into account only the row containing the average; if we plot this evidence in a graph showing on the x-axis the length of the time period considered and on the y-axis the corresponding average cumulative default rates, we get Fig. 16.7.

The most important aspect of the graph is that curves do not cross each other for any observation period, no matter how long it is: even 20 years after rating assignment.⁸ This means that agencies' ratings are good discriminant indicators of risk even on very long time horizons. This also means that using Fig. 16.7 we can quantify default risk on different time horizons (for instance, a borrower rated B has about 30% probability of defaulting within 15 years) and that this number will be close to reality provided that we meet the two requirements described in the previous paragraph: we diversify investments on many different issuers sharing a given rating class and we repeat the investment in many years.⁹

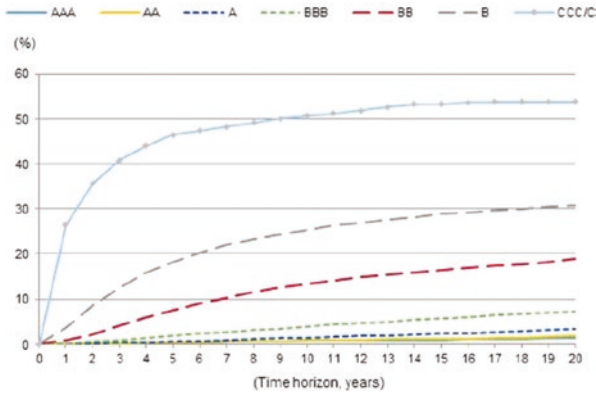


Fig. 16.7 Global corporate average cumulative default rates by rating (1981–2015). *Source* “2015 Annual Global Corporate Default Study And Rating Transitions,” 2 May 2016, Standard & Poor’s, <https://www.globalcreditportal.com/>

In conclusion, also the prevailing answers to the second question of the questionnaire show misconceptions regarding ratings and their usefulness for long-term investments.

16.5 Rating Stability and Classification Versus Calibration Capabilities

So far, we have stated two desirable characteristics of a rating system: the capability to rank-order default risk (classification power) and to get, in each year and for each rating class, default rates close to the expected default frequency (that is the probability of default). And we have concluded that the former is much higher than the latter. This is also the view of credit risk professionals and banks’ supervisors with regard to internal ratings.¹⁰

There is a third desirable characteristic of a rating system. To use the words of a recent document issued by the Basel Committee: “Rating systems should be designed in such a way that assignments to rating categories generally remain stable over time and throughout business cycles.

Migration from one category to another should generally be due to idiosyncratic or industry-specific changes rather than to business cycles.”¹¹

This means that regulators (and this is also typically the investors’ position) prefer ratings that are stable over time, and whose change is not affected by the economic cycle, but solely by the increasing or decreasing specific (idiosyncratic) risk of the borrower in respect of other borrowers. This type of rating is called “through-the-cycle ratings” as opposed to “point-in-time ratings.” The latter ratings move much more frequently as they are sensitive to the shorter term situations of the borrower, encompassing also the current state of the economy. In Fig. 16.8, TTC ratings are depicted by the long lines located at the bottom of the curve that indicates the credit quality of the borrower over time (the continuous sinusoidal curve): the TTC rating stays stable (and aligned to the “bottom of the cycle,” the worst credit quality that the borrower is expected to face in the worst situation of the business cycle). On the contrary, in Fig. 16.8, PIT ratings are the short segments that are adjusted very frequently according to the short-term changes in the borrower’s credit quality. In the example drawn in the figure, TTC rating is adjusted only once, when it is expected a worsening of the borrower’s credit quality across the whole cycle (the dotted sinusoidal curve), due to idiosyncratic weakening of the company’s position.

The reason for preferring stable ratings is straightforward: if you look at a rating today and you know it is going to stay stable over time, you

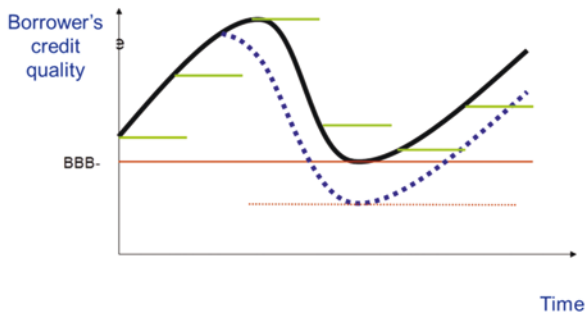


Fig. 16.8 Through-the-cycle ratings versus point-in-time ratings. Source Author’s

trust it more.¹² There is a specific tool to check rating stability: it is the migration matrix (or transition matrix), and the related migration frequencies, i.e., the frequency of transition from one rating class to another. In Fig. 16.9, the Standard & Poor's average (between 1981 and 2015) 1-year transition rates (for global corporates) are shown. At the intersection of rows and columns, there are relative frequencies of counterparties that have moved from the rating class indicated in each row-head to the rating class indicated in each column-head (as a percentage of the number of counterparties in the initial rating class). The acronym WR denotes 'withdrawn ratings,' which are the ratings that have been removed as a result of various reasons, except default (mergers, acquisitions, no outstanding bonds at year-end, etc.).

If analyses of firms' fundamentals are dominant in rating assignment, as in the case of agencies' ratings, ratings change slowly over time because they are less sensitive to credit cycles and to transitory circumstances. Therefore, stability of the migration matrix is generally assumed as an indicator of analytical processes which are mainly centered on counterparty's fundamentals and hence as an expression of a forward-looking TTC rating system. In Fig. 16.9, Standard & Poor's ratings show a very high frequency of borrowers maintaining the same class (values on the diagonal), and rates of migration to closer classes that are higher than rates of migration in farer classes. Of course, migration matrices on longer time horizons can be calculated as well; increasing the time horizon between starting and ending observations, rating stability decreases, but agencies' ratings still show a significant stability of ratings also on longer time horizons.

However, rating stability also implies many different drawbacks.

The first drawback is the production cost, as you need experienced credit analysts and rating committees in order to assign ratings on the basis of many qualitative, forward-looking pieces of information that you need to include in a TTC rating. The second drawback is that TTC ratings are much more subjective and less algorithm-based than PIT ratings. As a consequence, different opinions and split ratings are very common (split ratings refer to different ratings assigned to the same borrower by different agencies in the same period). Even in a rating committee of a given rating agency in charge of the final

From/to	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	D	NR
AAA	87.08	5.74	2.56	0.69	0.16	0.24	0.13	0.05	0	0.05	0	0.03	0	0	0.03	0	0	3.18
AA+	2.47	77.29	11.64	3.76	0.77	0.41	0.21	0.05	0.1	0.05	0	0	0	0	0	0	0	3.24
AA	0.44	1.3	80.09	8.73	2.89	1.23	0.39	0.41	0.14	0.09	0.05	0.03	0.02	0.02	0	0.02	0.02	4.1
AA-	0.05	0.12	4	77.78	10.11	2.42	0.63	0.29	0.17	0.08	0.03	0	0	0.03	0.09	0	0.03	4.18
A+	0	0.07	0.5	4.64	77.34	9.13	2.31	0.67	0.36	0.09	0.07	0.1	0.01	0.08	0.03	0	0.06	4.54
A	0.04	0.05	0.24	0.47	5.19	77.95	7.08	2.58	0.96	0.3	0.13	0.12	0.08	0.1	0.02	0	0.06	4.61
A-	0.05	0.01	0.07	0.16	0.5	6.7	76.58	7.67	2.31	0.64	0.16	0.16	0.14	0.13	0.03	0.01	0.07	4.57
BBB+	0	0.01	0.07	0.08	0.24	0.85	7.34	73.99	8.52	1.83	0.42	0.35	0.16	0.19	0.12	0.03	0.12	5.62
BBB	0.01	0.01	0.05	0.03	0.12	0.36	1.13	7.5	75.04	6.42	1.45	0.68	0.31	0.26	0.13	0.04	0.18	6.21
BBB-	0.01	0.01	0.02	0.05	0.06	0.17	0.29	1.29	9.22	71.57	5.84	2.22	0.87	0.41	0.27	0.17	0.28	6.99
BB+	0.05	0	0	0.04	0.02	0.11	0.09	0.5	1.94	11.8	63.84	6.91	2.97	1.07	0.68	0.21	0.37	8.96
BB	0	0	0.04	0.01	0	0.07	0.06	0.2	0.59	2.31	9.8	64.71	7.83	2.3	1.09	0.37	0.62	9.36
BB-	0	0	0	0.01	0.01	0.01	0.06	0.11	0.26	0.41	1.95	9.38	63.02	8.67	3.17	0.85	1.05	10.27
B+	0	0.01	0	0.03	0	0.03	0.07	0.05	0.06	0.12	0.3	1.55	7.94	63.47	8.57	2.56	2.2	11.2
B	0	0	0.01	0.01	0	0.04	0.05	0.02	0.07	0.04	0.15	0.29	1.35	8.23	60.95	8.42	4.04	12.17
B-	0	0	0	0	0.02	0.04	0	0.09	0.07	0.13	0.11	0.18	0.49	2.45	10.73	53.35	7.21	13.64
CCC/C	0	0	0	0	0.03	0	0.1	0.07	0.07	0.07	0.03	0.17	0.41	1.15	2.78	8.91	26.36	15.66

Fig. 16.9 Average 1-year transition rates for global corporates by rating modifier (1981–2015) (%). Source "2015 Annual Global Corporate Default Study And Rating Transitions," 2 May 2016, Standard & Poor's, <https://www.globalcreditportal.com/>

assignment of ratings, different members may arrive at different conclusions starting from the same data, and they can vote differently for the final rating to be assigned. The third drawback is that TTC ratings are blamed for low risk sensitivity and slow rating adjustments by market participants (both issuers and investors). Above all, when a default occurs, rating agencies are typically accused of slow and late downgrades in the period preceding the default, whereas other more PIT-oriented ratings may signal more timely the incipient default. The fourth drawback of TTC ratings is the weaker calibration. Now it is time to be a little more precise on this property. The document “Studies on validation of internal rating systems” issued by the Basel Committee on Banking Supervision (WP n. 14, May 2005), still a milestone on this topic, on page 29 states that “correct calibration of a rating system means that the PD estimates are accurate. Hence, for examining calibration somehow the differences of forecasted PDs and realized default rates must be considered. This can be done simultaneously for all rating grades in a joint test or separately for each rating grade, depending on whether an overall assessment or an in detail examination is intended.” Now, if we assign ratings using a TTC philosophy and associate PDs to rating classes using the long-run average default rates for the classes (a sort of TTC philosophy in rating quantification), it will be almost inevitable that the rating system will show a poor calibration, that is, a poor capability to predict the specific default rates that will be realized next year. The reason is simple: if ratings assigned to borrowers stay stable over different stages of the economic cycle (migration matrices present very high percentage of borrowers maintaining the same rating class, both in good and bad stages of the economic cycle) and if we associate to each rating class the long-run average default rates, we will come up by predicting, during good times, higher default rates than those that will be realized and, during bad times, by predicting lower default rates than those that will be realized. A more PIT rating system will accommodate the natural change of the frequency of default that occurs during favorable and unfavorable stages of the economic cycle by moving quickly and massively ratings assigned to borrowers and, therefore, assuring much closer numbers in expected and realized default rates in each class as well as at portfolio level.

In conclusion, there is a clear trade-off between TTC and PIT ratings. Probably, we need different types of ratings for different purposes¹³ because there is not yet a known path able to get all the benefits of TTC ratings without accepting also their drawbacks.¹⁴ Agencies' ratings are the most TTC-oriented ratings available: therefore, they present very clearly the advantages of such ratings (they are stable over time and forward-looking on long-term horizons) but also all the disadvantages (they are expensive, not strictly objective, less sensitive to short-term transitory changes in borrowers' creditworthiness, poorly related year-by-year to a specific level of the PD).

In the questionnaire used for our enquiry, apparently there were no questions related to the rating philosophy (TTC or PIT orientation). Actually, the two questions referring to the relative performance of implied ratings versus agencies' ratings and of internal ratings versus agencies' ratings are strictly interlocked with the TTC/PIT issue. We will discuss how and why in the next paragraph.

In any case, there is no doubt that what we have said so far strongly suggests that it is silly and adventurous for investors, advisers, and even for borrowers, to get involved in ratings without having a basic and adequate "User instruction manual" to refer to.

16.6 Implied Ratings Versus Agencies' Ratings

The third question of the questionnaire asked: "Are implied ratings (from credit spreads, CDS spreads, equity prices) predictive performances higher than those of agencies' ratings?" This question got almost balanced answers for yes and no.

Implied ratings are estimations of PDs derived from the observations of credit spreads, credit default swap spreads, and equity prices. Most entities for which these spreads and prices are available on data providers' screens are also rated by rating agencies. However, while rating agencies regularly publish data needed for back-testing their ratings, data for back-testing implied ratings are much less systematically available. Therefore, specific studies have been developed by many researchers all over the world. They lead to convergent results, at least for the aspects that are relevant to us.

One of the most comprehensive studies is that developed by Moody's in 2003 and updated in 2009.¹⁵ It compares agencies' ratings and implied ratings derived from credit spreads. The study confirms that implied ratings are much more unstable than agencies' ratings, also on short observation periods:

1. annual migration rates for implied ratings are much higher than those for Moody's ratings (95% versus 20%);
2. credit spread implied ratings show a much higher frequency of "large migrations" (that is for more than two notches) when compared to Moody's ratings (49% versus 4%);
3. credit spread implied ratings present the change of a higher number of ratings within 12 months for issuers that have been upgraded or downgraded (4.9 versus 1.2); and
4. there is a terribly higher number of rating reversals of implied ratings versus Moody's ratings (82% to 1%) within a 1-year period (rating reversals are upgrades followed by downgrades or vice versa).

