Coordination & cooperation in financial regulation: Do regulators comply with banking culture?

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1. Introduction

This paper identifies cultural gaps as a possible stumbling block in the efficient exchange of information and the sharing of problems and goals among regulators and the industry, with respect to the recent innovations introduced in the financial sector, which are orienting the supervisory authorities towards the adoption of new interaction models with the supervised financial intermediares.

In greater detail, the paper describes how financial supervisory models have evolved towards solutions based on increasing cooperation between the regulators and financial intermediaries (§ 1). This has led to the definition of a new role for the supervisory authorities, which, in parallel, encourages the innovation of the organizational tools employed for communicating and exchanging information with the supervised entities (§ 2). These tools are classified and analyzed, with respect to their field of application and their connections with the supervised fields (§ 3). Consequently, in order to analyze the sharing of knowledge and cultural models between the supervisory bodies and the supervised entities, it is important the in-depth assessment of the current extent of the cultural gap. The paper then presents a cultural survey, based on the application of a text-analysis model to a corpus of reference texts produced by three samples, drawn from among the supervisory bodies (Basel Committee and Bank of Italy) and the supervised entities (§ 4). The empirical survey results reveal many fields of cultural differentiation, alongside several important areas in which the orientations of the parties tend to overlap (§ 5).

2. Recent trends in supervisory models

The issue of banking regulation is at the centre of an important international debate, with respect to its role and the ways in which the supervisory functions are exercised. Generally speaking, the supervisory authorities' actions are based on a rather broad and complex system of activities and instruments. The survey by the World Bank on the regulation and supervision of banks in 107 countries comprises twelve separate parts, covering the following aspects of a country's banking system: domestic and foreign bank entry, government ownership of banks, capital adequacy, restrictions on bank activities, supervisory power, independence, resources, loan classification stringency, provisioning standards, diversification guidelines, deposit insurance system, provisioning and risk management requirements, information disclosure requirements, crisis management (Barth, Caprio, Levine, 2001).

In the last few years the regulation of banks and financial intermediaries has changed radically, becoming increasingly indirect (from structural regulation to prudential and consensual regulation and self-regulation) (Gualandri 2001; Carretta, Schwizer, Stefanelli, 2003).

According to the first empirical assessments, the most effective supervisory policies in ensuring improved conditions of stability and enhanced performance appear to be those aimed at promoting "private" supervision, by means of transparent and significant accounting and information disclosure requirements, principles of governance and management control, common criteria of sound and prudent management (Barth, Caprio, Levine, 1999 and 2001).

In the consensual regulatory approach, which reduces outside intervention in a bank's management, a reduction of the regulatory costs incurred by the intermediary can be discerned (Elliehausen, 1998). This occurs if the supervisory action is effective in promoting and encouraging the adoption of internal control systems. Building a mindful and responsible management, through mechanisms of self-analysis and self-control, enhances the possibility of pursuing "economies of scale and scope", in terms of the broadness of the benefits descending from regulation, and of the reduction of the time needed to adapt to it.

The efficacy of this arrangement primarily depends on the level of competition in the financial market. In high competition, operators become more sensitive to the judgement of the market, and are therefore encouraged to adopt a "virtuous" management approach, within a self-regulatory framework. Moreover, this approach encourages the development of a supervisory culture, which can then become a powerful tool for guiding individual actions towards the achievement of sound and prudent management. The latter is also determined by the supervisory bodies' actual capacity to get to understand and guide the management behaviour of the supervised entities, taking account of the differences existing among them, in terms of shareholding structure, size, and business activities (Carretta, 1998). This is no easy task, which requires a certain re-orientation of supervisory activities towards the production and organizational processes of the supervised entities; the use, for this purpose, of all the available information; and the development, by the supervisory bodies, of a banking culture (which unquestionably differs from the traditional regulatory culture), which can be achieved also by means of further efforts in collecting information and broadening its knowledge base.

In any case, within a more balanced supervisory framework, it is important to achieve improved conditions for a *microprudential view*, i.e. a focus on the behaviour of the individual financial intermediaries, to balance the current trend that focuses on a *macroprudential view*, which, by itself, might be viewed as too abstract and distant from the actual market behaviours (Carretta, 1998).

In fact, in recent years the supervisory authorities have focused increasingly on how the financial intermediaries organize the production, administration and distribution processes of the respective business areas, and have established principles and rules aimed at promoting suitable corporate organizations (Pisanti, 2002). They interact with the supervised entities, encouraging the improvement of the organizational and internal control processes, according to a certificatory, rather than strictly regulatory, approach. They have become consultants of the financial institutions, thus helping to spread knowledge of the best practises: supervision and management support are becoming more and more intertwined, with a view to achieving stability and efficiency, by encouraging sound and prudent management practises. From this point of view, the search for cultural consistency between the supervisory authorities and the financial industry is an important objective for improving supervisory activities.

3. Moving towards a new role for supervisory authorities

The implementation of new supervisory arrangements, based on self-regulation and the coordination of external and internal supervision, determines an evolution in the role played by the supervisory authorities, and in the manner in which they interact with the governance bodies of the banks, such as the board of directors, top management and external and internal auditors.

Delegating supervision by the supervisory authorities to the supervised entities entails the capacity, by the former, to define the minimum objective compliance requirements for the internal control systems (Bank of Italy, 1998 and 2002), while at the same time encouraging organizational and management decision-making that is compatible with the supervision objectives.

The aim of the regulatory intervention also includes developing the banks' ability to avoid fraudulent behaviour, which is capable of jeopardizing their stability, and that of the system as a whole, encouraging the intermediaries' attitude to constantly adapt their production processes to strategic decisions that are consistent with market evolution, and fine-tuning the corporate governance bodies' ability to take on the various types of risk related to operating and financial innovation.

