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KNOWLEDGE POLITICS IN THE FIELD OF GLOBAL FINANCE? THE EMERGENCE OF A COGNITIVE APPROACH IN BANKING SUPERVISION

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Knowledge politics in the field of global finance?*

The emergence of a cognitive approach in banking supervision

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Abstract:

This paper examines the relevance of knowledge and ignorance in the governance of global finance. First, it will show that the intense innovation dynamics of financial business are creating regulatory problems that are not only of a normative and monetary nature, but also of a cognitive one. Taking the field of banking as an example, a growing uncertainty regarding the outcome of financial decisions becomes discernable, which not only results from the globalization and increasing knowledge intensity of transactions but also from the market actors' tendency to engage in a more active treatment of ignorance. Next, attention will be drawn to concepts of knowledge politics and corresponding regulatory strategies which have the potential to transcend not only national boundaries but also to enable collective learning between heterogeneous actors. On the basis of this, the emergence of a cognitive approach in the governance of global banking will be illustrated. Finally, attention will be shifted to the revised capital adequacy framework for global banking, commonly known as Basle II, and an analysis of the extent to which conditions for an effective combination of private and public expertise are being created.

Keywords: global finance, global risk, global governance, knowledge, ignorance, knowledge economics, knowledge politics, collective intelligence, Basle Committee on Banking Supervision, Basle II

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1. Introduction

In the past two decades the regulation of global finance has become a prominent topic in political science and sociological studies. Analyses can be found not only of institutional and regulatory adaptations on the national, international and supranational level (e.g. Dale 1984; Kapstein 1996; Eichengreen 1999; Scholte 2002) but also of the increasing relevance of private actors (e.g. Sinclair 1994; Cutler/Haufler/Porter 1999; Strulik 2002; Tsingou 2003) and mixed public-private arrangements (e.g. Strulik 2000). In light of the continuing development of the regulatory field as well as the intensification of the debate on the characteristics and effects of knowledge society (e.g. Adhikari/Sales 2001; Willke 2002), a shift of research towards the relevance of knowledge for finance and politics appears heuristically promising. Instructive for such a project are empirical studies in political science which highlight the knowledge intensity of financial business and the increasing importance of market actors' expertise in managing financial risks (e.g. Porter 1999; Sinclair 1999). Additionally, sociological systems theory provides concepts for the description of not only the distinctive characteristics of knowledge but also the interaction of knowledge and ignorance (e.g. Luhmann 1998; Willke 2002). An understanding of ignorance and its progressive (re-)production by the use of knowledge seems to be particularly important, because political and economic decisions are ever more often confronted with problems of ignorance that cannot be specified and managed by traditional methods. As sociological studies on science and risk (e.g. Ravetz 1987; Bonß 1995) demonstrate, conditions of ambiguity and unpredictability are becoming the focal point of modern societies risk management.

An instructive example for the ambivalent consequences of the interaction of knowledge and ignorance in finance as well as for a reorientation of governance strategies is provided by the banking sector. Given impetus by the breakdown of the Bretton Woods system in 1971, and accelerated by fundamental structural adjustments in the financial markets, not only has a global network of banking been brought about, but also especially dynamic and knowledge intensive innovations. Although innovations are beneficial for an economy as a whole, they inevitably create new regulatory problems. The proliferation of derivatives business in particular, along with the increasing significance of market

risks and so called operational risks, which include the damage caused by inadequate internal organizational policy and controls, human failure, fraud and malfunctions of electronic data processing systems, have confronted both the banks and the supervisory agencies with substantial challenges. More frequently, the question is not only *if* financial decisions will have undesirable effects but *what* those effects will be. Respective 'ambiguous ignorance', which is gaining relevance with the globalization and knowledge intensity of finance, cannot be quantified on the basis of experience and with the help of probability calculations.

With this shift to decision-making problems related to ambiguous ignorance, traditional forms of regulation, which exclusively concentrate on establishing quantitative norms and on controlling conformity to them, are becoming inadequate. As a result, a reorientation of regulatory strategies is discernible. Since the early 1990s *qualitative* regulatory practices have been emerging, which additionally concentrate on the banks' internal requirements for risk measurement, assessment and control (Strulik 2000; Power 2002). Particularly far reaching in this respect is the new capital adequacy framework commonly known as Basle II. The final version was released by the Basle Committee on Banking Supervision (BCBS) in June 2004 and will be implemented into national law by 2008. An important objective of this new framework, which effectively sets the rules for all banks with international transactions, is to make the structures and processes of risk management central to banking regulation and to differentiate supervision according to the bank's size, risk structure and risk potential. Accordingly, the new qualitative approach requires that national supervisors interact considerably closer with banks in the future. Through a dialogue based 'Supervisory Review Process (SRP)', which is one of the three pillars of Basle II, they should not only evaluate the banks' own risk management activities, but also promote and support adaptations that may lead to more efficient risk management systems. On the whole, the implementation of Basle II seems to be a reorientation of banking regulation. In light of the heterogeneity of banks, the dynamics of financial business and the growing uncertainty regarding the outcomes of decisions, supervisory authorities as well as the banks consider the exclusive use of quantitative capital requirements inadequate and aim to meet the growing demands of risk manage-

ment and supervision through more learning oriented techniques and institutional arrangements.