Other studies have demonstrated that implied ratings derived from credit default swap spread (the premium to be paid in order to buy protection against the possibility that a reference entity goes into default) behave similarly to credit spread implied ratings. In particular, CDS spread implied ratings are very sensitive to credit quality deterioration of the reference entity and typically give clear signs of alarm shortly before default occurs but, at the same time, give a high number of false alarm for entities that do not default. Using the general conceptual framework of Fig. 16.6, we can say that they show a limited type 1 error and a large type 2 error. As a consequence, they are used for tactical, short-term, investment decisions, rather than for longer term investment decisions. In any case, these implied ratings are typically used in conjunction with other implied, agencies', and internal ratings.

For instance, in Fig. 16.10, we can observe, at the very bottom, the average PD of the large international agencies' ratings: the straight line ("rating mean") indicates that ratings are held stable, and the little steps are indicating the downgrades that took place in the period. The straight line immediately above ("rating max") is the PD of the large international rating agency that was rating the country worse.

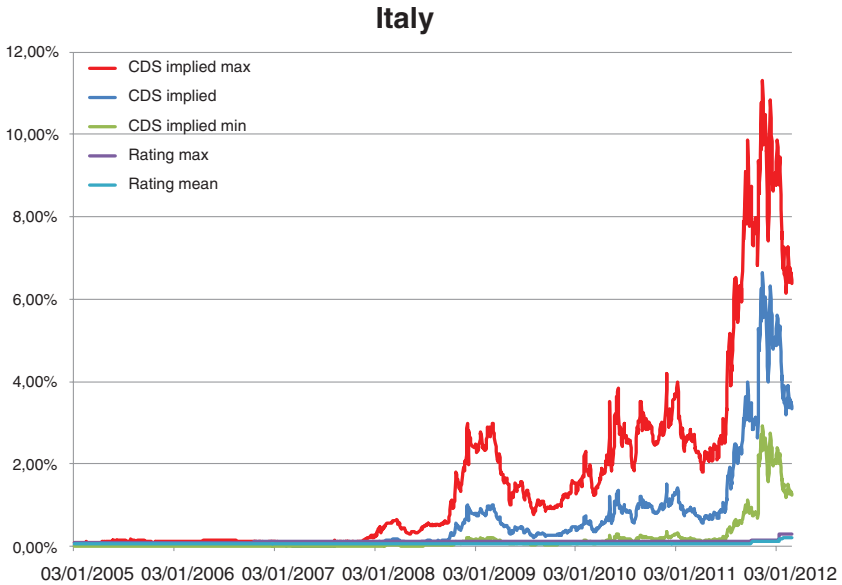


Fig. 16.10 CDS-implied default probabilities of Italy. *Source* Author's

The upper three lines (“CDS implied max,” “CDS implied,” and “CDS implied min”) are a calculation of CDS-implied PDs, assuming three different levels of loss given default (respectively low, medium, high; an assumption that is needed as the credit spread reflects expected losses and not only default risk).

It is easy to observe not only the different levels of PD for agencies' ratings and CDS-implied ratings, but also the much higher volatility of the latter and the huge number of implied rating reversals.

When considering equity prices-derived ratings, such as those produced by KMV (now bought by Moody's and therefore known as KMV-Moody's), we get similar behaviors. Resti A. and Sironi A. (Risk Management and Shareholders Value in Banking, Wiley, 2007, p. 329) have developed an analysis of S&P's and KMV ratings where respective migration matrices are compared. Migration rates appear to be much higher for KMV ratings: while S&P's ratings typically maintain the same rating class 1 year later in more than 90% of cases, whereas the analogue numbers for KMV's ratings are much lower.

At the same time, the higher sensitivity to the short-term credit quality of borrowers of KMV ratings is not leading to a better discrimination of default rates among different classes for KMV. This happens on a 1-year time horizon and the instability of the matrix suggests that it is even truer on longer time horizons; only on time horizons of fewer months, KMV ratings may discriminate better.

In conclusion, question #3 in the questionnaire should not be answered at all, because it misses an important element: the time horizon. But, if you consider the general view that the longer the time horizon by which a rating system is able to predict default rates the better its performance, the conclusion should be that agencies' ratings are by far better long-term predictors than implied ratings. Therefore, we can provocatively conclude that the error rate to question #3 is between 50 and 100%.

16.7 Internal Ratings Versus Agencies' Ratings

Internal ratings produced by banks have many internal applications (calculating provisions and capital requirements, setting credit limits, guiding capital allocation strategies, etc.) and some important impacts on bank borrowers (setting the amount and price of loans, orienting requests of loan collateralization, etc.). The third pillar of Basel II regulation requires banks using "internal rating-based approaches" (IRBA) for capital requirements calculation to publish a fair amount of information on the bank's portfolio distribution by rating classes and on the rating system. However, there is no public available evidence of banks' internal rating system performances during back-testing processes.

In any case, rating systems of different banks are different in many respects (perimeter of borrowers targeted by a given model, raw data and derived indicators considered, type of statistical approaches used for model estimation, role of overrides and other judgmental contributions, number of classes, PIT/TTC orientation, calibration choices, etc.) and, therefore, it would be in any case difficult to benchmark them.¹⁶

In general, qualitative expert-based opinions of banks' professionals and consultants suggest that the discriminatory power of banks' rating systems are quite good when a 1-year horizon is considered, but (a)

the poorer the capability to predict specific levels of PDs for the year to come is, the more TTC-oriented the assignment and calibration processes are; (b) the discriminatory power decreases significantly when longer time horizons are considered; (c) ratings stability is also low on a 1-year observation period (by and large, internal ratings' migration matrices are much closer to KMV's matrix than to S&P's).

Therefore, at the end, with regard to question #4 ("Are predictive performances of internal ratings assigned by banks better than those of agencies' ratings?"), the two third of respondents who have put their confidence in internal ratings are right only if a 1-year time horizon is targeted and if calibration capability perspective is privileged over the discriminatory power perspective.

16.8 Assessing Rating Quality: Product or Production Process Perspectives

So far, we have discussed rating culture problems concerning what a rating is, how it should be used, the difference among the many types of rating, and how to assess their quality (discriminatory and calibration performances). And we have done all this by discussing the outcome of rating assignment processes, which is back-testing, rather than how ratings are or should be assigned. As a consequence, a question put by many (naive) investors has remained in the shadows: "Does a correct rating assignment process exist?"

Acknowledging the existence of multiple types of ratings and the multiplicity of rating agencies, market prices used for deriving PD (credit spreads, CDS spreads, and equities), and specificities of internal ratings developed by single banks, the answer should be very clear: no. And, of course, if different methods of rating assignment and PD estimation are used, they lead to different results. Otherwise, if the results were the same, only the cheapest method would survive.

In spite of this, given the tendency of many to believe that a "correct" rating assignment process exists, the fifth and last question of the questionnaire focuses on the recognition of rating agencies as ECAI, and asks: "Is the recognition of an ECAI (External Credit Assessment

Institution) by the national supervisor based on the analysis of the rating assignment methodology used by rating agencies?" "Yes" is the choice of the large majority of respondents (two third). The reality is the opposite, and it is possible to realize it by considering the Basel II rules for recognizing a rating agency as an ECAI (and, therefore, permitting banks to use its rating to differentiate risk weights of assets accordingly, achieving lower capital requirements on well-rated assets and higher capital burden on low-rated assets). Paragraph 91 of International Convergence of Capital Measurement and Capital Standards. A Revised Framework, Basel Committee on Banking Supervision, 2004, states that: "An ECAI must satisfy each of the following six criteria. Objectivity: The methodology for assigning credit assessments must be rigorous, systematic, and subject to some form of validation based on historical experience. Moreover, assessments must be subject to ongoing review and responsive to changes in financial condition. Before being recognized by supervisors, an assessment methodology for each market segment, including rigorous back-testing, must have been established for at least 1 year and preferably 3 years. Independence: ... International access/Transparency: ... Disclosure: An ECAI should disclose the following information: its assessment methodologies, including the definition of default, the time horizon, and the meaning of each rating; the actual default rates experienced in each assessment category; and the transitions of the assessments, e.g., the likelihood of AA ratings becoming A over time. Resources:... Credibility: To some extent, credibility is derived from the criteria above. In addition, the reliance on an ECAI's external credit assessments by independent parties (investors, insurers, trading partners) is evidence of the credibility of the assessments of an ECAI...." It is easy to note that the focus is on "validation based on historical experience," "back-testing," "the actual default rates experienced in each assessment category," and "the transitions of the assessments." And it is even clearer in national regulations; in fact, paragraph 90 of Basel II devolves to National Supervisors the responsibility "for determining whether an external credit assessment institution (ECAI) meets the criteria listed." In Italy, the Circolare della Banca d'Italia n. 263 of 27 December 2006 has translated Basel II into domestic regulation. Consider the paragraph related to Objectivity requirement for ECAI recognition: "The recognition procedure is not aiming at assessing the correctness of the

methodology; however, it must be supported by statistical evidence of its past applications.... Methodology robustness must be confirmed by data such as default rates per rating class and migration rates.” In other words, “the proof of the pudding is in the eating,” and not in the cooking; that is, quality is checked on the outcome (the product, the rating), and not on the quality of the process (the rating assignment process with reference to a theoretically correct one, which regulators know it does not exist).

This position is also confirmed by the overall framework of Basel II. By admitting the use of internal, differentiated bank-by-bank, rating systems for capital adequacy purposes, the regulation implicitly recognizes that (a) it would be naive to impose a unique rating system to be used by all banks, (b) predicting the future can be done using different, competing approaches, and the competition among banks will continuously push for improving methodologies and results.

In the case of agencies' ratings, the difficulty in assessing the quality of the assignment process is aggravated by the basically judgmental approach to rating assignment that agencies adopt. Their focus on TTC, highly forward-looking and stable ratings requires giving an important role to soft qualitative information, forecasts and plans, and experts' judgments. Eventually, ratings are assigned after having been voted in a rating committee, through a majority vote, without necessarily getting unanimity. Relatively less difficult is to check the consistency and robustness of choices made when developing a statistical rating system, even if, also in this case, there are so many decisions to take that the final model can be quite different from models developed by others. Therefore, in deciding whether to assess the final product or the process, we are in the similar position car makers face when they try to assure enough quality is delivered to the end-user: if you have to check the quality of a Ferrari, you test it on a race track; if you have to check the quality of a city car, you check if the production process has been built and works as planned. This has no difference with Mintzberg studies on management (Mintzberg H., *Structure in Fives. Designing Effective Organizations*, Prentice-Hall 1983): process standardization is fine when jobs' tasks to be done and controlled are simple, whereas you have to rely more and more on managers' coordination and results' assessment the higher the complexity of jobs' tasks. Predicting the future (default rates) is by no means

as easy as producing a city car, above all if you are interested in predictions on longer time than short-term horizons.

16.9 Split Ratings and Ordinal Versus Cardinal Measures of Risk

So far, we have realized that judgment-based ratings assignment processes can achieve more reliable longer term predictions, with some drawbacks such as the higher production cost. An additional drawback is the higher probability to have split ratings, which is the possibility that different ratings are assigned by different rating agencies to the same borrower in the same time. Given the habit of many large corporates to get rated by more rating agencies (so as to give more info about their quality to investors), and given that the rating scales of main international rating agencies have the same number of classes, Cantor and Packer have compared different agencies' ratings behavior on a sample of 161 shared rated borrowers. Only approximately 40% of borrowers are rated in the same rating class; anyway, on average, differences are well below one notch. In conclusion, split ratings are physiologically part of the real world, in which everybody (individuals and companies) tries to be a better predictor than others.

Now we can use Cantor and Packer's results to introduce an additional concept about ratings. Data show that Fitch tends to rate in better classes than the other two agencies by a much higher frequency. This is an empirically supported conclusion, according to numbers offered by Cantor and Packer. Shall we conclude that Fitch tends to be more optimistic than S&P's and Moody's? Actually, this is only true if we consider ratings as ordinal (rank-order) indicators of risk. In fact, if we go through ratings calibration, associating a cardinal number (the probability of default) to each rating class, according to average historical default rates, we will observe that PDs associated with Fitch ratings tend to be relatively higher for better rating classes and lower for worse rating classes, when compared to the other two agencies. This conclusion is very important to clarify an important issue about misled understanding of ratings nowadays. Let us assume that a rating agency, incentivized

by the issuers' paying model (the fact that the issuer pays the agency and not the investor), tends to overestimate the borrowers' quality and grants better ratings than the issuers deserve. The final result will be that PDs associated with better rating classes will become higher and PDs associated with worse rating classes will become lower. Over time, the investor cannot be misled! The investor should know that the PD for a given rating class of a given rating agency is at a given level and should take that into account. Of course, the discriminatory power of the ratings for that agency will decrease, as better and worse rating classes now share closer default rates.

This acknowledgment does not work in three cases: (1) when investors do not calibrate ratings. Please remember that we already said that calibration is a process delegated to investors and reflects investors' preferences in terms of which historical data to consider (time spans, business sectors, geographical areas, etc.); (2) when either data are not supplied for calibration or advisors do not transfer to investors enough information to allow them carrying on the calibration; (3) when regulators pass rules that involve ratings considered as ordinal measures or, even worse, as dichotomic indicators. This is the case, for instance, of the regulation that has introduced the distinction between "investment grade" and "speculative grade" investments. The Comptroller of the Currency in 1931 required member banks of the Federal Reserve to record bonds rated "Baa/BBB or higher" at the purchasing cost, and to record bonds rated below Baa/BBB at market value. This is a terrible example of rules based on ratings considered ordinal indicators and on a dichotomic separation of risk. In this case, the previously described balancing effect of calibration over assignment is lost, and an artificial steep step is put in the continuity of a rating scale. Impacts on incentives (for banks, rating agencies and investors) are huge, as well as on the liquidity and on risk sensitivity of bonds' prices.