This new supervisory arrangement requires that compliance with the criterion of sound and prudent management - pursued through the functionality and adequacy of the internal control systems - must become a rule of conduct for intermediaries, that is, an intermediate objective capable of combining the approach of both the supervisory bodies and the supervised entities: for the supervisory authority, the first guarantee of a sound and prudent management resides in a business' capacity of prevention and intervention, by means of an appropriate internal control system. On the other hand, the management itself must reach more or less the same conclusion: greater capacity of governance is required because of the increased exposure of banks to new and old risks, in consequence of the opportunities granted to each business under the new regulatory framework (De Maio, Patalano, 1995).

This overlapping of the objectives of both the supervisors and the supervised, by increasing the degree of consistency between the regulatory principles, on the one hand, and the intermediaries' management criteria, on the other hand, will in all likelihood lessen the weight of the restrictions and the measures introduced by the regulatory authorities (Airoldi, 2002).

Furthermore, the revised Basel Accord on Capital (Basel 2) envisages the possibility for banks to adopt internal procedures for assessing asset requirements, with respect to credit and operational risks, like in the previous Accord of 1996 on market risk. Moreover, the banks opting for an internal approach to credit and operational risk management for supervisory purposes must provide evidence, to the supervisory authority, that they are capable of meeting a set of minimum requirements, on an ongoing basis. These requirements may be identified, *inter alia*, in the management's attitude to ensure widespread communication of its corporate strategy and risk management policies, aimed at the creation of a risk culture; in the structured interaction between the management itself and the risk control units, with a view to pursuing the implementation of criteria relating to control system efficiency, adequacy of resources, and efficacy of corrective measures, *vis-à-vis* any shortcomings identified by the control procedures put into place. Therefore, banks are required to systematically map the activities most exposed to the risks in question, and to develop suitable procedures aimed at consistently assess expected losses over a certain period of time. These must be reported in historical data series, subject to appropriate back-testing. Banks are also required to adopt their risk measurement methods in decision making and day-to-day management activities.

The internal risk management models must be preventively approved by the supervisory authorities. The procedure aims at making sure that they take account of both corporate needs and the minimum requirements laid down by the authority, representing a solution achieved by "mutual consent", so to speak, resulting from a dialogue between the supervisors and the supervised. In this case too the standard-making proposals feature a supervisory approach based on a bilateral dialogue, grounded on the gradual "delegation" of supervision from the supervisory body to the supervised entity, and on the transition from an approach based on the "supervision of activities" to one based on the "supervision of controls". In encouraging intermediaries to adopt the advanced approaches, due to the possibility of achieving benefits, in terms of the regulatory capital, the regulations promote improved responsibility and awareness, with respect to the actual corporate risk levels. Therefore, the Basel Committee highlights that the prudential control process acknowledges the bank management's responsibility in developing an internal risk assessment process, and in establishing asset objectives commensurate with the bank's risk profile and control structure. The type of control that is gaining ground at supranational level, therefore, fosters general self-regulation mechanisms, which does not mean self-determination of the rules, but the independent management of the rules established externally and inspired by the best practises within the industry.

To approve the internal control procedures proposed by the banks, it is not possible to build an automatic process, but it is necessary to put into place a set of competencies and benchmarks capable of ascertaining the supervisor's professional skills, independence and objectivity in the assessment of these models.

Aware of this need, the Basel 2 Accord (Basel Committee, 2004) has specified in a number of occasions that the supervisory authorities must employ the suitable resources and competencies suited to, (i) the assessment of the adequacy of the internal control systems adopted, and (ii) the approval of the internal methods for determining the asset requirements related to credit and operational risks.

This outlines a new role for the supervisory authority, that of "certifying body", with respect to the consistency of the practises and models adopted by the banks, on the one hand, and the principle of sound and prudent management and, specifically, the independent risk assessment requirements, on the other hand.

The role of certifying body carries with it new operational duties and relationship models, between the supervisory authorities and the supervised entities, which imply an "active" and "driving" function by the former, in respect of regulatory compliance by the latter. This development corresponds to the growing need, by banks and financial intermediaries, of assistance in the implementation of the risk assessment and risk management processes.

The importance of the supervisory authorities' advisory role also emerges with regard to the control procedures put into place by the banks and, in particular, to the complex system of relations between the various internal and external auditing bodies. Regarding the operating mechanisms and information instruments on which the control functions are based, the Basel Committee assigns a guiding role to the supervisory authorities, which are called on to encourage the internal auditors - and, indeed, the structure as a whole - to adopt the necessary measures to ensure the effectiveness of the internal control system.

The capacity to adequately perform advisory functions entails the existence of: (1) consistent objectives by both the supervisory authorities and the supervised entities, which is one of the basic principles of the consensual regulatory approach, in order to overcome the traditional division between the parties; (2)

consistent knowledge, which allows both parties to clearly understand the business activities; and (3) consistent cultural models, especially as regards the basic values and means of communication.

4. The organizational solutions for developing a common knowledge base, shared by banks and supervisory authorities

Financial intermediaries and supervisory authorities may develop a common knowledge base by implementing coordination procedures, capable of encouraging the exchange of information and mutual interaction in problem analysis and solving (Mintzberg, 1985).
These tools, which must be suited to the specific organization of the banks, as well as to the specific coordination procedures, fall into 4 categories:

a) economic incentives;
b) organizational structures;
c) integration mechanisms;
d) information and communication flows.