Focusing on this new regulatory approach, which is described by the Basle Committee and other actors as a "paradigm shift" (Basle Committee on Banking Supervision 2003; Deutsche Bundesbank 2001), this paper examines the characteristics, potentials and consequences of a cognitive (learning oriented) approach in the governance of global finance, which is mirrored in the increasing relevance of qualitative regulatory requirements. After considering the ambivalence of society's knowledge production and changes in the economic treatment of ignorance (Part 2), the paper draws attention to concepts of knowledge politics and corresponding regulatory strategies which have the potential to transcend not only national boundaries but also to enable collective learning between heterogeneous social systems (Part 3). On the basis of this, the emergence of a cognitive approach in the governance of global banking will be illustrated (Part 4). Finally, the paper shifts attention to the revised capital adequacy framework for global banking, commonly known as Basle II, and analyses to what extent conditions for an effective combination of private and public expertise are created (Part 5).

2. Banking in the knowledge economy

The implications of the knowledge intensity of financial business for global governance have received increasing attention in recent years (e.g. Porter 1999; Sinclair 1999; Strulik 2002). Particularly, the emergence and risks of complex financial innovations have been central features of regulatory debates. Despite this recognition of the relevance of knowledge in governing global finance, there has not been a systematic effort to understand the distinctive characteristics and ambivalent consequences of the global financial system´s knowledge production. Therefore, it might be instructive to analyze the current developments in the field of risk management and banking regulation with reference to recent conceptual studies on knowledge economy (e.g. Willke 2002). It can be observed that the knowledge necessary for economic transactions is no longer mainly based on experience, but is generated through active learning-processes. The knowledge economy is therefore

not to be trivially understood as simply one in which the nature of products and services is knowledge intensive. The point is that the knowledge economy's basic problem is to generate, organize and manage *new* knowledge. Furthermore, if one considers knowledge as the result of learning, it becomes evident that the operations of the knowledge economy are particularly marked by the "reflexivity of knowledge" (Giddens 1991). This means that the initiation and regulation of knowledge producing processes is more important than the management of existing knowledge (Strulik 2004). Thus, innovation becomes a central category referring to multi-dimensional social and economic changes in which new technologies, organization and communication patterns, solutions to problems, etc. can play a role.

The exploitation of ignorance

Closely related to these theoretical conceptions about the knowledge economy are sociological assessments that refer to changes in the social treatment of ignorance. As Michael Smithson (1989) points out:

> "Not long ago, the dominant methods of coping with ignorance were to try eliminating it or absorbing it. The emerging frameworks now seem to have jettisoned the assumption, that ignorance is ultimately reducible, and the new style is 'managerial' in the sense of attempting to understand, tolerate, and even utilize certain kinds of ignorance" (ibid., S. viii).

This assessment is supported by works on decision-making theory as well as sociological systems theory, which consider ignorance an important condition for decision-making (Shackle 1979, IX) and, as such, a resource for the reproduction and expansion of social systems (Luhmann 1998).

The importance of a more active and utilitarian treatment of ignorance becomes clear in connection with Robert K. Merton's (1987) considerations on the relationship between knowledge and ignorance. Assuming that science develops by replacing ignorance with knowledge, Merton refers to the dynamic cognitive role played by the particular form of ignorance he calls "specified ignorance". Scientific processes of knowledge-production "repeatedly adopt the cognitively consequential practice of specifying this or that piece of ignorance derived from having acquired the added degree of knowledge that made it possible to identify definite portions of the still unknown. In workaday science, it is not

enough to confess one's ignorance; the point is to specify it. That of course, amounts to instituting, or finding, a new, worthy, and soluble scientific problem" (ibid., 8). What is important is that economic realms are also increasingly defined by a utilitarian treatment of ignorance. Analysts and salespeople in investment banks, for example, exploit uncertainty regarding the development of markets, companies and products by transforming it into specific problems (e.g. market risk, credit risk). They then use these problems to develop tailor-made financial instruments to offer to their customers. Within such working contexts, ignorance appears not as a hindrance to decision-making, but as a source of innovation and productivity.

The increasing relevance of ambiguous ignorance

For an understanding of the recent challenges in risk management and regulation of global banking, it is not only important to emphasize that a more active treatment of ignorance is accompanied by increasing innovation dynamics but also, as mentioned above, that ambiguous ignorance is gaining significance. With ever greater frequency, the relevant actors are being confronted with a kind of ignorance, which, even with the help sophisticated calculations, cannot be adequately managed. The banks' treatment of market risks and in particular operational risks provides an example of such situations. As addressed above, operational risks arise from the potential that inadequate information systems, operational problems, breaches in internal controls, fraud, or unforeseen catastrophes will result in unexpected losses. Although the banks have developed approaches to quantification, managing operational risks is more complex than managing traditional credit risks (e.g. Avery/Butler 2000). Because it is not possible to relate all of the relevant risk elements to one another, conventional techniques of specifying ignorance are losing their problem-solving capability. According to sociological studies on science and risk (e.g. Ravetz 1987; Bonß 1995), ambiguous ignorance is becoming the central problem of decision-making in our contemporary period.