A more recent case is that of the Italian Banking Association service for investors known as "Patti chiari" (clear agreements). In 2003, ABI, for the benefit of investors, listed investment grade issuers on its website, under the title "Low risk low return bonds." When Lehman Brothers defaulted, ABI was accused of providing

misleading information because investors considered investment grade borrowers as a safe haven, 100% safe. In 2008 the list was canceled.

16.10 More Sophisticated Measures of Rating Performance and the Accuracy in Different Portfolios

An additional measure of ratings performance is “Time to default.” It accounts for the average time that elapses between being rated in a given rating class and time of default (Fig. 16.11). As expected, the worse the rating class, the shorter the time to default. This measure also suggests that rating does worsen when default is approaching. Let us say again, however, that ratings are valuable not when they rapidly worsen once default is on sight, but when, much earlier than default occurs, ratings are signaling the poor quality of the borrowers’ perspectives.

Now we are going to discuss the most general indicator of discriminatory power: CAP and its related quantitative measure Gini ratio (or accuracy ratio). Using Gini ratio, we are able to have a good enough synthetic measure for comparing rating systems’ discriminatory performances.

	Average years from rating category
AAA	23.7
AA	13.5
A	10.5
BBB	7.6
BB	5.3
B	2.8
CCC/C	0.8
NR	4.6
Total	3.1

Fig. 16.11 Years from rating category. *Source* “2015 Annual Global Corporate Default Study And Rating Transitions,” 2 May 2016, Standard & Poor’s, <https://www.globalcreditportal.com/>

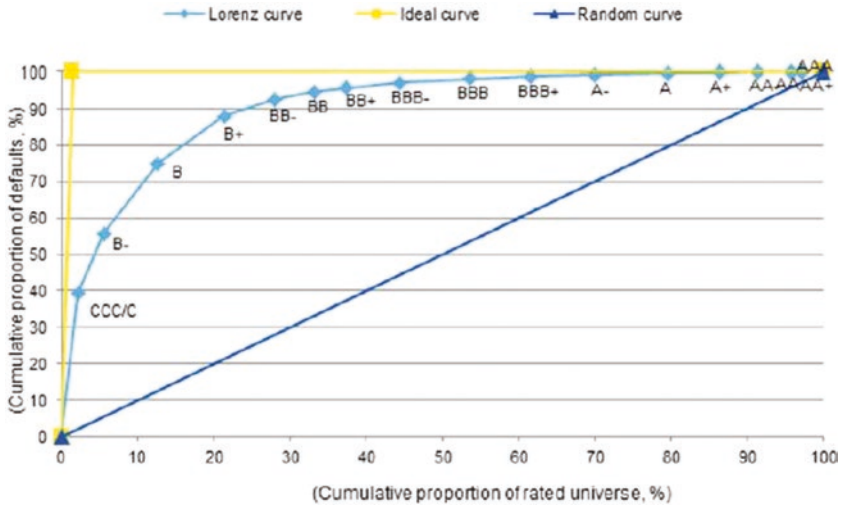


Fig. 16.12 Global 1-year corporate ratings performance: Lorenz curve. *Source* "2015 Annual Global Corporate Default Study And Rating Transitions," 2 May 2016, Standard & Poor's, <https://www.globalcreditportal.com/>

A CAP (Cumulative Accuracy Profile), also known as Lorenz curve, can be built sorting borrowers from the worst rating class to the best rating class. Then, the curve indicated in Fig. 16.12 can be drawn, considering

- on the X-axis the cumulative percentage of borrowers (both performing and defaulted), presenting a rating class not greater than a selected one and
- on the Y-axis the cumulative percentage of bad borrowers presenting a rating class not greater than the selected one.

If the system is able to discriminate perfectly between good and bad borrowers, the curve obtained considering all possible rating classes reaches 100% of defaults on the Y-axis when, on the X-axis, it has reached a percentage of borrowers exactly equal to the default rate of the portfolio of borrowers under examination. If the rating system is completely naïve (it assigns ratings randomly), the curve would be a straight line lying on the diagonal in the graph. The curve of an actual rating

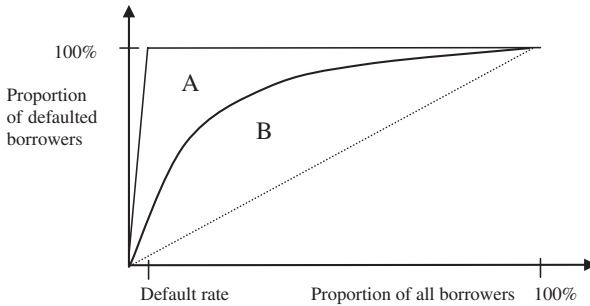


Fig. 16.13 Cumulative accuracy profile. *Source* Author's

system will lie somewhere in between the naïve system curve and the perfect system curve; the closer the curve to the perfect system curve, the better the rating system.

Let us consider Fig. 16.13. The ratio of the area B (between the CAP of the rating system under analysis and the CAP of the naïve system) and the area A (between the CAP of the perfect system and the CAP of the naïve rating system) is the summary statistic called Gini ratio (or AR, Accuracy Ratio). A value close to 100% indicates that the rating system under evaluation is close to the ideal one.

Discriminatory performances can be measured over various time horizons, by comparing rating assigned in a given moment and defaults occurred on multi-year time horizons. These measures are less precise when used for comparing rating systems applied to different portfolios, as these measures are 'sample-dependent.' Therefore, they can only be correctly used to compare ratings performance calculated on the same sample. In the study carried out by Moody's (Sobehart J. Keenan S. Stein R., *Validation Methodologies for Default Risk Models*, Moody's, 05/2000), different quantitative models were compared on the same (out-of-sample and out-of-time) sample¹⁷; their performance in terms of ARs ranges between 50 and 75%. In general, for banks as well as for national supervisory institutions, it is extremely difficult to compare different models' performances precisely, because there is no unique reference dataset and because it is complex and burdensome to build it. The reason is that many indicators, above all those coming from qualitative and behavioral data, are so bank-specific that they are not replicable on a common reference dataset.

Therefore, rating systems performance comparisons in terms of AR are typically a large approximation. In spite of all these limitations, Gini ratio is used to show ratings performances and compare them across different time horizons, geographical areas, macro-sectors (non-financial, financial, sovereign, public entities, and structured finance), and specific segments of a market (for instance, financial structure).

If we consider S&P's reports, we get the following data (Fig. 16.14).

The figure suggests that the discriminating risk over longer time horizons is more difficult but, also 7 years after rating assignment, the rank-order capability shown by Gini ratios is good. It also suggests that

Sector	--Time horizon--			
	One-year	Three-year	Five-year	Seven-year
Financial				
Weighted average	78.84	68.05	60.55	55.63
Average	80.90	73.83	64.96	58.20
Standard deviation	(19.81)	(14.69)	(15.56)	(14.00)
Nonfinancial				
Weighted average	80.62	73.41	70.23	68.37
Average	84.16	77.15	73.11	69.83
Standard deviation	(6.19)	(5.39)	(5.69)	(5.24)

Fig. 16.14 Gini coefficients for global corporates by broad sector (1981–2015). *Source* "2015 Annual Global Corporate Default Study And Rating Transitions," 2 May 2016, Standard & Poor's, <https://www.globalcreditportal.com/>

Region	--Time horizon--			
	One-year	Three-year	Five-year	Seven-year
Global				
Weighted average	82.02	75.30	71.79	69.57
Average	84.82	78.28	73.88	70.36
Standard deviation	(5.53)	(5.27)	(5.63)	(5.14)
U.S.				
Weighted average	80.41	73.20	69.82	67.72
Average	83.84	76.35	71.87	68.21
Standard deviation	(7.07)	(6.91)	(7.14)	(6.35)
Europe				
Weighted average	90.53	86.51	82.37	78.07
Average	92.04	88.68	82.04	73.72
Standard deviation	(5.26)	(5.68)	(6.62)	(10.61)

Fig. 16.15 Gini coefficients by region (1981–2015). *Source* "2015 Annual Global Corporate Default Study And Rating Transitions," 2 May 2016, Standard & Poor's, <https://www.globalcreditportal.com/>

rating financial institutions is more difficult than rating non-financial companies.

Figure 16.15 outlines that the agency’s ratings performances are different in different regions.

Figure 16.16 reports very critical messages. Notwithstanding the extensive criticism to agencies’ ratings assigned during the financial crisis to subprime securitized assets, in reality Gini ratio performances have been poor only in the specific segment of collateralized debt obligations and have recovered soon after the peak of the crisis.

These observations lead to the final remark. Predicting the future is differently difficult when considering varied time horizons, regions, macro-segments, portfolios, and (in Fig. 16.17) different historical periods. During crises, predictions are much tougher for everybody, also for rating agencies.

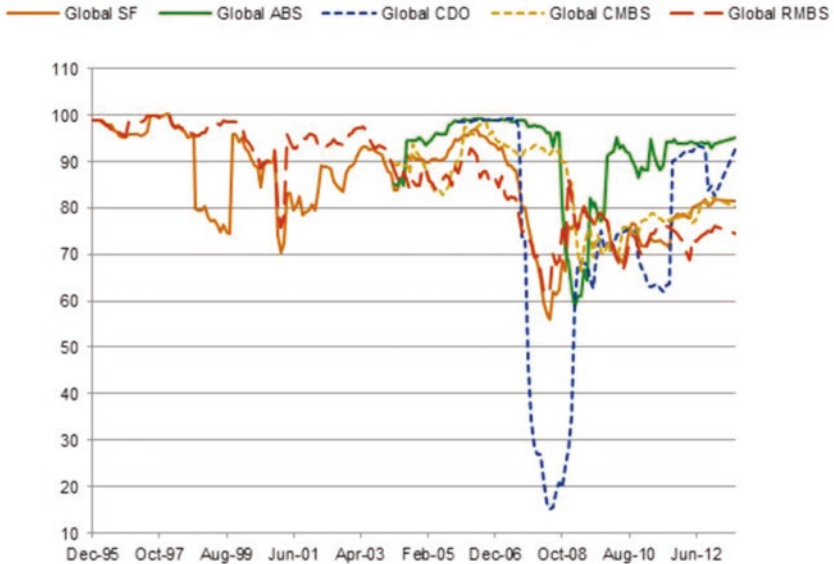


Fig. 16.16 Gini ratio for different segments of structured finance, during the crisis. *Source* Default Study: Global Structured Finance Default Study—1978–2012: A Defining Moment For Credit Performance Stability, Standard & Poor’s, 2013

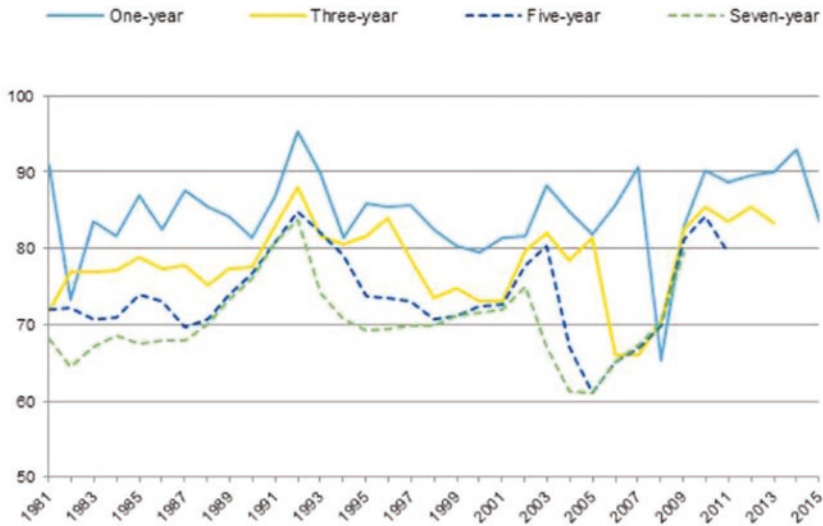


Fig. 16.17 Gini ratio over years. *Source* “2015 Annual Global Corporate Default Study And rating Transitions,” 2 May 2016, Standard & Poor’s, <https://www.globalcreditportal.com/>

16.11 Conclusions

In a century that is, and probably will be, characterized by populism, populist views exacerbated by social media and gutter press find easy humus when financial culture is lacking. Ratings are at the apex of this phenomenon.

The lack of rating culture has multiple effects on investors, banks, regulators and banking associations, and the community as a whole, sometimes leading to counterproductive decisions and feelings.

A fairly good knowledge of the basics of ratings (in particular, their probabilistic nature) has an immediate important collateral advantage: it pushes for investment diversification, a key factor in risk mitigation. More in general, a better understanding of external, internal, and implied ratings can smooth strained bank–customer relationships and can lead to a more transparent dialog. It can also improve the activity of lawmakers and courts.