Similar consideration, taking account of the specificity of the problem and, therefore, the nature of the proposed tools, have been formulated with reference to the issue of coordination between the supervisory bodies and the banks' internal and external auditors (Schwizer, 2005).

a) Economic mechanisms: incentives for supervisory compliance
The parallel analysis of the Basel 2 proposals and the domestic regulations on internal control systems (Bank of Italy, 1998 and 2002) highlights a significant inter-dependence between the two sets of regulations, whereby the latter is the necessary and indispensable premise of the former. What emerges, in fact, is a potential competitive edge for the banks that adopt a "compliant" control system, thus finding that, in this manner, they already possess most of the organizational requirements needed for the approval of the internal methods for determining capital requirements for credit and operational risks. According to the current supervisory arrangements, banks are encouraged to adopt a suitable and functional internal control system enabling them both to comply with the regulations set forth by the Bank of Italy, and to achieve savings in terms of regulatory capital.

b) The organization of the internal control body: from functions to projects
The adoption of an internal control system obliges banks to address the need to adopt process-based organizational models, integrated with the basic functional or divisional structure, in order to identify the various risk-entailing micro-activities and the monitoring responsibilities.
This requires the overhauling of the organizational structures and roles, by means of the introduction of communication flows and information collection systems across the structure, consistently with the types of risks for each business area.

The result is a "quasi matrix" structure, in which the business responsibilities (formulating strategies and defining operating plans, and the related decision sustainability assessments, with respect to both the risks taken on and the available control systems) interact with those managing the various types of risks.

Such an arrangement also affects the procedures for collecting and processing the risk-related information, and the consequent production of knowledge by the banks and other financial intermediaries. The functional activity-based logic is gradually replaced by a process or problem-based approach.

In order to ensure the effective performance of its supervisory activities by the supervisory authorities, according to an advisory approach (capable of assuring a basic understanding of the problems of the supervised entities), besides a shared viewpoint of the problems, it is also expedient to establish a symmetry between the abovementioned organizational structures (organizational units and responsibilities) and the supervisory structures.

This means, on the one hand, enhancing the uniformity of the problems and risks related to the various business areas, rather than the similarity of organizational structures; and, on the other hand, scrapping the principal of function or activity-based supervision and moving towards a problem-based approach, which can be implemented by introducing "working by projects", which can enable the supervisory authorities: (i) to extensively monitor each type of risks - across the supervised entities' structures and activities - developing the appropriate professional skills with respect to each issue, and (ii) to propose cutting-edge and innovatory proposals for solving new problems related to each business.

What ensues is a large-scale requirement of organizational flexibility within the supervisory authority, which can be met by introducing appropriate tools, not just of a technological nature - which, indeed, are necessary for collecting, transferring and processing the information, in support of the decision-making and supervisory processes - but also consisting of cross-company coordination bodies (as product, process and business area managers), associated with objective-based management systems and horizontal communications systems, aimed at promoting the sharing of information and goals and determining the accelerated creation of specialist skills.

These tools must be strengthened through the dissemination of cultural models inspired by the principles of cooperation and teamwork, and enhancing of the staff's entrepreneurial spirit and participation in the development of services aimed at achieving maximum professional growth, to underpin both the effectiveness of the control activities, but also of the quality of the advisory services provided to its counterparts.

As W.J. McDonough, President of the Federal Bank di New York, said some time ago, at the presentation of the new organizational structure of his control unit:

"we've organized ourselves better, in order to share with you (the supervised entities) our point of view and our competencies, with respect to the best practices used by all financial institutions" (McDonough, 2003).

c) Integration mechanisms: towards more efficient coordination

In order to enhance mutual adjustment, flexibility and systematicity of relations and, therefore, the efficiency of decision-making and problem-solving processes inside supervisory system (which comprises the supervisory authorities, the supervised entities, the authorities supervising over connected industries, and the authorities of other countries), integration mechanisms (Mintzberg, 1985) can be put into place. These mechanisms may comprise: committees, task forces, integration managers (program or project managers).

The Basel Committee adopts this solution explicitly, within the framework of the "Basel 2" (Basel Committee, 2004). With a view to supporting the implementation of the Accord, the Committee has set up two integration bodies, respectively called the AIG (Accord Implementation Group) and CTF (Capital Task Force). The former is a committee composed of the representatives of the regulatory bodies of the various Accord-member countries, and is a forum where they can exchange information on the practical problems encountered in the application of the new arrangement, and on the relevant problem-solving strategies. The latter is a working group of the Basel Committee, responsible for examining significant amendments to and interpretations of the New Accord. The Committee views these two bodies as key long-term tools, especially once the banks have started implementing the prescribed provisions. In particular, the CTF has the responsibility of analysing new banking products, and the implications that the developments in the risk management processes may have on the new arrangement, also after its entry into force.

d) Information exchange and communications systems: knowledge management and supervision

The indispensable tool for creating knowledge is the permanent and systematic exchange of information, at various levels:

- between bank management and the banking supervisors;
- between external auditors and the supervisors;
- between the supervisors, with respect to different financial sectors, and between the authorities of different countries.

With regard to item one, it is necessary to point out that the implementation of the internal control systems - in accordance with the requirements laid down in the Supervisory Instructions at national level - has encouraged the intense exchange of information and documents (organizational regulations, strategic plans, audit plans, etc.), between the Bank of Italy and the banks.

The Basel Committee too has underlined, on a number of occasions, that the frequent exchange of information between the banks and the supervisors is fundamental for the effective implementation of the “Basel 2” Accord. In this sense, Himino (2004) argues that “Basel 2” framework provides a common language that improves communication among banks, supervisors and investors.