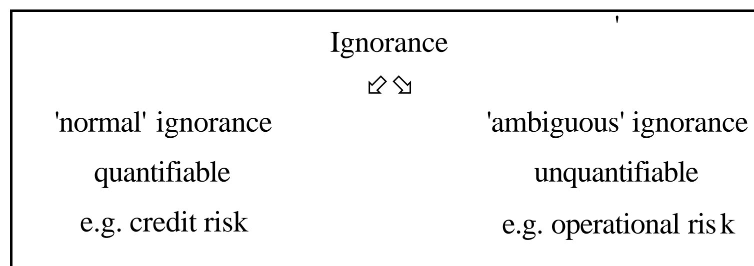

Figure 1: 'Normal' and 'Ambiguous' Ignorance

The financial economy's shift of emphasis from 'absorbing uncertainty' to 'exploiting ignorance' as well as the emergence of ambiguous ignorance are especially mirrored in the proliferation of instruments which not only serve to limit contingencies but to take profitable risks. A risk management industry of entirely new dimensions was launched with the collapse of the system of Bretton Woods in 1971 and further influenced by the debt crisis in 1982. The resulting importance of the derivatives business in banking highlights both the financial economy's innovation dynamic as well as the relevance of ambiguous ignorance. In respect to the end of a "government-led international monetary system" (Padoa-Schioppa/Saccomanni 1994) and increasing risks associated with changes in currency, stock and interest rates, banks started developing high performance price securing and arbitrage instruments (e.g. options, swaps, futures) that serve to limit risks on the one hand and speculate with risks on the other. While the net amount of over-the-counter contracts stood at $ 4,449 billion in 1991, it reached $ 99,800 billion in 2001 (BIS 1995, 2001). Even the traditional credit business has recently gone through rapid changes, as indicated by new credit derivatives. What all of the innovative products and strategies have in common is that they involve the anticipation of future developments and economically utilize ignorance. Crucial for our question concerning the driving forces of more cognitive approaches to risk management and regulation is that the trend toward a futurization, or social-theoretically speaking, a "colonialization of future" (Giddens 1991), is accompanied by a significant increase in the dynamics and knowledge intensity of financial business. As a result, the complexity of financial innovations "has been running ahead not only of the ability of regulators to follow (much less to control a priori)

but also of the ability of many firms and financial firms to understand" (Cerny 1994, 331).

On the basis of this diagnosis it becomes clear that the financial system´s knowledge intensity and innovation dynamic creates new regulatory problems, not only of a normative and monetary nature, but also of a *cognitive* one (Eichengreen 1999, 44). The cognitive problems that banks and supervisory agencies face can be traced back to four main factors:

(1) *The extraterritorialisation of financial transactions*: Tailor-made financial innovations as well as information technologies enable complex investment and arbitration strategies, which network markets once fragmented. Central problems for banks are the elaboration, integration and assessment of globally dispersed data (e.g. business results, risk analysis) as well as making use of such data in decision-making. At the same time, the supervisors are confronted with the fact that the consequences of the collapse of markets or organizations may transcend spatial and sectoral boundaries.

(2) *The asymmetry between private and public knowledge*: The acceleration of knowledge production in financial markets has resulted in a forced asymmetry between private and public knowledge. Increasingly, regulatory institutions are less prepared to confront private actors with sufficient external knowledge. While this is related to a well-known problem of regulation, the special innovation dynamics and the central position of banks within the economy make it more prominent. Public actors are thereby confronted with the task of generating suitably wide-ranging supervisory knowledge.

(3) *The emergence of unquantifiable risks*: The innovation dynamics of finance are accompanied by an increasing relevance of market and operational risks, which are either very difficult to quantify or cannot be quantified at all. Any attempt at institutional risk management and supervision based on traditional 'quantitative' approaches alone is no longer sufficient. Financial organizations are thus faced with the need to create complementary 'qualitative' risk management mechanisms, on the basis of which it will be possible to internally observe and deal with the problems of locating and forecasting the

consequences of decisions. This results in the analogous need to develop supervisory forms that support and monitor organizations in implementing and applying such mechanisms.

(4) *The regulatory dialectic*: Political strategies of regulation are always confronted with the problem of being countered by the 'regulated' (Kane 1981). Corresponding dynamics are accelerated by an increasing knowledge intensity of the regulatory field. Looking at the banking sector, it is apparent that political measures aimed at a higher degree of safety simultaneously stimulate the banks to develop economically motivated divergence while creating new insecurities. For example, the banks have answered the regulatory demands for improvements in equity (in keeping with the Basle Accords from 1988) with an increase in non-balance sheet business (in particular innovations in derivatives) which does not have an effect on the supervisor's equity demands. Consequently, a more intensive dialogue between banks and supervisory authorities is required.