Notes

1. De Laurentis G., *La comunicazione ai risparmiatori in tema di rating*, *Bancaria*, n. 3, 2014, p. 43.
2. In *Basel II regulation (Basel Committee on Banking Supervision, International Convergence of Capital Measurement and Capital Standards. A Revised Framework 2004)*, point 8 “Validation of internal estimates” of chapter H “Minimum Requirements for IRB Approach,” immediately after having stated general requirements framework (“500. Banks must have a robust system in place to validate the accuracy and consistency of rating systems, processes, and the estimation of all relevant risk components. A bank must demonstrate to its supervisor that the internal validation process enables it to assess the performance of internal rating and risk estimation systems consistently and meaningfully”), it is prescribed that “501. Banks must regularly compare realized default rates with estimated PDs for each grade and be able to demonstrate that the realized default rates are within the expected range for that grade. Banks using the advanced IRB approach must complete such analysis for their estimates of LGDs and EADs. Such comparisons must make use of historical data that are over as long a period as possible. The methods and data used in such comparisons by the bank must be clearly documented by the bank. This analysis and documentation must be updated at least annually.” That is, annual back-testing.
3. The study analyzes the rating histories of 18,258 companies that S&P Global Ratings rated as of Dec 31, 1980, or that were first rated between that date and Dec 31, 2015. These include industrials, utilities, financial institutions, and insurance companies around the world with long-term local currency ratings. Structured finance vehicles, public-sector issuers, and sovereign issuers are the subject of separate default and transition studies.
4. *Basel Committee on Banking Supervision, International Convergence of Capital Measurement and Capital Standards. A Revised Framework, (2004)*, point 7 “Risk quantification” of chapter H “Minimum Requirements for IRB Approach.”
5. *Basel Committee on Banking Supervision, Consultative Document, Reducing variation in credit risk-weighted assets—constraints on the use of internal model approaches*, March 2016, p. 7.

6. The similar value that you could have seen on January 1, 2003 as the average of default rates between 1980 and 2002 would have been 0.30%.
7. Of course, if we consider a table for 2-year cumulative default rates, we need an elapsed observation period of 2 years, and therefore the last row in the table will be that of 2014, as we have to observe defaults occurring during 2014 and 2015. If we consider a table for 3-year cumulative default rates, we need an elapsed observation period of 3 years, and therefore the last row in the table will be that of 2013, as we have to observe defaults occurring during 2013, 2014, and 2015, and so on.
8. Only for the best two classes there is an overlap for some maturities; as usual, this is due to the very limited number of cases of default.
9. On the contrary, a single issuer may either default in any period or never default, regardless of the initial rating class.
10. In fact, these ratings show good levels of discriminatory power (typical indicators being Gini ratio and AuRoc) and more questionable results for the calibration. “Often internal rating systems do not fully satisfy standard calibration tests used for PD validation” is the incipit of a recent Aifirm position paper: Cuneo S. De Laurentis G. Salis F. Salvucci F., Validation of rating models calibration, Newsletter Aifirm Risk Management Magazine Rivista dell’Associazione Italiana Financial Industry Risk Managers, n. 1, 2016. Also the theoretical framework of indicators to be used is much weaker (the document “Studies on validation of internal rating systems, The Basel Committee on Banking Supervision, WP, n. 14, May 2005” concludes on page 34: “In conclusion, at present no really powerful tests of adequate calibration are currently available” and the situation remains the same today).
11. Basel Committee on Banking Supervision, Consultative Document, Reducing variation in credit risk-weighted assets—constraints on the use of internal model approaches, March 2016, p. 7.
12. Banks’ regulators also have additional reasons, such as reducing the pro-cyclicality of rating systems and banks’ capital requirements, and increasing the ‘far-sightedness’ of credit allocation (Draghi M., Address by the Governor of the Bank of Italy, Italian Banking Association Annual Meeting—Rome, July 8th 2009, <http://www.bancaditalia.it>).
13. This is a possible solution of the trade-off, depicted in chapter 7 of De Laurentis G., Maino R. Molteni L., Internal Ratings, Wiley, 2010.
14. Note that still in 2016 the Basel Committee is requiring TTC assignment and TTC quantification for banks’ internal rating system:

“Rating systems should be designed in such a way that assignments to rating categories generally remain stable over time and throughout business cycles. Migration from one category to another should generally be due to idiosyncratic or industry-specific changes rather than due to business cycles. Data used to calculate PDs. Modeled PD should be based on the observed historical average 1-year default rate, which must include a representative mix of good and bad years, with a minimum weighting of data from downturn years of one in ten” (Basel Committee on Banking Supervision, Consultative Document, Reducing variation in credit risk-weighted assets—constraints on the use of internal model approaches, March 2016, p. 7). At the same time, supervisors require a good calibration of ratings, aligned with tests indicated in the already mentioned WP 14, 2005. This has led the Italian Association of Risk Managers to outline the inconsistencies of these requirements (Cuneo S. De Laurentis G. Salis F. Salvucci F., Validation of rating models calibration, Newsletter Aifirm Risk Management Magazine Rivista dell’Associazione Italiana Financial Industry Risk Managers, n. 1, 2016).

15. Moody’s, Are Corporate Bond Ratings Procyclical? Moody’s Investor Services, October 2003. Moody’s, Are Corporate Bond Ratings Procyclical? An Update, Moody’s Investor Services, May 2009.
16. De Laurentis G. Maino R. Molteni L., Developing, Validating and Using Internal Ratings. Methodologies and Case Studies, Wiley, 2010.
17. That is, by using a sample different from that used to develop the model (so-called “development sample”), and that is collected in a time period different from that of the development sample.

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17

Accounting Conservatism and Risk Culture

Alessandro Mechelli and Riccardo Cimini

17.1 Introduction

As of April 2016, the Scopus database lists 152 products with the expression “risk culture” appearing in the title, abstract, or keywords. The concept of risk culture is broad and the topic is quite new, considering that the number of products published in the 6-year period of 2010–2015 is the same as the number published over the prior 30 years (1980–2009).

This chapter studies the relationships between accounting conservatism and bank solidity, both of which have a close relation with risk culture.

Conservatism is one of the four dimensions of accounting values that can be used to define a country’s accounting culture (Gray 1988). Belkaoui (1985) defines conservatism as a preference for accounting methods that lead to a low value of equity, even when alternative choices are available.

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A. Carretta et al., *Risk Culture in Banking*, Palgrave Macmillan
Studies in Banking and Financial Institutions,
DOI 10.1007/978-3-319-57592-6_17

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Solidity could be considered a dimension of risk culture according to the regulation of the Committee for European Banking Supervision (CEBS). The aim of such regulation was to overcome the weaknesses in banking management during the recent (2008) global economic crisis, highlighting the importance of a solid “institution-wide risk culture” for effective risk management (CEBS 2010). In turn, banks with a solid risk culture not only should be better capitalized but also should select high-quality capital components to absorb losses due to the risks taken.

The fragility in the measures of cultural values (Karolyi 2015), along with the fact that quantitative methods were used primarily to evaluate the risk culture indirectly (Carretta and Bianchi 2016), led us to focus on only one dimension of risk culture—that is, bank solidity.

In this research, accounting conservatism is measured by the price-to-book ratio (e.g., Stober 1996; Givoly and Hayn 2000; Zhang 2000; Ball and Shivakumar 2005; Ryan 2006; Givoly et al. 2007; Francis et al. 2015), while solidity is considered in terms of the bank’s ability to absorb losses using the highest-quality component of a bank’s capital—that is, according to the accounting literature (Ayadi et al. 2012), the tangible common equity as a percentage of total assets.

Analyzing a sample of 100 European listed entities that belong to the financial sector observed over the period of 2014–2015 (e.g., 200 firm-year observations), this research tests the hypothesis that a negative relationship exists between accounting conservatism and bank solidity. This is because, according to the literature (e.g., LaFond and Watts 2008; Biddle et al. 2016), there is a high demand for conservatism in entities with higher bankruptcy risk (e.g., less solid banks), compared with banks with lower bankruptcy risk (e.g., more solid banks). Because conservatism guarantees the integrity of the capital (Lacchini and Trequattrini 2002), it is expected to be higher in entities in which such integrity is threatened compared with entities whose solidity safeguards the integrity of the capital.

Results validate this hypothesis, confirming that there is a lower demand for accounting conservatism in the most solid entities. These results validate findings in the accounting literature that accounting conservatism mitigates bankruptcy risk (Biddle et al. 2016) and thus tends to decrease in the most solid entities.

Results contribute to the literature in at least two ways. First, they show how risk culture could have implications in the accounting field and, in particular, how it could affect the quality of the financial reporting process. Second, they provide first evidence showing how one dimension of risk culture (i.e., bank solidity) is negatively associated with accounting conservatism—a topic that, to the best of our knowledge, has yet to be investigated.

Findings also have implications for standard setters, suggesting that accounting quality, proxied by accounting conservatism (Barth et al. 2008; Chen et al. 2010), depends not only upon the quality of accounting standards but also upon risk management practices that, in this research, are related to the choices of the bank capital components devoted to absorbing losses.

This chapter proceeds as follows. Section 17.2 reviews the literature on the topics investigated and describes our research hypothesis. Section 17.3 details the research design. Section 17.4 presents the sample selection and the empirical findings. Finally, Sect. 17.5 concludes the paper and contains a discussion of the implications, limitations and possible future developments of the study.

17.2 Theoretical Background and Hypothesis Development

This paper studies the relationships between accounting conservatism and bank solidity in terms of the capability of financial entities to absorb losses using the highest-quality component of a bank's capital base—that is, the component with the greatest loss-absorbing capacity. We can consider solidity to be a dimension of the so-called risk culture, to the extent that we consider risk culture to be the set of practices that drive and govern risk management (Barclays PLC 2014) toward the choice of the most proper component of the banks' capital to absorb losses.

Before providing arguments that support a plausible research hypothesis about the relationships between accounting conservatism and bank solidity, we further discuss the concept of accounting conservatism,

which, according to Gray (1988), is one of the four accounting value dimensions that can be used to define a country's accounting culture.

Accounting conservatism, a dimension of accounting quality, is one of the most influential principles of accounting (Sterling 1970) and probably also the oldest of these principles. Several studies report the use of conservatism in Medieval Europe (Sterling 1970), arguing that this principle influenced the accounting practice for at least 500 years. Basu (1997) cited "Le parfait négociant" (Savary 1712) as an early textbook on conservatism. Several explanations have been given for the extensive use and persistence of conservatism in accounting, among which Watts (2003a) highlighted the role of conservatism in regulating contracts by firms and their parties, in reducing litigations, and in recognizing costs in the income statement if tax laws require it (Watts 1977; Watts and Zimmerman 1979).

Despite the wide diffusion of conservatism, there is no unique and consistent definition for this concept. Several authors have focused on the effects of conservatism in income statements, highlighting the rule to anticipate no profit but all losses (Bliss 1924) and the need to require a higher degree of verification for recognizing good news than bad news (Basu 1997). However, academics (Watts 2003a; Penman and Zhang 2002; Givoly et al. 2007) agree that the consequence of conservatism is the undervaluation of the entity's net assets relative to their economic value. Belkaoui (1985) defines it as a preference for accounting methods that lead to a lower value of equity, even when alternative choices are available.

Different authors have conflicting opinions on what conservatism means. Roychowdhury and Watts (2007) define conservatism in terms of the role of accounting, which is to report "the market value of net assets available for interim distributions to claimants, not the enterprise value of the firm" (p. 6). As a result, they consider conservatism to be the difference between the book value of net assets and the net assets' value, which includes, over the book value of net assets, the unverifiable increase in the value of separable net assets. In this framework, recognizing the difference between entity value and net asset value (i.e., rent) is not the role of accounting; consequently, the lack of recognition of rent does not represent conservatism. For Roychowdhury and Watts (2007, p. 8), an entity has rent if it has above competitive returns on current and future

investments. Therefore, rent represents growth opportunities and returns to some monopoly power.

The position of Roychowdhury and Watts (2007), which excludes the lack of recognition of rents from conservatism, is not shared by most researchers. Ryan (2006) explicitly includes in conservatism non-recognition of “unbookable” items, such as rent, and consequently states that the extent to which the market-to-book ratio exceeds one is a natural way to measure the overall degree of conservatism. Givoly et al. (2007) seem to agree with Ryan’s (2006) approach. They also consider as a source of conservatism the failure of financial reporting system to capture the positive present value of projects, defining conservatism as the understatement of the firms’ book value of equity relative to its economic value. Consistent with this definition, they propose the market-to-book ratio as a measure of the overall degree of conservatism. Further, Easton and Pae (2004) consider as the first form of conservatism the lack of recognition of the positive present value of a project until the associated future sales have occurred (Easton and Pae 2004, p. 496). They propose a modified version of the famous Easton and Harris (1991) model, where the coefficient of the independent variable measured by the variation of comprehensive income deflated by the beginning of the period stock prices is the measure of this part of conservatism. Finally, following Feltham and Ohlson (1995), Zhang (2000) defines conservatism as the extent to which book value differs from market value, without excluding any components of market value for the definition of conservatism.

In the accounting literature, scholars have studied the relationships between conservatism and a large variety of aspects, such as the cost of debt (Ahmed et al. 2002), the value relevance of earnings and book value (Mechelli 2013), the firm investment efficiency (Garcia Lara et al. 2016), and so on. This paper investigates the relationships between accounting conservatism and bank solidity, which is a dimension of risk culture, to the extent that cultural aspects drive and govern risk management toward the choice of the most proper component of the banks’ capital to absorb losses. In this regard, the main aim of the CEBS regulation was to overcome the weaknesses in banking management during the crisis, highlighting the importance of a solid “institution-wide

risk culture” that should affect the practice of risk management to select the capital component devoted to absorb losses. In detail, banks with a solid “institution-wide risk culture” are likely to select high-quality capital components to absorb losses. For this reason, we can consider the solidity of a bank to be the result of such practices and thus to be one dimension of the risk culture of financial entities.