With regard to item two, the specific provisions by the Basel Committee oblige the supervisors to cooperate and exchange information with the external and internal auditors, and to advise the banks on how the bodies can cooperate. This cooperation is particularly important with a view to ensuring the efficiency and functionality of the overall system of internal control.

The Committee points out that there is a complementary interest between the supervisors and the external auditors (Basel Committee, 2002), with special reference to the internal control system and information disclosure systems, which must justify a constant flow of information between the bodies, and cooperation in monitoring the risks taken on by the banks.

With regard to item three, the exchange of information between the supervisors of different countries primarily concerns the cross-supervision of complex international banking groups, but also supervisory activities of different financial sectors, for the purpose of monitoring the risks in the banking groups and multibusiness financial risks.

The coordination process could also be functional for the improved allocation of resources and competencies for supervisory purposes: a more closer collaboration, in fact, would make it possible to support the supervisors in countries that lack the means to collect the necessary information for the effective implementation of the New Accord. With regard to this issue, principles have been developed aimed at encouraging closer practical cooperation and the exchange of information among the authorities (Basel Committee, 2003b).

Therefore, also with regard to regulatory issues, the strategic importance of learning is asserted, which must be pursued through the integration of explicit and tacit knowledge, promoting the creation of “communities of practice” (Gherardi, 1999) and “communities of knowing” (Boland, Tenkasi, 1995), and enhancing the social dimension of knowledge. These perspectives are at the basis of the notion of “learning organization”, which aims at encouraging organizational learning and the creation of knowledge as key intangible assets and core competencies of a company.

In order to improve knowledge management within the system and, in particular, in the extended community that includes the supervisors, it is necessary to accept and, therefore, strengthen the role of information, communication and knowledge as management and control tools. This means, first of all, accumulating and making available - within the network of organizational relations - the knowledge on corporate experience, by means of an extensive use of information techology. Secondly, it is necessary to maximize consistency between the subject of the knowledge base and the manner of diffusion. The quality of knowledge management, in this case, can be recognized primarily in connection with the expected likelihood of the effective and efficient re-utilization of a certain “packaged” knowledge, i.e. in the fact that - once the knowledge transfer process has been activated - it may prove successful, translating into effective and efficient management behaviour. Thirdly, it is necessary to enhance access to and the transfer of knowledge. Knowledge can be transferred only if the following conditions are ensured: there must be trust between the parties; the parties concerned must be able to meet; they must, preferably, share the same language, or have a mutually accessible language; all the parties concerned must be motivated to exchange the information. All these pre-requisites may be more easily achieved if the system eatures a stable and strong culture (i.e. with a strong sense of identity), characterized by rules and systems of mutual relation, capable of consolidating the sense of belonging and sound principles of reciprocity.

5. The culture of banks and supervisory authorities: a measurement analysis model, within the framework of a “culture compliance”

In the attempt to measure certain profiles of the current level of consistency of the knowledge base and cultural models, between supervisors and supervised entities, this paper focuses on the cultural gap between the parties, which is investigated by means of a text-analysis approach.

Corporate culture is perceived as the set of values and decisions that represent the manner in which individuals can perform their activities within the organization, and defines which behaviours may be considered appropriate (Schein, 1985).

The study of corporate culture through language is a relatively new approach in economic literature. It is based on cultural anthropology, that is the methodologies for studying cultures based on the interpretation of their symbols and artifacts. The meaning ascribed to these aspects is subject to change, both in time, following evolutionary processes, and in respect of the cultural context taken into consideration. In this perspective, language may be considered a peculiar symbol and artifact of culture and, in consideration of the linguistic-textual differences when examining diverse cultural contexts, is a useful tool for understanding them. In the terms concerned by the paper, the issue has been only partially tackled in literature, and never with regard to financial institutions.

Geertz (1973) speaks of culture in “semiotic” terms, when he maintains that his study “is not an experimental science in search of laws, but an interpretational science in search of meanings”. In a nutshell, he asserts the possibility of analysing social phenomena and organizational processes and behaviours by considering them as the symbols and artifacts typical of a cultural system. Schein (1985) identifies language as an artifact of the corporate culture and claims that it is possible to analyse the different cultures through the vocabularies they are capable of expressing. Wuthnow (1989) claims that the linguistic categories and lexical expressions typical of a certain context allow the analysis of different corporate cultures, because their definition is closely related to the vocabulary developed within them. Lastly, DiMaggio (1997 and 2002) considers language the result of both social interaction and individual cognition. He maintains that, through the empirical analysis of written texts it is possible to determine the cultural aspects of language. This means that when the members of an organization use a term drawn from the vocabulary of their organization, what they're really doing is making reference to an individual cognitive representation transformed into organizational behaviours shared by and common to the organization to which they belong (Rosa and Porac 2002). As regards the role of vocabularies (Berger, Luckmann 1967), of linguistic categories, it is further specified that - although in certain contexts it is (theoretically) possible to develop cultural categories even without a language - vocabularies play a very important role in their development and sharing (Levinson, 2003).

All this implies that the analysis of culture is closely connected to the analysis of the type of vocabulary used by the members of an organization, which vocabulary is used in all the forms of communication, both oral and written, produced internally by that organization. The distinctive characteristics of every organization, therefore, are reflected in the documents it produces, and the language used may represent a key for their interpretation. In other words, if the organization leaves traces of its peculiar characteristics in the documents it produces, then it is possible to use text analysis to observe and "measure" these traces and determine their cultural implications.