The points listed here illustrate that the knowledge intensity of global banking is accompanied by an increase in ignorance about the development of markets, businesses and products. Although decision-making in the face of uncertainty is a 'normal' procedure for banks, constellations of ambiguous ignorance that cannot be managed by traditional methods of risk management are becoming more relevant. How can the impact of financial crises such as those in Asia and Russia be predicted and quantified? How can the risk of a complete breakdown of an electronic data processing system or fraudulent activity such as in the case of the British Barings Bank be measured and insured against? Because the gap between present decisions and future effects is becoming increasingly difficult to bridge with experience and probability calculations, both the banks and the institutions of banking supervision are facing the task of developing additional forms of (self-)regulation. In light of the risks as well as the social benefits of a highly innovative financial business, mechanisms and institutional arrangements for the realization and support of innovation processes appear necessary. Thus, from a broadened (self-)regulatory perspective it is no longer solely about achieving stability or correcting market failures but also about promoting mixed public-private learning processes with regard to the risks of financial innovations.

3. Knowledge politics

Recent debates on the regulation of the ever more innovative financial business illustrate the limits of traditional forms of politics. The questions if and how political actors can adapt to an effective treatment of knowledge-driven problems are increasingly being dealt with in theory as well as in practice. The first concepts, although not under the name of knowledge politics, can be traced several decades back. Above all, the works of Karl W. Deutsch (1963), Harold L. Wilensky (1967) and Donald M. Michael (1973) have focused on the ways in which knowledge plays a crucial role in governing. In the broadest sense, the solutions they suggest are directed toward the initiation of learning processes within the political system as well as toward the creation of the institutional conditions for intelligent interplay of political and economic actors. Whereas the debates in the 1960s and 70s were directed toward the national level, a new perspective was taken in the 1980s and 90s. In their research on international regimes Ernst B. Haas and Peter M. Haas elaborated cognitive conditions for international problem solving. While Ernst B. Haas (1990) emphasized the importance of "consensual knowledge", that is, a generally accepted knowledge to guide regulatory politics, Peter M. Haas (1992) stressed the importance of epistemic communities. He defines these as a "network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue area". Such experts could potentially come from many different scientific disciplines or backgrounds but should be able to refer, to a "shared set of normative and principled beliefs", "shared causal beliefs", "notions of validity" and "a common policy enterprise" (ibid., 3).

While these regime theoretical approaches focus on consensual and objective aspects of knowledge, current sociological work on knowledge politics highlights the fragmentation of societal knowledge production and addresses the relevance of a combination of "heterogeneous knowledge" (Willke 2002; Rammert 2002). Accordingly, there is an interest in institutional arrangements which transcend the boundaries of nation states and functionally specialized societal subsystems. For Werner Rammert (2002) the limitations of the

governance of knowledge are mainly rooted in two paradoxical processes. "Firstly, the heterogeneity of the enrolled actors – scientists and managers, politicians and administrators (…) – and the diversity of their perspectives cause problems of a successful concertation that does not level out the creative differences between disciplines or institutional rationality standards, and that does not destroy the complementary competencies of functionally specialized actors. Secondly, the specificity of knowledge to be an intangible asset and incompletely explicable set of competencies sets limits to the complete control (…) of knowledge" (ibid., 3). Thus, knowledge politics "should encourage the diversity of actors and perspectives. It should cultivate the differences in and between communities of practice. It should enable the crisscrossing between different disciplines of knowledge. And it should keep on spaces and places where collective learning between heterogeneous actors can take place. A policy of quantitative knowledge growth should be complemented by a qualitative policy of knowledge diversity" (ibid., 14).

In order to put such 'boundary-spanning' arrangements in more concrete terms, it is instructive to refer to the concept of "collective intelligence" (Willke, 2002, 174). This concept marks an emerging characteristic of social systems, which is not founded on the mere aggregation of individual intelligence, but on systemic intelligence as an emergent property of social systems that combine distributed intelligence. Collective intelligence focuses on the structures, processes and systems of rules that encourage (or hinder) collective learning processes. From the perspective of the theory of self-referential systems (e.g. Willke 1986, 1990; Luhmann 1995) it becomes clear that governments can initiate and promote collective intelligence by using a political strategy which is based on contextual interventions instead of direct, decree-type regulations. Contextual interventions consist of two complementary parts: a reflexive, decentralized framing of contexts which may serve as common source of orientation for the problem-relevant social systems (interactions, organizations, functionally specialized societal subsystems); and self-guidance of these systems within the limits of their autonomy. A "decentral framing of contexts" (Willke 1990) means that a minimum of common 'world view' among social systems seems indispensable for managing collective problems. The aspect of self-guidance is important because only the systems themselves can implement changes in their basic operating procedures. If they are implanted from outside by directive measures, they provoke resistance, circumvention or even the collapse of the systems