To formulate a plausible research hypothesis about the relation between accounting conservatism and risk culture, we inspect the positive effects of conservatism to mitigate default risks. In this regard, the literature offers contradictory findings about the association between accounting conservatism and bankruptcy risk. The most convincing of these are the findings of LaFond and Watts (2008), according to which conservatism reduces default risk indirectly by reducing information asymmetry and uncertainty, and the findings provided in the recent work of Biddle et al. (2016). Like LaFond and Watts (2008), these scholars argue that conservative accounting plays an informational role, whereby the timely reporting of bad earnings news reduces information asymmetry between debtholders and the firm, thus facilitating access to capital and debt renegotiations. This, in turn, helps the firm to avert bankruptcy filings. In addition, Biddle et al. (2016, pp. 1–2) argue that accounting conservatism decreases subsequent bankruptcy risk through its cushioning role, whereby it enhances cash availability by both reducing cash outflows and increasing cash inflows. In fact, by understating net income and assets, conservative reporting reduces the proportion distributable to contracting counterparties, thus allowing the firm to retain more cash and other assets. Conservatism also promotes precautionary cash savings and creates cushions when future earning is risky. This cushioning role of conservatism enhances firms’ capacity to repay or renegotiate their debts and also increases liquidation values and debtholder rights that deter managers’ strategic defaults and bankruptcy threats, thus lowering bankruptcy risk.

The literature shows also that the demand for conservatism is high in banks with higher bankruptcy risk, also thanks to the capability of conservatism to guarantee the integrity for the capital (Lacchini and Trequattrini 2002). On the contrary, in the most solid banks, whose risk culture leads managers to prefer to absorb losses using the

highest-quality component of a bank's capital, the demand for accounting conservatism should be low. Therefore, we hypothesize:

H₁ There is a negative relationship between accounting conservatism and bank solidity.

17.3 Research Methodology

To test our research hypothesis, we need variables to proxy for accounting conservatism and bank solidity. The price-to-book ratio is the measure of accounting conservatism used in this study, which, as we mentioned in the previous section, has been used by several scholars (Stober 1996; Givoly and Hayn 2000; Zhang 2000; Watts 2003b; Ball and Shivakamur 2005; Ryan 2006; Givoly et al. 2007; Francis et al. 2015) to measure both conditional and unconditional conservatism (Beaver and Ryan 2005). It is calculated by scaling the price per share with the book value per share at the reporting date. The higher the price-to-book ratio is, the higher is the level of conservatism—that is, the lack of recognition of the positive present value of a project until the associated future sales have occurred (Easton and Pae 2004, p. 496). The tangible common equity ratio as a percentage of total assets is the proxy for bank solidity. This is the highest-quality component of a bank's capital base and, therefore, is the component with the greatest loss-absorbing capacity (Ayadi et al. 2012). It is calculated by netting out intangible assets and goodwill from common equity, which comprises common stocks, retained earnings, and equity reserves. The higher the tangible common equity ratio is, the higher is the solidity of the entity analyzed.

To study the association between accounting conservatism and bank solidity, we run the following regression model:

$$\text{CONS}_{it} = \alpha_0 + \alpha_1 \text{SO}_{it} + \text{fixed effects} + \varepsilon_{it} \quad (17.1)$$

where

CONS_{it} is the price-to-book value of entity i at the end of fiscal year t that is a proxy for accounting conservatism;

SO_{it} is the tangible common equity ratio as a percentage of total assets of entity i at the end of fiscal year t that is a proxy for bank's solidity;
 fixed effects are dummies that control for omitted variables that could vary between countries and years; and
 ε_{it} is the error term.

Variables included in Eq. (17.1) are bounded (i.e., positively skewed), being defined only in R^+ . For this reason, the linear specification does not have the best fit to our data. Following Stock and Watson (2009, p. 242), we compare the R^2 of the different specifications with logarithmic variables. The one that fits our data the best is the log–log specification. Thus, to run the regression, we calculate the natural logarithms of both the dependent variable $CONS_{it}$ and the independent variable SO_{it} . Equation (17.1) also includes countries and years' fixed effects. Country fixed effects are useful to avoid biasing the research results due to omitted variables that vary over time but remain unchanged between countries; temporal effects, on the other hand, control for omitted time-invariant variables that change between countries.

Our expectation is to find the regression coefficient α_1 negative and statistically significant at the traditional level (e.g., 5%), validating the hypothesis that there is a negative relationship between accounting conservatism and bank solidity.

17.4 Sample Selection and Empirical Findings

To study the relationship between accounting conservatism and bank solidity, we focus on a sample of financial entities listed in the active markets of countries belonging to the EU at the time of issuance of EU Regulation 1606/2002 that, over the period 2014–2015, comply with the rules of the Basel III accord. The use of this time frame allows us to analyze entities that have complied with the same Basel capital requirements.

Table 17.1 Geographical portrait of the entities analyzed

Countries	Entities	Countries	Entities
Austria	5	Italy	20
Belgium	3	Ireland	2
Denmark	17	Netherland	4
Finland	2	Portugal	3
France	14	Spain	8
Germany	6	Sweden	4
Greece	4	UK	8
		Total	100

The table reports the 14 EU countries analyzed and the number of entities (e.g., 100) included in the sample to test our research hypothesis. Because we analyzed two fiscal years (2014 and 2015), it is possible to calculate the number of firm-year observations available in this study (200)

Data has been collected from the Bankscope database. Moving from an initial sample of 234 entities, the final sample (after exclusions for missing data) includes 100 entities (200 firm-year observations).

Table 17.1 describes the geographical portrait of the entities analyzed.

As we can see, the majority of entities are listed in Italy, Denmark, and France. Countries with a lower number of financial entities are smaller or have missing data. Actually, downloading data from the Bankscope database led us to drop several observations, because in some cases, data were not available. For this reason, Luxembourg does not appear in the table.

Table 17.2 tabulates the percentiles, the mean, and the standard deviation of the variables used to test our research hypothesis.

In the sample analyzed, the price-to-book ratio of the entities is a bounded variable that assumes only positive observations. It ranges from values close to zero to values higher than two. Its median value is +0.69, and its mean is +0.85. Entities with price-to-book ratios under the median are those with a low level of conservatism, while entities with a price-to-book ratio over the median are those with a high level of conservatism. Also, the tangible common equity as a percentage of total assets is a bounded variable that assumes in the sample analyzed, only positive values, except for two firm-year observations that have negative values for this variable. For this reason, in our regression model, the number of firm-year observations is 198 and not 200. The percentiles of

Table 17.2 Descriptive statistics

	Percentiles					Mean	Std. dev.	CONS _{it}	SO _{it}
	5	25	50	75	95				
CONS _{it}	+0.05	+0.47	+0.69	+1.01	+2.01	+0.85	+0.77	+1	
SO _{it}	+2.63	+4.72	+6.62	+10.60	+14.91	+7.63	+3.75	-0.05	+1

The table reports the percentiles, the mean, the standard deviation, and the Pearson correlation coefficient of the price-to-book ratio (CONS_{it}) and the tangible common equity as a percentage of total assets (SO_{it}), which proxy, respectively, for accounting conservatism and bank solidity

SO_{it} show that, in the sample, the less solid entities are those with a tangible common equity double compared with total assets and the most solid entities are those with a tangible common equity that is about 15 times higher than total assets.

The correlation coefficient tabulated in Table 17.2 provides interesting insight about the validation of our research hypothesis. In fact, the Pearson correlation coefficient shows that the variables CONS_{it} and SO_{it} are negatively correlated (e.g., -0.05), suggesting that when solidity increases, the level of conservatism should decrease. Also the Spearman's rho (not tabulated) is negative (e.g., -0.13), allowing us to reach robust conclusions about the correlation between the two variables.

In Table 17.3, we tabulate results of our regression model, which are useful to test the association between CONS_{it} and SO_{it}.

Our findings seem to validate our research hypothesis that accounting conservatism is negatively associated with bank solidity. As expected, the regression coefficient of SO_{it} is negative (e.g., -0.306) and statistically significant at 1%. The interpretation of this result is strictly correlated with the specification that we use to test our hypothesis. In a log-log model (Stock and Watson 2009, p. 242), this means that an increase of +1% of the tangible common equity is associated with a reduction of 30.6% of accounting conservatism.

Findings validate the argument that the more the bank is solid in terms of capability to absorb losses with high-quality capital components, the lower is the demand for accounting conservatism. This is consistent with the literature that provides evidence that the demand for conservatism mitigates bankruptcy risk in entities whose risk culture leads risk management to select low-quality capital components to absorb losses.

Table 17.3 Research results

	Coefficient	Standard error	T-statistic	$P > t $
_constant	+0.007	+0.403	+0.020	+0.985
SO_{it}	-0.306	+0.113	-2.700	+0.008
Fixed effects	(omitted)			
No. of obs: 198			R-squared: +0.55	
F-statistic: 14.62			Adj R-squared: +0.51	
Prob > F: 0.00			Root MSE: +0.71	

The table reports the results of our multivariate analysis, regressing the price-to-book ratio (CONS_{it}) with the tangible common equity as a percentage of total assets (SO_{it}), and in particular the regression coefficients, their standard errors, *t*-statistics, and *p*-values. The table also shows the number of observations, the *F*-statistic and its *p*-value, measures of goodness-of-fit (e.g., *R*-squared and adjusted *R*-squared), and the root mean square error

To test the robustness of our findings, we re-run our regression model within the continental countries, where attitudes toward conservative accounting are higher. According to Gray (1988, p. 10), conservatism varies according to country, ranging from a strongly conservative approach in the Continental European countries, such as France and Germany, to the much less conservative attitudes of accountants in the UK. Excluding the UK and Ireland, our findings continue to be validated, with the regression coefficient of SO_{it} equal to -0.43 and statistically significant at 1% (e.g., *p*-value < 1%). Also, excluding UK, Ireland, Denmark, and The Netherlands, and thus running the regression over the so-called weak equity countries of Nobes (2008), our findings continue to be validated. In this case, the regression coefficient is -0.54, statistically significant at 1% (e.g., *p*-value < 1%).

17.5 Discussion and Conclusion

Risk culture is a broad concept that scholars have only begun in recent years to investigate with both theoretical and empirical analyses. Among other aspects, risk culture influences the risk manager's activities regarding the choice of the bank's capital components that have to absorb losses, affecting the solidity of the financial entity. This chapter investigated the relationships between accounting conservatism and bank

solidity (a dimension of risk culture), opening the interest of accounting studies toward the risk culture concept and the dimensions that scholars could use to proxy it.

Results show not only the presence of a negative correlation between accounting conservatism and bank solidity but also the presence of an association of the same sign. This finding demonstrates that banks with a solid risk culture, with the attitude to select high-quality capital components to absorb losses, are those with a lower demand for conservatism. This is consistent with the literature that shows how, in entities with high bankruptcy risk (e.g., less solid banks), the demand for accounting conservatism is higher compared with banks with low bankruptcy risk (e.g., more solid banks).

Despite the contribution and the implication of this research, it is limited in that we focus on only one dimension of risk culture—that is, the attitude of the risk manager within the firm to select the most proper bank capital to absorb losses due to the manifestation of risks. Focusing only on one dimension of risk culture is unavoidable for quantitative studies for two reasons: first, because there is fragility in the measures of cultural values (Karolyi 2015), and second, because quantitative methods are used primarily to evaluate the risk culture indirectly (Carretta and Bianchi 2016). Future research could focus on other dimensions of risk culture. They could also use a different proxy to control for bank solidity in order to validate the hypothesis of this research. For instance, another proxy of bank solidity is the attitude toward financing total assets using equity instead of debt. So, future research could verify whether conservatism is negatively associated with the European bank's attitude toward financing total assets by using equity instead of debt. Banks that are less leveraged (e.g., more solid) should experiment lower levels of conservatism, assuming that conservatism is useful to mitigate bankruptcy risk. Future research could also study whether firms' characteristics, such as the business model used, affect the relation between conservatism and bank solidity. The motivation of such interest regarding the business model is due to the awareness that within different business models, we can find different risk cultures. Actually, there is a strict relation between the business model concept and risk in financial entities (Mechelli et al. 2017). According to the recent regulation,

the risk-taking process, the governance arrangements, the prices of assets and liabilities offered to clients, the firm performance, and the adequacy of the leverage ratio should be coherent with the business model of financial entities. As of January 1, 2018, the accounting policies for measuring financial instruments will also be influenced by the business model of such entities, leading us to hypothesize that different business models identify different risk cultures.

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18

Role of Internal Audit on Risk Culture

Fabio Arnaboldi and Caterina Vasciaveo

18.1 Introduction

In the last years, the financial turmoil and scandals have highlighted the limits of the traditional corporate governance and regulatory systems, based primarily on capital and financial criteria.

Several events of misconduct¹ in the financial and/or business world² have led to identify a direct link between individual behavior and the occurrence of financial crises. Risk culture has time after time acquired a key role in the analysis of the causes underpinning the exposure of financial institutions to significant risks, or even default, damaging customer trust and causing significant losses for the various stakeholders.

Besides, business model challenges, due to macroeconomic scenarios, are raising concerns regarding innovation schemes not adequately addressed by consolidated risk appetite frameworks, contributing to

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emphasize the role of ethics. Behaviors are more and more in the spot of stakeholders and the sustainability of business models is considered tightly bound to a sound risk culture and to a stable growth, facilitating a proper allocation and monitoring of capital and the delivery of expected outcomes to clients.

Financial crises have clearly highlighted that a compensation and incentive system based on a rational which fails to consider/relate performances to the risks taken, or grounded on short-term goals, threatens the stability of financial institutions, affecting the entire financial system. Typical risks of poor culture reflect in business strategies far from firm values and sound conduct, remuneration criteria, facilitating business short-term objectives and failures in accountability.