Based on this assumption, various surveys have been carried out in literature aimed at comprehending a series of issues concerning corporate culture, among which the research on the leadership characteristics within organizations (D'Aveni, MacMillan, 1990), the determinants of corporate reputation (Fombrun, Shanley, 1990), the measurement of the intensity of orientation to "corporate social responsibility" (Wolfe, 1991), the classification of the types of organization based on the existence and intensity of certain cultural values (Kabanoff, Holt, 1996). These studies have two objectives in common:

- to provide representations of the content of the corpus of texts;
- to extract information, i.e. several properties, from the corpus of texts through quantity-based measurements.

Compared to the previous studies, this paper focuses on an evolutionary aspect of text analysis, concerning standardization in the treatment of data, combined with the use of standard vocabularies. This allows a greater comparability of the output of the various studies, enabling us to further refine the analysis methodology.

The analysis model includes the definition of several key concepts, at the base of the development of banking culture and that represent basic goals of the prudential regulation (Carretta 2001). These must represent key management aspects, with respect to the banks concerned, and the attention by the supervisors (table 1). This ensures that the same concepts are treated with high intensity and frequence in the examined documents.

Table 1 about here

The model also includes categories that reflect Osgood's semantic differential findings regarding language (Osgood, Suci, Tannenbaum, 1957) and other categories drawn from the Harvard IV Psychosocial Dictionary (Zuell, Weber, Mohler, 1989) and the Lasswell Value Dictionary (Lasswell, Namenwirth, 1969), both used as a gauge for the abovementioned key concepts. The different intensity of these categories, expressed in terms of "orientations", characterizes each concept and allows us to compare the corporate culture against the various benchmark contests. Here we present the results of four orientations (Carretta 2001; Carretta, Farina, Schwizer, 2005), among those surveyed, which are particularly significant for the parties in question (table 2):

- *Semantic orientation,* relating the meaning of the key concepts. According to Osgood, Suci and Tannenbaum (1957) most of the judgments referring the meaning of a particular concept could be classified as one of three types: i) an overall evaluation (positive – negative); ii) an assessment of potency (strong – weak); iii) a commentary on the degree of activity (active – passive). However, these factors or dimensions structuring the meaning are considered not exaustive: "the representational state indexed by the semantic differential is not the only determinant operating in lexical encoding. It is a necessary but not a sufficient condition".
- *Cognitive orientation*, relating decision making process that depends to a significant degree on cognitive style of people. Generally, in fact, when formulating a decision referring to a certain problem it is necessary to analyze, to evaluate and to individuate the ways to solve it. In this sense some cognitive attitudes, such as understanding or information treatment, evaluation and problem solving abilities, and different levels of these could characterize the process in the case of different phenomena taken in consideration.
- *Disciplinary orientation*, relating to the ways with which a certain phenomenon is described and comprises a (more theoretical) academic profile, and a business profile, which implies a more management-based approach.
- *Power orientation*, relating the ways with which an organization is oriented, in terms of the propensity to share and cooperate, or in terms of authority and of the importance of the hierarchy.

Table 2 about here

6. Survey methodology and main results

The empirical assessment has been carried out as follows:

- definition of the sample of banks to be analysed;
- selection of the corpus to be analysed, for the institutions under investigation (i.e., Basel Committee, Bank of Italy and Italian banks);
- analysis of the "concordances", in respect of the key concepts for the culture of above mentioned institutions (this analysis allows the extrapolation of all the words contained in a text, listing them in alphabetical order accompanied by a context that makes it possible to grasp their meaning, and by a series of indications allowing the retrieval and location of a passage within the structure of a text);
- analysis of the context "occurrences", in respect of the key concepts of the culture of Basel Committee, Bank of Italy and Italian banks (this analysis allows the obtaining of lists of words making up a text, accompanied by the number of times in which they occur, besides the percentage compared to the total number of words);
- comparison of the context occurrences and the language categories extracted from the Harvard IV Psycho – Social Dictionary and the Lasswell Value Dictionary;
- determination of the predominant cultural orientation and of the relevant intensity.

The survey was carried out on a uniform and representative sample (86,3%, based on total assets) of the top fifteen banking groups in Italy.

Consistently with the other text analysis applications, the selection of the corpuses concerned public documents (Bowman, 1984; D'Aveni, MacMillan, 1990; Kabanoff, Waldersee, Cohen, 1995), such as financial reports, presentations and speeches by the top management of each institution. The study of the cultural differences was conducted for two years (1999 and 2004), according to a dynamic view of culture (Herskovits, 1955). For the text analysis proper, we used the Wordsmith 4 software developed by Oxford University (Scott, 1999).

The analysis of concordance was carried out for each of the key concepts, so that the cultural analysis can be referred only to the terms that are actually associated with the key concepts.

The last stage of the analysis concerned the comparison of the context occurrences of the key concepts and the vocabulary terms. The following formula was used to measure the intensity of the cultural orientation (Carretta, Farina, Schwizer, 2005):

$$\textit{Cultural Intensity Index} = (Cx - Cy)/(Cx + Cy)$$

We assume that:

- If the Cultural Intensity Index > 0: the cultural orientation tends to the category X;
- If the Cultural Intensity Index < 0: the cultural orientation tends to the category Y;
- If the Cultural Intensity Index = 0 and Cx or Cy are different from 0: the cultural orientation is neutral.

The formula allows us to obtain an index value standardized for all categories and comprised between +1 and –1. In fact, an index values of +1 or –1 means that the text is entirely culturally oriented, as regards the analysed category.

Regarding the survey results, the methodology highlights proof of differentiation between the culture of Basel Committee, the culture of Bank of Italy and that of Italian banks, but it also emphasizes some significant examples of reduction of the cultural gap over the survey period. The values of the surveyed items are given in table 3.