voke resistance, circumvention or even the collapse of the systems autonomy. The "regulatory dialectic" (Kane 1981) exactly illustrates the problems of hierarchical intervention and makes sense of the fact that changes can only be realized as self-implemented changes and that interventions should therefore initiate or promote processes of self-transformation of the target systems (Willke 1990, 251). Contextual intervention by the state can, however, operate according to a legal approach which respects the autonomy of social systems and makes use of their specific problem-solving abilities. Instead of directing administrative action through purposive programs and goal-directed forms of intervention, the state develops "relational programs" (Willke 1986), which serve to involve relevant social systems in the process of formulating programs, reaching a decision, and implementation. Such relational programs are intelligent because they focus on the aspect of self-guidance, use the differences between various expert cultures beyond system boundaries and make way for reciprocal learning processes for the treatment of mutually created societal problems.

In the case of banking regulation it becomes evident from this perspective that, on the one hand, a hierarchical form of banking regulation operating with strict and detailed quantitative requirements is inadequate. On the other hand, although the banks have high innovation and problem-solving potential, they are obviously unable to provide the expectation-certainty necessary for successful self-coordination. Therefore, neither hierarchy nor market alone are able to produce a sufficient form of governance. It is however thinkable that this problematic situation is leading to the development of institutional arrangements that make use of the advantages of both governance-mechanisms and avoid the disadvantages thereof. A 'viable' internalization of each other's decision-making logic could animate the banks as well as the supervisory agencies to reflect on the latent functions of their respective modes of operation and stimulate necessary learning-processes. In reference to networks, Gunther Teubner (1996) points out that the involved social systems in such 'emergent' arrangements are not only attached to their basic governance-mechanism (market or hierarchy) but additionally institutionalize the opposing principal (in the sense of a 'double constitution'). What is important is that market- or hierarchy-oriented social systems are creating a new self-description of their elementary acts and are linking them. A 'network operation' as a new elementary act develops through social

double attribution of actions: every communicative event is at the same time attributed both to an autonomous network actor and to the network.

For the governance of global banking this means that collective learning effects might be observed that cannot simply be described as aggregations of separately operating learning processes. From the perspective of systems theory it seems possible that a mixed public-private arrangement will evolve with operations attributed to the governance-mechanisms market and hierarchy as well as to new elementary acts (network operations) circularly linked to an emergent system. On the one hand, the supervisory agencies are in a position to define the learning context, even if they cannot provide an effective hierarchical coordination. On the other hand, the cognitive orientation of the banks is able to supply necessary innovations in the field of risk management. Although this sounds rather theoretical, there are indications that such a mixed public-private arrangement, which creates options for a more adaptable form of regulation, has already emerged. In what follows, I will illustrate the common efforts of the Basle Committee on Banking Supervision and the banking industry to develop a supervisory approach, which is not only based on a more intensive and dialogue-oriented interaction of supervisory agencies and banks but also aims to improve banks´ internal structures and processes for managing risks.

4. The emergence of a cognitive approach in banking supervision

Since the 1970s the extraterritorialisation of financial transactions has lead to the development of regulatory arrangements beyond the nation state as well as to adjustments in national regulatory policy (e.g. Dale 1984; Kapstein 1996; Strulik 2000; Lütz 2002; Wood 2005). Corresponding efforts primarily aimed at enabling and improving the coordination of national supervisory institutions and regulations. Essential in this regard was the establishment of the Basle Committee on Banking Supervision (BCBS) by the central bank Governors of the Group of Ten countries at the end of 1974 in the aftermath of serious disturbances in international currency and banking markets (notably the failure of Bankhaus Herstatt in West Germany). The Committee's first task was to consider methods of improving 'early-warning' systems to prevent the spread of banking crises. Subse-

quently, the Committee developed modalities for international cooperation in order to close gaps in the supervisory net and to improve supervisory understanding and the quality of banking supervision worldwide (Basle Committee on Banking Supervision 1997).

Milestones along the way to an effective international cooperation were the Basle Concordats of 1975 and 1983 as well as the Basle Accord of 1988. While the Concordats aimed at improving coordination regarding areas of responsibility, common principles of supervisory activities, mechanisms of information exchange and procedures for expanding the decentralized competence of supervisory agencies, the Basle Accord on bank capital adequacy specified a quantitative standard for assessing the adequacy of a bank´s capital in relation to the varying degrees of risk associated with the different types of assets that it possessed (Porter 1993, 64). For the question at hand it is important to note, that the 'quantitative approach' manifested in the Basle Accord of 1988 already proved to be insufficient by the early 1990s. Although the accord constituted the foundation of an international consensus on banking regulation, the elaborated framework was not able to keep pace with the highly dynamic banking business. Above all, the growth of innovative derivatives business required a form of regulation that went beyond the quantitative and standardized treatment of risk. As Thomas M. Hoenig (1996) points out:

> ‘The complexity of the new activities and instruments also makes traditional safety and soundness regulation more difficult by making traditional capital regulation less meaningful. Capital is harder to measure because it is increasingly difficult to assess the value of many of the new assets that are not regularly traded, such us over-the-counter derivatives and structured notes. Moreover, balance sheet information that is reported at, say quarterly intervals is less useful because it is only a snapshot of a portfolio whose value can change dramatically within a day. Also, the pure lack of information about many off-balance sheet activities makes it more difficult to assess capital adequacy.’(ibid., 9)

For the Basle Committee on Banking Supervision as well as for the banking industry and private organizations such as the Group of Thirty (G30) and the Institute of International Finance (IIF) it therefore appeared necessary not only to focus on quantitative norms, but also to develop further measures which concentrated on the support and control of the internal risk management of banks. This became even more important as the quality of the internal risk management of banks increasingly became a deciding competitive factor as a result of increasing market volatility and new possibilities of risk management through derivative instruments.

Corresponding initiatives started in the early 1990s and have led to a reorientation in the field of banking regulation. Although the aspect of coordination of national supervisory institutions and regulations is still of great importance, the attention is shifting to the interaction between supervisory agencies and banks as well as to banks´ internal risk management. Traditional command and control models are being replaced by attempts to promote the self-regulating competence of the banks (Power 2002). Banking supervision is no longer exclusively concentrated on the establishment and development of standardized norms (input) and on controlling conformity to them (output), but also on the support and control of structural and procedural conditions for internal risk management of the banks. In doing so, supervisory law is being coupled with a development that is characterized by the fact that the internal quality controls of banks are increasingly aimed toward process optimization. Consequently, this reorientation of supervision appears to be particularly appealing to the economic self-interest of the banks. The development of a cognitive supervisory approach is mirrored by the elaboration of qualitative requirements for banks (e.g. adequate systems for assessing, monitoring and reporting risk exposures; independent internal control review; responsibility of bank management) and a stronger consideration of on-site examinations by national supervisory agencies.

An important first step in the direction of a more qualitative form of banking regulation consisted of the "Risk management Guidelines for Derivatives" published by the Basle Committee in July 1994. With this, the national supervisory agencies were given a basis for testing their own methods and procedures for evaluating the banks' risk management of derivative product business. This was based on the assumption that the effective risk management of all market participants is of substantial importance for the promotion of the stability of the financial system as a whole and therefore for the prevention of a system crisis. The Committee primarily concentrated on determining the required criteria for the banks' internal risk management. For example, the guidelines responded to the problem of an often inadequate separation of front- and back-office by requiring a strict differentiation of sales, administration and internal control functions. In addition, an emphasis was placed on independent risk controlling. Last but not least, it was made clear to the banks that their business managers must have a sufficient understanding of derivatives

business and that they must be adequately provided with the information necessary for decision-making. For example, the top management should be informed about the bank's risk options at least once per day. The guidelines were generally aimed at developing a greater sensitivity among the banks and supervisory agencies regarding their weak points in managing derivative products.

In January 1996 developments towards a more qualitative form of banking regulation were driven forward by an addition to the 1988 Basle Accord. The rigid system of standardized factors for calculating banks´ capital requirements was supplemented with a procedure that could be used by the banks for internal risk management and was accepted as an instrument for external control by the supervisory agencies. This linking of internal and external control was manifest in the approval of bank internal models for measuring market risks. The Committee recommended that in the future the national supervisory agencies should allow the use of measurement procedures tailored to the individual risk situation of the bank rather than require that a particular 'standardized' measurement procedure be used (Basle Committee on Banking Supervision 1996). In order to improve the necessary self-regulatory skills of the banks, the Basle Committee made the approval of internal models contingent on meeting certain qualitative and quantitative minimum requirements. While the quantitative requirements were mainly meant to prevent the banks from underestimating their risks, the qualitative requirements were aimed toward providing sufficient organizational structures and processes for the treatment of the internal models (Table 1).

1. The bank should have an independent risk control unit that is responsible for the design and implementation of the bank´s risk management system.
2. The unit should conduct a regular Back-testing programme.
3. Board of directors and senior management should be actively involved in the risk control process and must regard risk control as an essential aspect of the business to which significant resources need to be devoted.
4. The bank´s internal risk measurement model must be closely integrated into the day-to-day risk management process of the bank.
5. The risk measurement system should be used in conjunction with internal trading and exposure limits.
6. A routine and rigorous programme of stress testing should be in place as a supplement to the risk analysis based on the day-to-day output of the bank´s risk measurement model.
7. Banks should have a routine in place for ensuring compliance with a document set of internal policies, controls and procedures concerning the operation of the risk measurement system. The bank´s risk measurement system must be well documented.
8. An independent review of the risk measurement system should be carried out regularly in the bank´s own auditing process.

Source: Basle Committee on Banking Supervision (1996, 38ff.).