In terms of control activities, the system based on the three lines of defense, pursued so far by most of financial institutions can be further strengthened by a clear accountability of each corporate function in the achievement of a risk culture framework (RCF) consistent with the corporate values. The internal audit function can play a fundamental role in either providing assurance or consulting on risk culture to the Board. In our view, the assurance on risk culture shall leverage on an assessment of the comprehensive RCF and on elements of risk culture, in alignment with corporate and ethical values as well as spread in audit engagements. To this aim, internal audit needs to invest on audit techniques oriented to evaluate behaviors and soft skills along with more traditional hard evidence. In fact, the consolidated audit approaches shall be combined with methodologies that specifically include behavioral analysis.

In the following, we are reporting on an audit approach that leverages on activities performed in collaboration with the association of internal auditors in Italy (AIIA) which have led among others to a paper published in April 2016 and entitled “Risk Culture.”³

Starting from the definition proposed within the chapter, according to which risk culture is “*the set of common values, behaviors and approaches of single individuals, subgroups and groups within an organization, which establish how the members of the organization itself identify, assess, discuss and manage risks,*”⁴ we analyze the following five fundamental areas underlying the risk culture assessment:

- Internal Audit mandate assigned by the Board
- Perimeter of risk culture framework
- Main audit techniques aimed to evaluate risk culture
- Risk culture control objectives and risk culture indicators
- Audit reporting.

18.2 Internal Audit Mandate Assigned by the Board

In agreement with the recommendations made by the Chartered Institute of Internal Auditors (2013)⁵ and the guidelines issued by EBA (2014)⁶ on the SREP process, internal audit shall include the risk and control culture of the firm within the scope of its corporate governance assessment. In order to make internal audit effective in terms of risk culture, it might be also appropriate to rely on a proper audit mandate. To this end, the audit charter shall extend the audit mandate to risk culture as well. Indeed, given the potential of sensitive matters within corporate governance and particularly in risk culture, it is imperative for internal audit to be properly sponsored by the Board and to receive such sponsorship via the annual approval of the audit plan. In this respect, it is quite advisable to include the risk culture within the audit universe as part of corporate governance so to evaluate it in the annual plan.

The perimeter of assurance and consulting can be also analyzed considering typically the level of complexity of internal/external environment of the firm (e.g., regulatory requirements, level of competition; frequency of organizational/business/strategic changes; level of exposure to risks) and the level of organizational maturity (e.g., level of organizational cycle maturity; level of maturity of organizational processes).

The more the organizational model is developed and corporate processes are stable, the more the internal audit's assurance activity is likely to be requested by the Board. On the other hand, the more a complex internal/external environment is significant, the more the consulting activities are likely to be demanded.

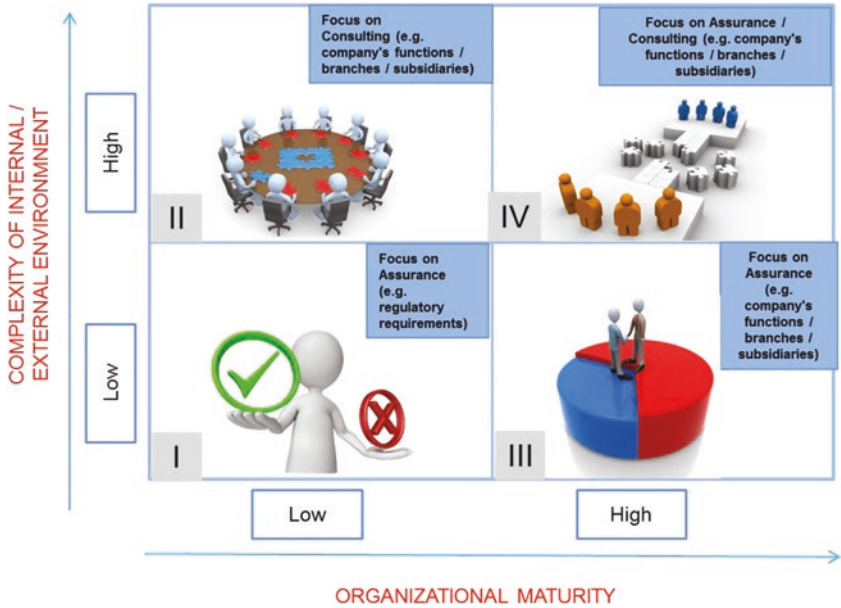


Fig. 18.1 Role of internal audit

To clarify the overview of drivers leading to consulting/assurance activities, we have built up a matrix (see Fig. 18.1—Role of internal audit) laying upon two drivers: level of organization maturity and level of complexity of internal/external environment.⁷

In the square “I” linked to a low level of organizational maturity (e.g., unclear set-up of roles and responsibilities) and internal/external environmental complexity (e.g., limited exposure to risks), we expect a higher frequency of audit assurance engagements on risk culture rather than consulting activities. In particular, assurance activities are likely to be focused on the organizational procedures/practices that are more traditionally connected with regulatory/compliance requirements (e.g., remuneration criteria).

In the square “II” marked by a low level of organizational maturity and a high level of internal/external environmental complexity (e.g., high level of branches and subsidiaries, severe regulatory requirements,

and high-risk appetite compared to peers), we can expect a higher frequency of consulting activities performed by Internal Audit rather than assurance activities. In particular, we can expect an activity designed to explore the impact of risk culture on the risk appetite and corporate behavior of those specific activities/functions/branches/subsidiaries exposed to high competitive pressure and high exposure to risks.

In the square “III” featuring a high level of organizational maturity and a low level of internal/external environmental complexity, we can expect a higher frequency of audit assurance activities rather than consulting activities. The risk culture assurance activity, given the higher organizational development (compared to companies depicted in the square “II”), might address in particular a broader scope of corporate functions roles and their capability of fulfilling corporate values in line with strategic business objectives.

In the square “IV,” featuring a high level of organizational maturity and a high level of internal/external environmental complexity, we can expect a higher number of companies with a highly developed organizational model and, at the same time, a considerable internal/external environmental complexity (including risks exposure) with a risk appetite that is generally higher compared to peers. Given its features, this area allows for both assurance and consulting activities. More specifically, risk culture in this perimeter shall be carefully assessed; indeed, high levels of external competition and a higher risk appetite compared to the peers together with consolidated organizational models might trigger Senior Management and Board’s “overconfidence” in the organizational model itself. In such circumstances, the Board might underestimate the risk culture impacts deriving, for instance, from high competitive pressure and/or strategic business changes.

Confirming once again the emphasis assigned by the Board and Senior Management to the dissemination of ethical values and to daily risk management throughout the organization, it would be advisable for Board and Senior Management to be permanently engaged in assessing and monitoring risk culture within the institution and to periodically evaluate the scope of activities/duties to assign to the internal audit.

18.3 Perimeter of Risk Culture Framework

The evaluation of risk culture has been assessed in the last years especially in the UK and the USA, also due to the several financial scandals which have affected the financial sector. We have noticed two main drivers of assessment which can be classified as bottom-up and top-down approaches. In a nutshell, the bottom-up approach consists of including risk culture elements (e.g., control objectives and risk culture indicators) in each audit engagement, whereas the top-down approach consists of assessing the RCF as a whole. We believe both approaches should be adopted in the assurance on risk culture as together provide elements which contribute to an effective risk culture assessment.

In order to allow for an effective pursuit of corporate values in line with strategic business objectives, especially in complex companies with a high-risk appetite (compared to the peers), it is advisable to assess the implementation of a RCF involving all corporate functions. In the following, we present a RCF model, expected to involve Senior Management and all corporate functions, especially risk management, compliance, internal audit, human resources, and other business functions, each of them with its own specific tasks and duties.

At first, in this model, the Board shall issue guidelines in terms of clear responsibilities assigned to the various corporate functions with respect to the drivers of risk culture identified in the corporate governance.

In particular, risk management is the key function which can support the Board in its implementation and monitoring of the RCF, given its key role in setting the risk appetite. Further, risk management should monitor the risk culture indicators developed by the various corporate functions based on their duties. Also, human resources function is decisive in the implementation of the RCF. This function must support the organization, managing key corporate governance processes related to risk culture such as rewarding and incentive, sanctioning, recruiting, and induction processes. The compliance function, furthermore, is responsible for fundamental components of the RCF, such as the effective embedding of code of ethics in the firm, and the management of whistle blowing and prompt escalation processes.

Internal audit assumes an essential part in assessing the robustness and effectiveness of the RCF. The audit assurance shall address the fulfillment of strategic objectives in consistency with the etic values of the firm and the effective monitoring and reporting on risk culture towards the Board.

The design and functioning of the RCF can be analyzed in terms of progressive pervasiveness of risk culture and progressive extent of audit activities as well (see Fig. 18.2—RCF implementation assessment).⁸ According to the robustness of the RCF, internal audit activities can be variously tailored and provide progressively a more extensive perimeter of assurance. The model includes the following phases: development, foundation, maturity, and pervasiveness which involve progressively a different level of audit techniques such as interviews, surveys, internal and external benchmarking, and work programs including risk culture control objectives and risk culture indicators.

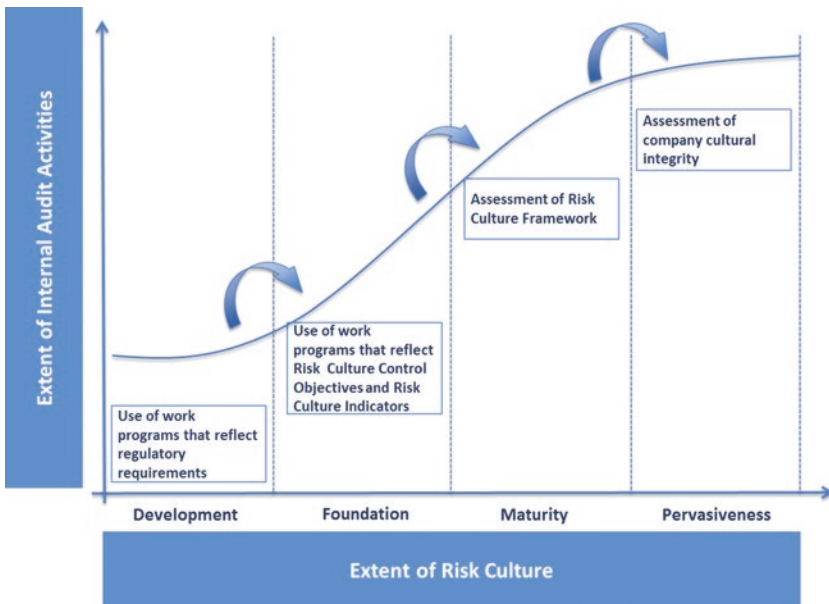


Fig. 18.2 RCF implementation assessment

In the **development** phase, the risk culture concept is not widespread in a granular way within the firm and risk culture-related activities are not fully coordinated yet within the firm. With respect to internal audit activities, the audit universe is “limited” to those processes that already encompass corporate governance drivers referred to risk culture (e.g., remuneration, incentives, internal control system evaluation) and to those which reflect regulatory requirements (e.g., ICAAP, compliance, Anti-Money Laundering and Know Your Customer). When moving from *Development* to *Foundation*, internal surveys led by the firm can help identifying the level of extent of risk culture elements and corporate values across the Board.

In the **foundation** phase, the firm has already defined roles and responsibilities to the corresponding key functions (e.g., risk management, compliance, human resources, finance, internal controls) that provide a systematic reporting to Senior Management within the RCF.

Risk culture in this phase is a separate element of the audit universe, to be further analyzed according to the corporate functions concerned. Besides, risk culture control objectives and risk culture indicators are frequently included in the work programs. In assessing the transition from *Foundation* to *Maturity*, Board and Senior Management properly evaluate the possibility of executing surveys addressing the entire scope of the four macro-categories identified by the Financial Stability Board: Tone at the top, Accountability, Communication, and Incentives.

In the **maturity** phase, the RCF is fully implemented, and the functions involved in its management are actively involved in the fulfillment of RCF objectives. Internal audit activities include a periodic assessment of the RCF and a regular application of risk culture control objectives and risk culture indicators. In the evaluation of the transition from maturity to pervasiveness, Board and Senior Management appropriately assess the execution of surveys designed to evaluate how risk culture elements are encompassed into corporate behavior and decision-making processes. Benchmarking during the transition from *Maturity* to *Pervasiveness* is designed to compare the dissemination of risk culture elements within the firm both with internal targets and peers. In particular, internal benchmarking is aimed to evaluate the integration of risk culture in the decision-making processes and daily operations of the firm.

In the **pervasiveness** phase, the RCF is implemented and benefits from an additional lever that encompasses the entire institution, representing an intrinsic element: attitude and openness to discussion and challenge. Ethical values effectively guide corporate actions, and this implies an increased attention to reputational issues at all levels of the firm. Also, the rewarding system is highly anchored to risk culture drivers. Benchmarking activities are carried out regularly on risk culture indicators. In such a mature firm, internal audit focuses, among others, on the actual extent of openness to challenge and of the effectiveness of management's self-disclosure of firm's issues.

18.4 Main Audit Techniques

Along with the more traditional audit techniques, the audit approach to risk culture calls specifically for the use of audit techniques designed to explore individual conducts and attitudes. In particular, techniques involving interviews, surveys, and (internal and external) benchmarking can be quite supportive in the identification of behavioral approaches.

Interviews allow for the assessment of a few elements which somehow affect behavior and thus individual attitudes, skills, and cultural "influences/alerts." More specifically, interviews can identify circumstances that can conflict with desirable corporate conduct and/or cultural conflicts between different corporate cultures within the firm; corporate approaches that do not match interviewees' personal/corporate values; circumstances that unveil different risk management approaches within the same organization/business line; and events that prevent/limit escalation process and/or open discussion on risks.