Table 3 about here

Regarding semantic orientation, the gap concerning the meaning of the key concepts is not relevant for the parties (Italian banks, Bank of Italy and Basel Committee). However, in the surveyed period, it is possible to observe a gradual reduction of the gap between Italian banks and, rispectively, Bank of Italy and Basel Committee.

In the first case (Italian banks and Bank of Italy), gap reduction is particularly significative for the concepts of "change" and "disclosure" (figure 1).

Figure 1 about here

In the second case (Italian banks and Basel Committee), gap reduction is relevant for all key concepts considered in analysis and it is particularly significative for the concept of "customer" (figure 2).

Figure 2 about here

Regarding the cognitive orientation (figure 3), the significance of the various components (understanding, evaluation and problem solving) that guide the decision-making processes is constant over the survey period. The samples differ, albeit slightly, in the evaluation component, which appears larger for banks, and the component relating to understanding of the phenomena, which decisively characterizes the orientation of supervisors.

Figure 3 about here

Regarding disciplinary orientation (figure 4), the business approach prevails in Basel Committee and in banks, while in the case of Bank of Italy the textual analysis indicates a greater theoretical severity in representing the phenomena, typical of an academic approach.

Figure 4 about here

Regarding power orientation (figure 5), the cooperative approach prevails in Bank of Italy and in Italian banks, while in the case of Basel Committee the the textual analysis indicates an authoritative approach.

Figure 5 about here

Moving on to examine each one of the key concepts for the banking business by the three samples, a distinction can be made between the situations explainable in terms of role-related necessity, and situations in which the reasons for the gap are less straightforward.

The first category includes the concepts of change, customer and innovation. In this case, differences among Basel Committee, Bank of Italy and Italian banks may be explained by the different role played. On the one hand, Basel Committee and Bank of Italy have played a decisive role promoting innovation into the system and encouraging the adoption of new types of businesses, new management models and new systems of objectives. On the other hand, financial intermediaries can be considered the effective player of these change and innovatory processes.

Cultural gaps are less easy to explain concerning the concepts of risk and disclosure. In this case, significant differences highlights a problem of non-shared judgements and determines the need to reduce the surveyed gap. Effectively, with regard to risk, gap features a constant and gradual downward trend but differences are still substantial, although there is a growing attention, in connection with the major financial scandals, with regard to disclosure.

7. Conclusions

Bank regulation models and supervisory approaches have changed significantly. The new relationship models between the supervisory authorities and the banks must be supported by organizational tools capable of fostering the sharing of information and promoting the advisory function of the supervisors. The new role of the supervisory bodies requires significant consistency between the knowledge bases and cultural models with the supervised entities.

The paper represents a first attempt made to measure the cultural gap between the three groups of stakeholders, through a text analysis model. This approach does not exhaust the perspective of cultural analysis, but it does open up a broad field of survey and suggests further investigation, also by means of ethnographical tools. In the terms of the paper, the issue has been only partially explored in literature and never with respect to financial institutions.

The contribution of this paper concerns three aspects, two relating to content and one to method. Firstly, what we observe is an overall convergence of meanings (in terms of semantic orientation) concerning all key concepts in the surveyed period.

However the results expressed by other categories highlight several significant cultural gaps, relating to important issues for the development of the system and the activities of banks, such as risk, disclosure, change and innovation. The different focus on these concepts in the examined texts points out the opportunity of identifying new opportunities of comparison between the parties and promoting the exchange of information and knowledge, as the basis for the improved sharing of objectives and guidelines.

Secondly, there has been a gradual convergence of certain orientations and this means a virtuous trend towards a common cultural development. This trend can be fostered by banks through the full implementation of the internal control systems.

Thirdly, from a methodological point of view, the significance of the cultural analysis in the reference industry can be highlighted. Therefore, it is expedient to develop this line of study, which can be done by applying the model in question to increasingly "internal" corpuses of texts and firm-specific documents, such as circular letters and internal service orders, organizational regulations and other materials reflecting the day-to-day performance of the corporate activities, for the purpose of bringing closer the survey method to the characteristics typical of ethnographical studies of culture.

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Table 1 - Key concepts for the culture of both intermediaries and supervisory bodies

Change
Customer
Disclosure
Innovation
Risk

Table 2 - The main categories for measuring cultural orientations

Semantic orientation
Positive - Negative Strong - Weak Active - Passive
Cognitive orientation
Understanding Evaluation Problem solving
Disciplinary orientation
Academic Business
Power orientation
Authority Cooperation

Table 3 - Final results on Disclosure, Customer, Innovation, Change, Risk measured on Banks, on Basel II and on Bank of Italy