Table 1: Qualitative standards for the use of internal models to measure market risks

The formulation of qualitative requirements for the risk management of banks suggests a more intelligent supervisory strategy. The pressure caused by the existing problems led to initiatives which more strongly concentrated on developing the risk-learning capacities of banks. On the basis of the above mentioned theoretical considerations it can be observed that a supervisory model emerged, which works with "contextual interventions" (Willke 1990) and the formulation of minimum requirements instead of direct, decree-type regulations. The changes in both supervision and risk management not only created "market-friendly regulation" (Padoa-Schioppa 1997) but a learning-oriented mixed public-private arrangement.

The reorientation of the Basle Committee was driven forward by the fact that for both the members of the Committee and the national negotiating system (usually the interplay of associations, supervisory agencies and legislature) the rapid changes in banking were accompanied by an erosion of the traditional basis for negotiation. Expectation certainty could no longer be produced through agreements between negotiating partners, as negotiated solutions require an awareness of preferences. In a situation in which risk could only be grouped, weighed and insured with capital to a very limited extent, it was diffi-

cult for the negotiation partners to even define their desired solutions (Lütz 1998, 20). For which capital requirements should one stand when they can significantly change in a very short time? Risk management therefore became a problem of ambiguous ignorance. To the extent that the problem-solving functions of experience and predictability eroded, new ways had to be found to adequately manage the dynamic and complex risks of global banking. As a result, a supervisory strategy emerged, which accepted that no reliable standardized measure for the assessment of risk could be found. The Basle Committee recognized that a simple adaptation of the existing model could not sufficiently keep up with the rapidly changing environment. An extensive modification of the capital adequacy framework was needed to achieve adaptable banking supervision.

5. Basle II and the Supervisory Review Process (SRP): A learning-oriented mixed public-private arrangement?

With the revised capital adequacy framework commonly known as Basle II, which was published by the Basle Committee on Banking Supervision in June 2004, qualitative supervision has gained even greater importance. In light of structural changes in credit business, which are especially manifest in the proliferation of credit derivatives and sophisticated risk management systems, the Committee intends to effectively further develop the 1988 Basle Accord.

> "The basic aim is to gear banks' capital requirements more closely than in the past to the actual economic risk which they face, while also taking account of recent innovations in the financial markets as well as in institutions' risk management strategies. For calculating the capital ratio, the new Accord envisages a series of simple ('foundation') and more sophisticated ('advanced') approaches to measuring credit risk and operational risk. It lays down a flexible framework within which a bank, subject to a supervisory review process, may apply an approach that best suits its complexity and risk profile. Moreover, the new Accord specifically rewards banks for measuring risk more stringently and more precisely. (...) The Basle Committee therefore seeks to ensure that banks' own (internal) risk management systems are improved further and that they are reviewed by the appropriate supervisory agencies. This is a new prudential element in Germany and in many other countries, where up to now prudential supervision has mainly taken the form of analyzing the returns and reports submitted by banks and the audit reports of external auditors, and it represents a paradigm shift towards a more qualitative prudential regime. In addition, banks are to be subject to more comprehensive disclosure requirements in order to use the disciplining forces of the markets as a complement to the regulatory requirements" (Basle Committee 2003).

In sum, the Committee's objective is not only to strengthen the soundness and stability of global finance but also to facilitate a market-oriented and innovation sensitive form of regulation. As a more forward-looking approach, Basle II should have the capacity to evolve with time. From the Committee's standpoint "(t)his evolution is necessary to ensure that the framework keeps pace with market developments and advances in risk management practices" (Basle Committee 2004, 3). To achieve both – stability and innovation – Basle II is based on a greater use of assessments of risk, provided by banks´ internal systems as inputs to capital calculation, as well as a detailed set of quantitative and qualitative minimum requirements designed to ensure the integrity of these internal risk assessments (ibid.).

This combination of the governance mechanisms market and hierarchy, are to be realized by the so called "three pillars (minimum capital requirements, supervisory review, and market discipline) approach" (ibid., 1). Of particular interest for the question at hand is the so called „Supervisory Review Process (SRP)“, which is meant to provide a new qualitative foundation for the interaction of banks and supervisory agencies. In the future, banks are to be regularly contacted by their responsible local supervisory agencies for an on-site, dialogue-based evaluations of their ability to adequately identify, measure, manage and control their risks. In this regard, it is not the Committee's intention to dictate the form or operational details of the banks´ risk management policies and practices. Instead, the aim is to stimulate and evaluate learning-processes in relevant organizational areas. From the perspective of the Committee, a greater orientation toward the risk management of the banking industry appears to be most suitable for keeping pace with a highly innovative financial business. It is expected that the tying of supervisory practices to private expertise will create opportunities for the expansion of public-private learning. On the one hand, the Supervisory Review Process provides an impulse for improving the skills of the supervisory agencies. On the other hand, the closer interaction with supervisors might also lead to more adequate adaptations on the side of the banks. For example, the planned evaluation of the banks' internal structures and processes for determining the capital requirements could promote the explication of implicit knowledge about risk management and thereby the revision of established goals and procedures.