Internal surveys are extremely worthwhile to collect data and information on the self-awareness and adherence of firms' employees and management to corporate values across the different functions. In particular, themes such as accountability, communication of corporate values across the Board, consistency between rewards and incentive systems, and corporate values represent typical components of assessment within the risk culture surveys. Besides, surveys can be used to evaluate changes in the steering of corporate culture, triggered by the Senior Management.

Benchmarking instead can be quite helpful to evaluate the positioning of risk culture across different competence lines/functions and, in more advanced stages of pervasiveness of risk culture, towards different firms and peers.

Besides, considering the identification of **control objectives and key risk indicators** within the perimeter of risk culture, it is necessary to identify those components which are directly related to typical components of risk culture (risk culture control objectives and risk culture indicators mentioned, respectively, in the next as RCOs and RCIs). To this end, the identification of risk culture control objectives ought to represent the instruments to evaluate soft components (attitudes, behaviors, habits) jointly with risk culture indicators, aimed to support the evaluation of control objectives with quantitative measures.

18.5 Risk Culture Control Objectives and Risk Culture Indicators

The measurement of risk culture is generally recognized as one of the most significant challenges that internal audit has to face to in the assessment of risk culture. The Financial Supervisory Board (FSB), with the publication of *Guidance on Supervisory Interaction with Financial Institutions on Risk Culture—A Framework for assessing Risk Culture*—in 2014, has contributed significantly to the identification of key components of risk culture indicators which can support the audit assessment. In the development of an audit approach (combination of a top-down and bottom-up approach), we have considered extremely worthwhile to set-up a “catalogue” aimed to combine qualitative and quantitative components linked to the risk culture. The analysis we have performed has led on the one hand to the set-up of qualitative elements (linked to components highlighted by the FSB) and, on the other hand, to the set-up of quantitative indicators.

Starting from the four macro-categories identified by the FSB (tone from the top, accountability, communication and challenges, incentives), we have proceeded to define a “catalogue” of qualitative components (51 RCOs) and quantitative components (92 RCIs) linked to the

Macro-categories identified by the FSB	RCOs		RCIs	
		<i>(of which key)</i>		<i>(of which structural)</i>
Tone at the top	24	6	25	3
Accountability	11	4	32	4
Communication and challenge	6	3	8	1
Incentives	10	3	27	6
Total	51	16	92	14

Fig. 18.3 RCOs and RCIs catalogue

four FSB macro-categories (see also Fig. 18.3—RCOs and RCIs catalogue).⁹ To facilitate the progressive introduction of RCOs, a limited set of RCOs has been also marked as “**key**” (16) to highlight which control objectives ought to be preliminarily addressed, waiting for a full implementation of a RCF involving all different corporate functions.

The RCIs identified are quantitative indicators, to analyze both in terms of exact values in time and as trend over time. In particular, there are a few RCIs (14), incorporating “**structural**” characteristics, namely those indicators that provide evidence of a firm’s commitment to reinforce corporate risk culture in a forward-looking approach.

The catalogue does not have the ambition of representing a comprehensive overview of all the qualitative and quantitative components linked to risk culture but it is aimed to provide qualitative/quantitative hints in the risk culture assessment. From an operational perspective, we expect components of the catalogue to be carefully analyzed before the setting of work programs, to evaluate whether refinements/adjustments are necessary to reflect firm’s characteristics and features.

The table below summarily represents the number of RCOs and RCIs identified as well as a few examples of key risk culture control objectives and structural risk culture indicators.

Among RCOs and RCIs correlated to the tone from the top (see Fig. 18.4—Example of RCO and RCI linked to tone from the top),¹⁰ we have identified in the FSB macro-category/sub-category “tone from the top”/“assessing espoused values” the analysis of the RCO aimed to evaluate whether short-term objectives are in alignment/misalignment with market objectives trends. Such RCO has been considered key as

Macro-category identified by FSB	Sub-category identified by FSB	Key RCO	RCI
Tone from the top	Assessing espoused values	Evaluation of short term objectives growth rates with market trends (or explanation of any gap)	Number of firm budget short-term targets exceeding market short term growth rates

Fig. 18.4 Example of RCO and RCI linked to tone from the top

the setting of strategic objectives is a fundamental driver of the risk culture assessment. Its comparison versus market figures might be then an indication on how the firm encourages and manages the risk taking. The designed RCI is built up to provide a quantitative dimension of corporate targets far from average peers targets. The evaluation of challenging objectives compared to average market data requests an analysis of sustainability of firm strategy considering risk appetite and corporate values. A number of short-term budget objectives relatively higher compared to the markets data might be an indicator of excessive *risk taking*, unless supported by a proper rationale.

Among RCOs and RCIs correlated to accountability (see Fig 18.5—Example of RCO and RCI linked to accountability),¹¹ we have identified in the FSB macro-category/sub-category “accountability”/“ownership of risk,” the analysis (as key RCO) of a clear and effective assignment of responsibilities to business functions in terms of risk management. The purpose of such a control objective is to analyze how much the ownership of risk is directly tied to the accountability of middle management and senior management of the firm. Among the RCIs linked to this RCO, we have included the measurement of gaps self-disclosed by the business compared to the issues highlighted by the control functions in the same period (structural RCI). The more the ratio is closer to 100%, the more the measurement of this indicator is a positive signal in terms of sound risk culture. The identification of such an indicator as structural is linked to its prospective positive influence of the corporate governance of the firm.

Among RCOs and RCIs correlated to accountability (see Fig. 18.6—Example of RCO and RCI linked to communication and challenge),¹² we have identified in the FSB macro-category/sub-category

Macro-category identified by FSB	Sub-category identified by FSB	Key RCO	Structural RCI
Accountability	Ownership of risk	Clear identification of management of risks accountability within the chain of business lines	Number of critical issues self-disclosed by business managers versus critical issues raised by control functions (including Internal Audit)

Fig. 18.5 Example of RCO and RCI linked to accountability

Macro-category identified by FSB	Sub-category identified by FSB	Key RCO	Structural RCI
Communication and challenge	Openness to alternative views	Periodic communication flow between senior management and other staff on business goals and risks	Number of internal communication of CEO and senior managers to facilitate the consistency between current behaviors and expected behaviors

Fig. 18.6 Example of RCO and RCI linked to communication and challenge

“communication and challenge”/“openness to alternative views,” the assessment of communication flow carried out by the Management Body/Senior Management towards the firm’s staff on firm objectives and business risks.

Such a control objective is identified as key due to the value assigned to a proper and explanatory communication of business objectives and business risks. Among the RCIs linked to this RCO, we have identified (as structural RCI) the number of communications put across by the CEO and Senior Management aimed to strengthen the coherence between the corporate values and behaviors. Outlining, properly and frequently, such messages are considered an important driver in terms of a sound risk culture in a forward-looking perspective.

Besides the above-mentioned example, in the RCOs and RCIs correlated to the incentives, we have identified in the FSB macro-category/sub-category “incentives”/“remuneration and performance” (see Fig. 18.7—example of RCOs and RCIs linked to Incentives)¹³ an evaluation of an effective process of performances in alignment with corporate values (*key RCO*). Such

Macro-category identified by FSB	Sub-category identified by FSB	Key RCO	Structural RCI
Incentives	Remuneration and Performance	Formalized process and effective functioning of performance evaluation process in alignment with firm values	Significance of variable components of incentive system related to RAF and expected behaviors versus total number of variable components of incentive system

Fig. 18.7 Example of RCO and RCI linked to incentives

Macro-category identified by FSB	Sub-category identified by FSB	RCO	RCI
Incentives	Succession planning	Clear and transparent process ruling the appointment of senior management	Number of appointments of business senior managers with former experiences in control functions / number of appointments of business senior management

Fig. 18.8 Example of RCO and RCI linked to incentives

an evaluation is considered a significant driver of a proper risk culture to ensure that rewards criteria are linked to a sound sustainability of the company and corporate values. In particular, among the RCIs, related to this RCO, we have identified a RCI (structural RCI) which measures how many variable components affecting the remuneration are linked to Risk Appetite and corporate values on the total of variable components. The more such ratio is closer to 100%, the more we can collect evidences of remuneration policies effectively linked to a sound risk culture.

Among the RCOs and RCIs correlated to the incentives, we have identified, in the FSB macro-category/sub-category “incentives”/succession planning” (see Fig. 18.8—example of RCOs and RCIs linked to Incentives),¹⁴ the transparency of the appointment of senior management based on proper and formalized criteria. In particular, the related RCI reflects how many appointments in business functions refer to managers having matured an experience within the control functions compared to the total of appointments of business managers. In terms of risk culture, the more such a ratio is higher, the more we collect

evidences of succession planning policies effectively linked to a sound risk culture and to attitudes oriented to spread risk culture across the Board.

18.6 Audit Reporting

Based on audit standards and practices, the assurance audit assessment reflects the evaluation of the internal control system (ICS) as a whole. Generally, the assessment of the risk culture is considered within the assessment of the governance as a typical component of the ICS. However, due to the specific nature of risk culture, we are wondering whether in all circumstances it is appropriate to include directly in the evaluation of control system the evaluation of risk culture or, when advisable (e.g., when significant deviations/best practices of behaviors/attitudes apply), to provide a specific assessment of risk awareness and management (distinctively from the evaluation of control system).

Probably a distinctive evaluation of the two components might facilitate both effective actions from the Board in terms of adequate and sound steering of culture, and other actions addressing gaps in controls design and functioning. However, providing an autonomous evaluation of risk culture reflecting “risk culture awareness and management” of managers and staff requests at first a proper mandate of the Board and secondly a proper and sound process of rewarding and consequence management which extends to ethical values.

The overall rating linked to risk culture awareness and management shall take into account, among others, discrepancies between corporate values and behaviors, discrepancies of risk management approaches within various layers of the firm, as well as internal benchmarking among functions/subsidiaries.

Corporate governance and risk culture can be either strengthened or weakened by behaviors of Senior Management, Middle Management, and Staff. Adopting a separate risk culture awareness and management from the overall rating of the internal control system would lead to a more effective comprehension and interpretation of current and potential risks of the firm by the Board.

18.7 Conclusions

The steering of risk culture is a direct responsibility of the Board and Management of the firm. The Board of the firm is particularly in charge of setting a RCF, involving all corporate functions, which ensures that behaviors are aligned with risk appetite and corporate ethic values. Internal audit is asked to define an audit plan which extends to risk culture, to carry out audit techniques capable of analyzing qualitative and quantitative elements representative of risk culture (e.g., interviews, surveys, and benchmarking) as well as to adopt work programs including risk control objectives and risk culture indicators to move progressively towards a full assurance on the RCF.

In terms of audit reporting, a broader pervasiveness of risk culture across the firm will allow a more reliable level of assurance on the RCF. In addition, it will be progressively possible to report distinctively on the level of risk awareness and management, provided a clear system of rewarding/consequences management aligned with ethical values as well.

Analyzing and providing an assurance on risk culture is crucial in the current period of macroeconomic instability, rapid changes, and high levels of innovation, as the corporate culture influences directly and deeply the possibility of fulfilling strategic objectives in alignment with the risk appetite and corporate ethic values. Furthermore, analyzing and providing an assurance on risk culture will contribute to align behaviors with the interests of customers, market stakeholders, and society as a whole.

Notes

1. According to the Report on misconduct risk in the banking sector—European Systemic Risk Board (June 2015), the prevention of misconduct should address the behavior of individuals/groups which is not aligned with the interests of customers, market participants, and society at large. The causes of misconduct mentioned in the report include moral hazard, information asymmetries and conflicts of interest, herding behavior

(misconduct at one bank spreads across the sector), and lack of competition.

2. Cases of misconduct have resulted in corporate crises (including Northern Rock, Lehman Brothers, Fannie Mae, and Freddie Mac), financial scandals (e.g., the LIBOR rate-rigging scandal), and in several sanctions against multiple financial institutions (including RBS, JP Morgan, Credit Suisse, HSBC, Bank of America) and lately industrial sector too (Volkswagen).
3. The activities have involved representatives of Intesa Sanpaolo, Deutsche Bank, Monte Paschi di Siena, and UniCredit and leveraged on the contribution of academics (Alessandro Carretta—Professor of Economy of financial markets at University of Tor Vergata in Rome—and Paola Schwizer—Professor at SDA Bocconi School of Management) and consultants—Protiviti.
4. The discussion and the management of risks extend to corporate conditions that allow escalation paths if the principles of integrity/ethical values are hindered.
5. See “Effective internal audit in the financial services sector” issued by Chartered Institute of Internal Auditors in July 2013.
6. See “Guidelines on common procedures and methodologies for SREP” issued by European Banking Authority in December 2014.
7. Refer also to the matrix on level of organizational maturity and complexity of external/internal environment, pointing at significant drivers of Audit mandate on risk culture, in the par. 4.1, Audit function mandate on risk culture in AIIA—“Risk Culture”; December 2015.
8. Refer also to the proposed development overview of the risk culture framework described in the par. 5, Risk Culture Framework in “Risk Culture”; December 2015.
9. Refer also to the Appendix 18.1 where the full list of Risk Culture Control Objectives—RCOs and Risk Culture Indicators—RCIs is provided. The analysis of RCOs and RCIs is related to risk culture control objectives and risk culture indicators described in the attachment 5 control objectives and risk culture indicators in AIIA—“Risk Culture”; December 2015.
10. Refer to the Note 9.
11. Refer to the Note 9.
12. Refer to the Note 9.
13. Refer to the Note 9.
14. Refer to the Note 9.