Key Concept	Year	Istitution	Semantic orientation - Positive (X) vs. Negative (Y)	Semantic orientation - Strong (X) vs. Weak (Y)	Semantic orientation - Active (X) vs. Passive (Y)	Cognitive orientation - Underst	Cognitive orientation - Eval	Cognitive orientation - Solve	Disciplinary orientation - Academic (X) vs. Business (Y)	Power orientation - Authority (X) vs.Cooperation (Y)
CHANGE	1999	BANKS	1,00	1,00	0,31	0,40	0,20	0,40	-1,00	-1,00
CUSTOMER	1999	BANKS	0,48	0,62	0,52	0,44	0,25	0,31	-0,25	-0,50
DISCLOSURE	1999	BANKS	1,00	0,67	0,60	0,00	0,50	0,50	-0,50	0,00
INNOVATION	1999	BANKS	0,74	0,93	0,61	0,00	0,00	1,00	-1,00	-1,00
RISK	1999	BANKS	0,71	0,81	0,70	0,39	0,25	0,36	-0,04	0,00
Average score	1999	BANKS	0,79	0,81	0,55	0,25	0,24	0,51	-0,56	-0,50
CHANGE	2004	BANKS	0,60	0,87	0,41	0,29	0,43	0,29	-0,11	-1,00
CUSTOMER	2004	BANKS	0,66	0,58	0,35	0,43	0,25	0,32	-0,24	-0,45
DISCLOSURE	2004	BANKS	0,86	0,86	0,67	0,00	1,00	0,00	-0,14	-1,00
INNOVATION	2004	BANKS	0,68	0,86	0,65	0,50	0,50	0,00	-0,09	-1,00
RISK	2004	BANKS	0,65	0,74	0,55	0,36	0,28	0,36	-0,26	0,00
Average score	2004	BANKS	0,69	0,78	0,52	0,32	0,49	0,19	-0,17	-0,69
CHANGE	1999	Basel comm.	0,67	0,63	0,40	0,50	0,50	0,00	1,00	0,00
CUSTOMER	1999	Basel comm.	1,00	0,78	0,00	0,67	0,00	0,33	0,00	0,00
DISCLOSURE	1999	Basel comm.	0,81	0,79	0,40	0,60	0,20	0,20	-1,00	0,00
INNOVATION	1999	Basel comm.	0,33	0,67	0,69	0,00	0,00	1,00	0,00	1,00
RISK	1999	Basel comm.	0,90	0,96	0,42	0,38	0,33	0,29	0,00	0,33
Average score	1999	Basel comm.	0,74	0,76	0,38	0,43	0,21	0,36	0,00	0,27
CHANGE	2004	Basel comm.	0,54	0,60	0,59	1,00	0,00	0,00	0,00	0,00
CUSTOMER	2004	Basel comm.	0,43	0,87	0,67	0,29	0,29	0,43	-0,71	1,00
DISCLOSURE	2004	Basel comm.	0,63	0,85	0,71	0,50	0,25	0,25	-1,00	1,00
INNOVATION	2004	Basel comm.	1,00	1,00	0,50	0,00	0,00	0,00	0,00	0,00
RISK	2004	Basel comm.	0,65	0,55	0,41	0,32	0,32	0,36	0,11	0,20
Average score	2004	Basel comm.	0,65	0,77	0,57	0,42	0,17	0,21	-0,32	0,44
CHANGE	1999	Bank of Italy	0,54	0,89	0,77	0,60	0,20	0,20	-0,20	-1,00
CUSTOMER	1999	Bank of Italy	0,66	0,84	0,53	0,43	0,14	0,43	-0,25	0,00
DISCLOSURE	1999	Bank of Italy	0,43	0,94	0,63	0,20	0,40	0,40	1,00	1,00
INNOVATION	1999	Bank of Italy	0,89	1,00	0,68	0,67	0,00	0,33	1,00	1,00
RISK	1999	Bank of Italy	0,61	0,84	0,57	0,47	0,20	0,33	0,09	-0,50
Average score	1999	Bank of Italy	0,63	0,90	0,63	0,47	0,19	0,34	0,33	0,10
CHANGE	2004	Bank of Italy	0,71	1,00	0,69	1,00	0,00	0,00	0,00	0,00
CUSTOMER	2004	Bank of Italy	0,33	0,75	0,58	0,43	0,00	0,57	0,00	-0,33
DISCLOSURE	2004	Bank of Italy	0,60	0,87	0,76	0,43	0,14	0,43	0,50	0,50
INNOVATION	2004	Bank of Italy	0,68	0,85	0,74	0,57	0,14	0,29	0,33	0,00
RISK	2004	Bank of Italy	0,51	0,81	0,46	0,44	0,20	0,36	0,00	-0,60
Average score	2004	Bank of Italy	0,57	0,86	0,65	0,57	0,10	0,33	0,17	-0,09