It is important to note, that in respect to the banks' internal procedures for the assessment of capital adequacy, it is not simply about learning or the promotion of 'best-practices' (Power 2002). The cognitive interaction of banking supervision and banks is also supported by conditions for intervention. Should the supervisors evaluate the ability of the banks to assess and control capital requirements as inadequate, principles 3 and 4 concerning the Supervisory Review Process provide various measures which can be taken. For example, a bank can be required to prepare and implement a satisfactory capital adequacy restoration plan. In especially difficult cases, the supervisors can even demand that the bank raise additional capital immediately. Furthermore, it is up to the discretion of the responsible national agencies to apply the measures which they consider best suited to the given situation of the bank and its business environment (Basle Committee on Banking Supervision 2004, 164).

The Basle recommendations are to be incorporated into national law by the beginning of 2007. Therefore, no empirical studies on their formation and effects are available yet. On the basis of experience with on-site inspections, which were first introduced in Germany in 1999 by the sixth amendment to the "Gesetz über das Kreditwesen" (KWG) and also initiated by the Basle Committee, there is at least an indication that the conditions for generally higher performing institutional arrangements are given (Strulik 2000). From the perspective of the actors involved, a "mutual learning process" has been set in motion that reacts to the increasing dynamic and intransparency of global financial business. Although the interactions taking place in the context of the on-site inspections have been anything but smooth, they are greeted by both the supervisory agencies and the banks. While supervisors are more than ever before in a position to gain insight into banks´ internal conditions for adequate risk management and to learn different procedures for measuring risk, banks have the advantage that they can demonstrate the quality and effectiveness of their individual ('tailor made') risk management systems. Furthermore, supervisors are not only capable of sanctioning bad practices but also of reducing potential uncertainties such as interpretation problems in regard to the qualitative minimum requirements and of setting priorities for further improvements.

6. Conclusion

The contours of the developments in the field of banking regulation which have been presented here, indicate that the knowledge driven co-evolution of finance and politics has not only led to a globally-oriented but also to a cognitive (learning-oriented) form of supervision. An ongoing shift from a conventional market-correcting to an innovation-enabling mode of banking supervision can be observed, which not only demonstrates the tendency toward a more active but also the need for a competent treatment of ambiguous ignorance. During the 1990s the interaction of the Basle Committee for Banking Supervision and the banking industry resulted in a qualitative supervisory approach that focused on the internal structures and processes of the banks and rewarded learning advancements in risk management. Accordingly, supervision on the national level is not only concerned with the promotion of the banks' internal learning processes and 'best practices' but with the evaluation of the banks' internal risk assessments and strategies as well as the administering of sanctions in cases in which these do not meet the requirements of the supervisor. It is important to note, that Basle II and especially the Supervisory Review Process bring the national supervisory agencies into a position to expand their own expertise in respect to the assessment of innovative risk management procedures.

On both the level of supranational rule building and of national supervision, institutional arrangements and mechanisms appear to be emerging which do not simply mediate between the primarily hierarchical control modus of banking supervision and the primarily market oriented innovative modus of the banks but perform beyond both of these governance mechanisms. At this point in time, it is an open empirical question to what extent the existing potential will be put into practice. It can already be seen, however, that the implementation of the Supervisory Review Process will confront the national supervisors with considerable demands. The stronger orientation of the new framework toward the self-regulation skills of the banks should not be understood as lean government or a "neo-liberal model of regulation" (Power 2002). On the contrary, effective qualitative supervision demands increased state efforts toward improving its supervisory competencies. An intense treatment of the banks' management of risk and capital requirements requires

substantially more sophisticated expert and process knowledge from the supervisors. More intensively than ever before, the supervisors need to have an understanding of the organizational and management structures, the business strategies and processes, the diverse and complex financial products, and the complicated risk and management procedures of the banks. Therefore, in Germany for example, the two supervisory bodies Bundesbank and Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) started adjusting their examiner capacities in 2002. In order to prepare the new staff for their challenging job, a joint training program was launched in which about 200 employees participated from July 2002 to July 2004. The program consisted of on the job training periods as well as seminars, to which many experts from the German banking industry contributed. More than half of the 150 trainers came from outside of banking supervision" (Deutsche Bundesbank, 2005, 15).

Although a detailed analysis of the conditions, functions and effects of the revised capital adequacy framework remains to be done, the closeness of the new regulations to the conceptual considerations on knowledge politics, which are outlined above, can be recognized. The implementation of the Supervisory Review Process creates the conditions for a closer interaction of the relevant private and public actors and therewith options for a learning oriented combination of heterogeneous rationalities, governance-mechanisms and knowledge resources. In general, the orientation of banking regulation toward a contextual intervention (Willke 1990) and a stronger consideration of qualitative supervisory elements can be understood as an indicator that, in light of globalization and increasing knowledge intensity of global finance, processes of organizational and inter-organizational learning regarding the management of financial risks are becoming important resources in regulatory politics.

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