Appendix 18.1 Control Objectives and Risk Culture Indicators

Risk Culture					
FSB macro category / sub category		Control Objectives	Key Control Objective	Risk Cultural Indicators	Structural Indicators
Tone from the top	Leading by example	Ethic code and corporate values embedded in the organization	√	Amount of losses, penalties or fines due to non compliance with regulatory requirements versus internal /external benchmarking (In a first stage trend analysis may replace benchmarking)	
				Number of internal compliance investigations versus internal /external benchmarking (In a first stage trend analysis may replace benchmarking)	
				Number of ethic code breaches not linked to fraud /number of total breaches including fraud events	
				Average timing closing of findings raised by internal control functions/external regulators versus average closing timing objectives set by senior management.	
		Board commitment to widespread and steer risk culture		Budget allocated to risk culture projects by FTE	√
				Number of strategic actions approved by the Board, aimed to strengthen components of corporate governance to risk culture (e.g. remuneration, sanctions, training) / total number of strategic actions as from strategic plan of the company	√
		Board periodic self evaluation of effective risks management		Number of internal survey / strategic actions triggered by periodic self evaluation of board aimed to strengthen the management of risks	√
		Systems of rewards/sanctions properly linked to the assessment and management of risks			
		Broad extent of moral, independent and professional requirements applicable to Audit Committee members			
		Individual performance system properly coherent with corporate values	√		

FSB macro category / sub category		Risk Culture			
		Control Objectives	Key Control Objective	Risk Cultural Indicators	Structural Indicators
		Clear and transparent process ruling the appointment of board members, executive committees members and senior management		Number of board members, executive committees members and senior managers affected by external and internal sanctions / total number of board members, executive committees members and senior managers	
				Number of board members, executive committees members and senior managers compliant with all requirements requested by vetting policies / total number of board members, executive committees members and senior managers	
		Clear and transparent process ruling the appointment of management roles		Number of bottom up assessments related to the appointment of management roles / number of new appointments of management roles	
	Assessing espoused values	Sound alignment between behaviors held by senior and middle management		Scores and trend analysis of surveys on company cultural values, attitudes and behaviors tailored on senior management-middle management and employee surveys, aimed to highlight potential differences	
		Sound widespread of control system and red flags implemented by business			
		Analysis of budget versus market trends and RAF			
		Evaluation of short term objectives growth rates with market trends (or explanation of any gap)	√	Number of company budget short-term targets exceeding market short term growth rates	
Evaluation of medium/long objectives term growth rates with market trends (or explanation of any gap)		Number of company budget strategic targets on medium-long term exceeding market long term growth rates			

FSB macro category / sub category		Risk Culture			
		Control Objectives	Key Control Objective	Risk Cultural Indicators	Structural Indicators
Ensuring common understanding and awareness of risk	Structured and formalized approach steering the Risk Culture across the organization	√			
	Clear traceability of override process decision activated by Board and Senior Management		Number of decisions taken a month/year* by Board and Boards Committees notwithstanding negative opinion of Risk Management and or leading to infringements of ethic code and internal guidelines (even if not deviating from violations of laws and regulatory requirements)		
	Formalized and structured link among risk appetite, business strategies and rewards			Evaluation of survey questions aimed to analyze behaviors in compliance with RAF thresholds and company strategies	
				Weight assigned to compliance requirements within the rewards system	
	Risk appetite framework reflects reputation and operational risks				
	Granularity of RAF encompassing strategic decisions		√	Number of decisions which set off RAF triggers and/or exceed RAF limit thresholds/ total number of decisions linked to RAF trigger-limits	
				Outstanding amount of transactions-portfolios which set off RAF triggers and/or exceed RAF limits / total amounts of decisions-portfolios linked to RAF trigger-limits	
				Number of decisions linked to RAF thresholds taken by senior management / total senior management decisions	
	Clarity in the communication of consequences subsequent to RAF breaches				
	Clarity and granularity of rewards systems				
Structured process of collection of Risk Culture Indicators across the organization					

FSB macro category / sub category		Risk Culture			
		Control Objectives	Key Control Objective	Risk Cultural Indicators	Structural Indicators
	Learning from past experiences	Analysis of areas of improvement on compliance requirements and ethic behaviors	√	Regression analysis of number of complaints compared with survey's scores on ethic values (with reference to espoused values) by business line. (In a first stage trend analysis may replace regression analysis)	
				Regression analysis of number of litigations compared to ethics survey's score (with reference to espoused values) by business line. (In a first stage trend analysis may replace regression analysis)	
				Correlation rate between number of compliance breaches and number of internal sanctions	
		Timely closing of root causes triggered by issues arisen from survey on Risk Culture		Comparison of timely closing of root causes of issues disclosed by survey on Risk Culture and assigned to business, Compliance, Risk Management, and IA versus internal benchmarking	
		Analysis of contents stated in the policy on "conflict of interest"		Number of conflict of interest incidents by business line versus internal /external benchmarking (In a first stage trend analysis will replace benchmarking)	
				Number of sanctions linked to conflict of interest by each business line versus internal / external benchmarking (In a first stage trend analysis will replace benchmarking)	
Accountability	Ownership of risk	Correspondence between strategic decisions ownership on risks and accountability	√	Over budget returns (within RAF thresholds) versus budget returns (linked to RAF) by business line	
		Clear identification of management of risks accountability within the chain of business lines	√	Number of operational processes not formalized in the organizational procedures but self disclosed by business / total of processes not formalized in the organizational procedures but disclosed by business and control functions	
				Number of organizational processes linked to Process Owners / Total number of organizational processes	

Risk Culture					
FSB macro category / sub category	Control Objectives	Key Control Objective	Risk Cultural Indicators	Structural Indicators	
			Number of critical issues reopened by Internal Audit, Compliance, Risk Management, Security or other external assurance functions versus internal /external benchmarking		
			Number of critical issues self-disclosed by business managers versus critical issues raised by control functions (including Internal Audit)	√	
			Number of issues (Tableau de Board) self disclosed by senior management /total number of issues		
			Number of red flags indicators identified, implemented by business and regularly reported (e.g. mandatory training; trading on own accounts; gifts alerts; rewards components of senior management in business; restricted list trading breaches; clearing rules breaches; conflict of interests breaches; breaches in the new product approval process; use of internal models not officially approved/validated; credit limits breaches; issues in the P/L sign-off process of product control) versus internal / external benchmarking		
			Number of "grey" areas disclosed by Risk Management and Compliance/ total number of "grey" areas identified by control functions		
			Formalized process of sharing of top risks among control functions and HR	Number of risks reports prepared jointly by Compliance, Risk Management, Internal Audit and HR per year	
			Effective management of issues disclosed by surveys on risk culture	Number of new actions / initiatives of senior management triggered by risk culture survey scores/ total of actions triggered by internal surveys	√

Risk Culture					
FSB macro category / sub category	Control Objectives	Key Control Objective	Risk Cultural Indicators	Structural Indicators	
	Horizontal and vertical sharing of risks within the organization		Number of cross functional business meetings (extended to business and control functions) directed to business line FTEs / total number of business meetings directed to business line FTEs		
			Number of meetings held by Risk Owners processes directed to the business line FTEs / Number of business meetings directed to the business line FTEs		
			Number of annual meetings of executive committees set up to discuss new products/new projects/risks		
			Frequency rate of Process Owner' sign-off assessment (by year)		
			Number of annual reviews of self assessment carried out by Process Owners		
	Escalation process	Effective functioning of escalation process		Use of statistics related to the escalation process (e.g. use extent)	
				Number of incidents raised within the escalation process / number of escalation incidents confirmed	
				Evaluation of scores of survey extended to self-awareness of escalation process and level of openness to critical challenge versus internal-external benchmarking	
				Number of surveys related to risk culture/total surveys	√
		Formalized process and effective functioning of whistle blowing process	√	Number of confirmed issues / number of communicated issues	
		Correlation rate between number of internal/external sanctions versus issues communicated through whistle blowing lines			
		Number of issues communicated through whistle blowing lines / number of fraud events			

Risk Culture					
FSB macro category / sub category	Control Objectives	Key Control Objective	Risk Cultural Indicators	Structural Indicators	
	Process of consequences management	Formalized and effectively functioning sanction process		Number of sanctions linked to breaches of ethic code / number of internal sanctions	
		Communication process aimed to clarify "consequences management" on internal disputes and applicable sanctions			
		Periodic reporting on incidents across the organization and related consequences	√	Number of incidents (operational losses) regularly disclosed internally to the organization / total of incidents	
				Number of consequences affecting career path, remuneration and termination / number of incidents	√
		Clarity in the accountability for actions addressing current behaviors deviating from expected behaviors		Surveys' scores on cultural values and behaviors versus internal / external benchmarking	
				Surveys' scores on the occurrence of questionable behaviors (with reference to the ethic code) across all levels of organization versus internal/external benchmarking	
				Trend analysis of average fines due to sanctions not linked to fraud	
				Trend analysis of cases of law breaches not linked to fraud and causing sanctions for the company	
				Number of law breaches not linked to fraud which have led to sanctions for the company/number of law breaches not linked to fraud	
				Number of internal open disputes (e.g. complaints) related to 'business ethic' / total disputes (open by business line, by year)	
Number of FTEs affected by internal sanctions / average total FTEs					

Risk Culture						
FSB macro category / sub category		Control Objectives	Key Control Objective	Risk Cultural Indicators	Structural Indicators	
Effective communication and challenge	Openness to alternative views	The company retains people who can demonstrate an ability to escalate issues or challenge them	√			
		Periodic communication flow between senior management and staff on survey scores		Number of town hall meetings a year		
				Trend of survey issues scores on company culture values across different layers of organization (senior management, middle management, employees) versus internal/external benchmarking		
		Periodic communication flow between senior management and other staff on business goals and risks	√	Number of department meetings a year Number of internal communication by which senior management communicates objectives and general and specific risks by business sector		
				Number of internal communication of CEO and senior managers to facilitate the consistency between current behaviors and expected behaviors	√	
	Stature of control functions	Formalization of competencies by business line and control functions	√			
		Periodic communication flow among Risk Management, Compliance and Internal Audit		Number of meetings dedicated to discuss top risks, emerging risks among Risk Management, Compliance, Internal Audit per year		
		Comparable organizational stature between control functions and business functions			Average level of seniority within control functions versus average level of seniority within business functions (considering both senior management and middle management) on the headquarter	
					Average level of seniority within control functions versus average level of seniority within business functions (considering both senior management and middle management) in decentralized offices	

Risk Culture						
FSB macro category / sub category		Control Objectives	Key Control Objective	Risk Cultural Indicators	Structural Indicators	
Incentives	Remuneration and performance	Formalized process and effective functioning of performance evaluation process in alignment with company values	√	Significance of variable components of incentive system related to RAF and expected behaviors versus total number of variable components of incentive system	√	
				Number of incentive components related to control activities / total number of components of incentive system		
				Number of incentive components related to ethical values / total number of components of incentive system		
				Number of variable components (by senior management, middle management and other staff) / number of total incentive components		
				Significance (e.g. to calculate by percentage and amount) of economic components with delayed disbursement (considering performances as well) versus perimeter of economic components (salary, bonus; fringe benefits)		
		Assignment of risk culture objectives through the annual performance system		Number of FTEs having risk culture objectives within the performance evaluation scheme /total number of FTEs	√	
		Clear and structured process of evaluation & development		Number of escalation issues on performances evaluation/ total number of performance evaluations		
			Number of FTEs involved in talent management programs / total FTEs (by business line)			
		Succession planning	Clear and transparent process ruling the appointment of senior management		Number of appointments of business senior managers with former experiences in control functions / number of appointments of business senior managers	
				Number of FTEs moving among control functions / total FTEs working in the control functions versus internal/external benchmarking		

		Risk Culture			
FSB macro category / sub category		Control Objectives	Key Control Objective	Risk Cultural Indicators	Structural Indicators
				Number of senior managers/total senior managers (number of middle managers) appointed after being subject to a vetting process / new appointments of senior managers (middle managers)	√
		Clear and transparent process ruling the succession planning		Number of deputy roles replacing managerial roles / newly appointed managers (by year)	
				Number of external managers replacing managerial roles / newly appointed managers (by year)	
				Number of breaches in the appointment process of management roles / Total number of appointments of management roles (considering policies requirements)	
		Sound process of preliminary training development on risks dedicated to the succession planning of senior management and middle management	√	Number of managers (split by senior managers and middle managers) undertaking the training in advance/total number of managers (split by senior managers and middle managers)	
	Talent development	Clear and structured process of mapping of roles linked to competencies		Number of FTEs matching appropriate role competencies / total number of FTEs	
				Number of managerial roles (number of professional carrier paths) linked to risk competencies (e.g. certificates, diplomas)/total number of managerial roles (total number of professional carrier paths)	
		Sound process of job rotation between control functions and business		Number of people moving from (to) business to (from) control functions / total business (control functions) FTEs versus internal/external benchmarking	√
				Number of business managers with former experiences in control functions / total business managers	
		Sound turnover of personnel		Number of control function managers having former experience in business / total control functions managers	
				Number of voluntary resignation / Total number of resignation versus internal/external benchmarking	

Risk Culture					
FSB macro category / sub category		Control Objectives	Key Control Objective	Risk Cultural Indicators	Structural Indicators
		Sound process of training on risk culture	√	Number of people selected for the attendance of risk culture training / Number of employees	√
				Number of senior managers involved in risk culture training / number of senior managers	
				Number of senior managers actively involved in risk culture projects / Number of senior managers	
				Number of senior managers having (among personal performance objectives) a professional involvement in risk culture projects/ Total number of senior managers	√
				Number of courses regularly attended (aimed to widespread risk competencies) / Total number of courses attended within a certain period (e.g. quarter, year)	
				Number of FTEs requested to attend courses on risk competencies / Total number of FTEs attending training courses	

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