Figure 1 - Semantic orientation gap: Italian banks – Bank of Italy

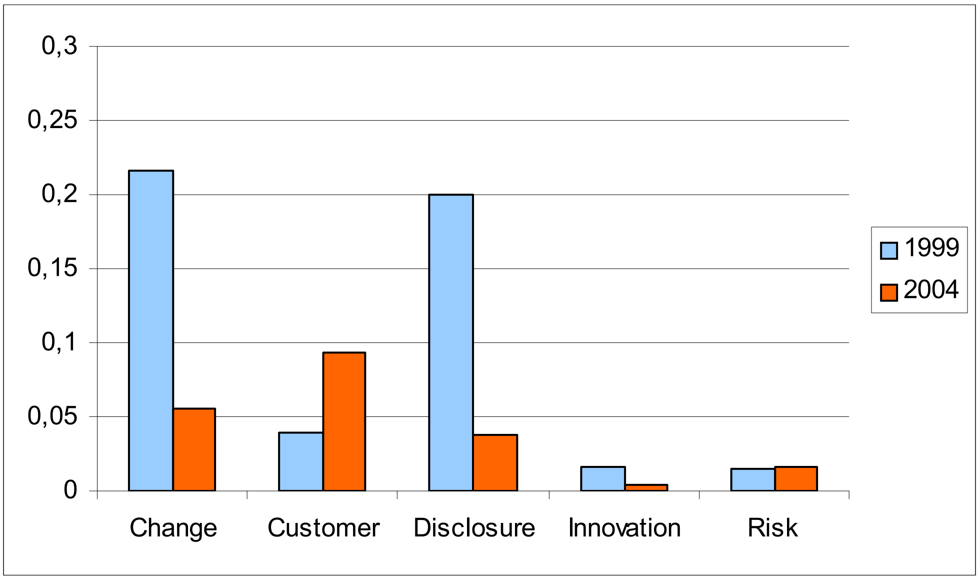

Figure 2 - Semantic orientation gap: Italian banks – Basel Committee

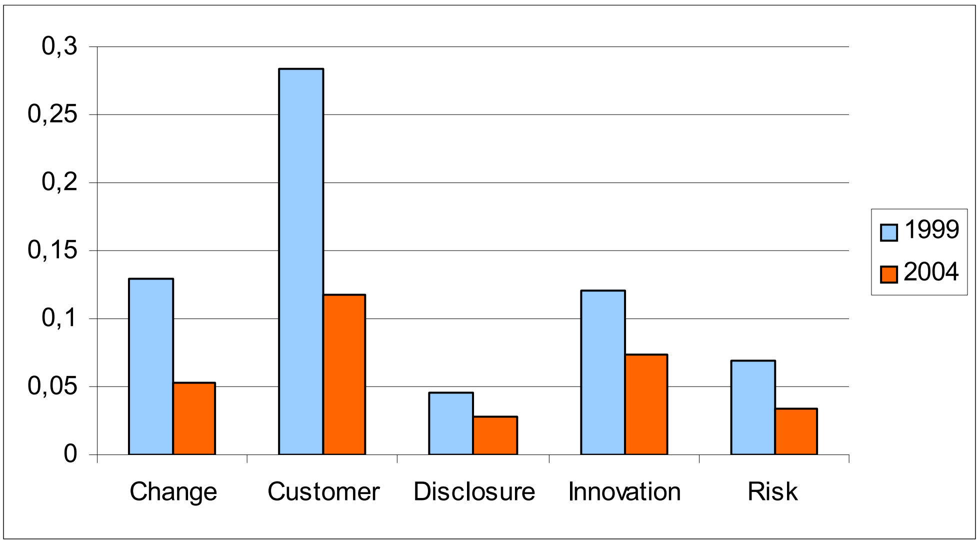

Figure 3 - Cognitive orientation

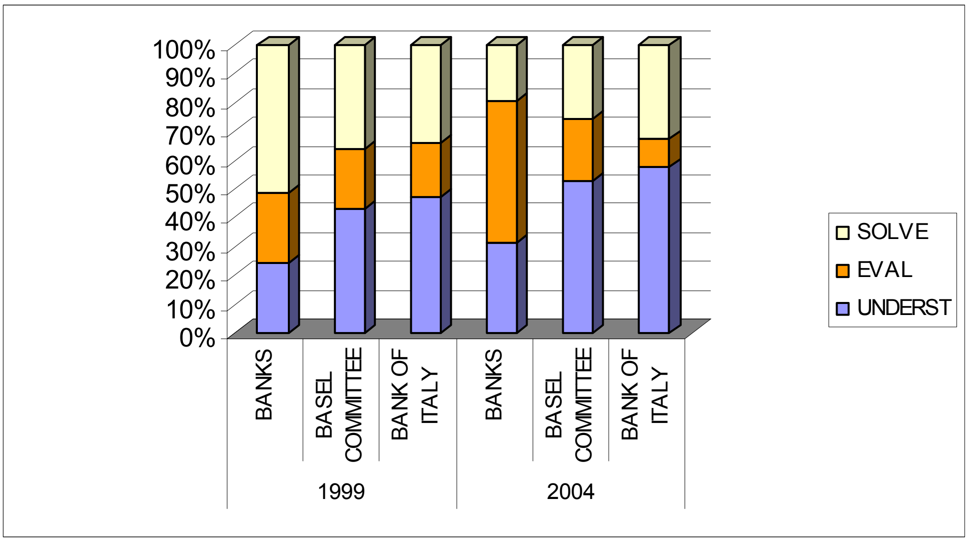

Figure 4 - Disciplinary orientation

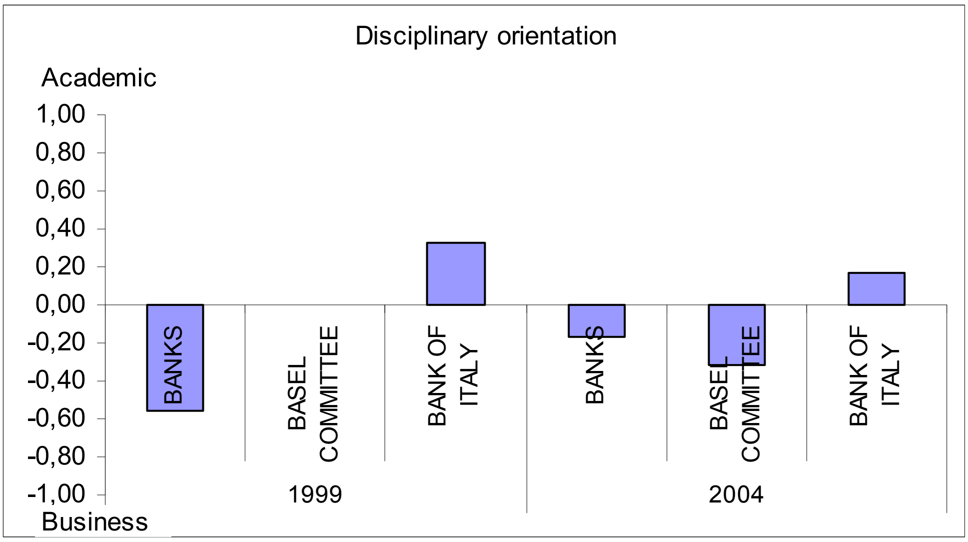

Figure 5 - Power orientation