



1-1-2005

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Donato Masciandaro
Bocconi University, Milan

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Recommended Citation

Donato Masciandaro, *Financial Supervision Architectures and the Role of Central Banks*, 18 PAC. MCGEORGE GLOBAL BUS. & DEV. L.J. 351 (2004).

Available at: <https://scholarlycommons.pacific.edu/globe/vol18/iss2/10>

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Financial Supervision Architectures and the Role of Central Banks

*Donato Masciandaro**

I. INTRODUCTION

This paper presents a review of recent trends in the architectures of financial supervision, focused on the authorities' design. This work is useful for evaluating the worldwide situation, using a sample of sixty-eight countries.

The starting point is the blurring effect that is taking place in the banking and financial industry. The blurring effect is evident in the increased integration of the banking, securities and insurance markets, as well as their respective products and instruments.

The blurring effect causes two interdependent phenomena: (1) the emergence of *financial conglomerates*, which is likely to produce important changes in the nature and dimensions of the individual intermediaries, as well as in the degree of consolidation of the banking and financial industry; and (2) growing *securitization* of the traditional forms of banking activity and the proliferation of sophisticated ways of bundling, repackaging, and trading risks, which weaken the classic distinction between equity, debt, and loans, bringing changes in the nature and dimensions of the financial markets.

The financial blurring process creates at least three areas of debate regarding the financial supervisory structure:¹ (1) sectoral approach versus functional approach; (2) single supervisory model versus multi-authorities model; and (3) centralized setting versus decentralized setting.

It is a fact that, in the perspective of increasing financial integration, the relevance of the first question has been rapidly declining. The institutional approach is based on the possibility of separating the banking, securities, and insurance markets. The progressive erosion of market separation is likely to cause the "default" of the institutional approach. The fact that various models of such an approach have been adopted recently or are currently under discussion in several countries confirms the hypothesis that the financial blurring trend favors the alternative functional approach.

From another point of view, particularly in the European contest, the centralized versus decentralized question seems to be a second-order problem. The alternative solutions are likely to be strictly dependent on the various European national answers to the optimal design of the supervisory framework and closely linked to the answer of the single supervisory approach versus multi-authorities approach dilemma.

* Full Professor of Monetary Economics, Paolo Baffi Centre, Bocconi University, Milan, and Department of Economics, Mathematics and Statistics, University of Lecce.

1. Giorgio Di Giorgio & Carmine Di Noia, *Financial Market Regulation and Supervision: How Many Peaks for the Euro Area?*, 28 *BROOK. J. INT'L L.* 463, 463-466 (2003).

Therefore, given the dominance of the functional approach and the “postponed” nature of the centralized-decentralized questions, the alternative between the single financial authority model (“SFA”) and the multi-financial authorities model seems to be the more relevant debate.

The success of the SFA model seems to be growing, particularly in the European area. Among the fifteen original members of the EU, Austria, Denmark, Germany, Sweden, and the United Kingdom (“U.K.”) have chosen to delegate the supervision to a single authority, different from the central bank. The single supervisor has been adopted also in four recent EU member countries—Estonia, Hungary, Latvia, Malta—as well as in Norway and Iceland. Outside Europe, a unified agency was established in Korea, Japan, and Nicaragua, respectively.

Prima facie, the single supervisor model seems to be the natural and best answer to the challenges posed by market blurring. If, in the long run, the expected financial structure is a perfectly integrated and single market, the best design for the supervisory architecture would seem to be the single authority.² But the answer is apparently not that simple.

This paper is organized as follows. Section II reviews the debate on the financial supervisory architecture, focusing on the single authority versus multi-authority dilemma. Sections III and IV perform a comparative analysis, using institutional indicators of the degree of consolidation in the supervisory powers and of the level of the involvement of the central bank in the supervisory structure. Section V offers a general review of the possible determinants of the consolidation process. Section VI puts forward some conclusions as well as perspectives for further research.

II. E PLURIBUS UNUM? THE DILEMMA OF FINANCIAL SUPERVISION UNIFICATION AND THE POLICYMAKER ROLE

A strand of recent literature³ pointed out that, given different institutional settings, it is possible to highlight the corresponding gains and losses⁴ and perform a rational cost-benefit analysis to choose between alternative models.⁵

2. Karel Lannoo, *Challenges to the Structure of Financial Supervision in the EU*, 22nd SUERF Colloquium, Wien. (2000); Clive Briault, *The Rationale for a Single National Financial Services Regulator*, FSA Occasional Paper 2(1999), available at <http://www.fsa.gov.uk/pubs/occpapers/OP02.pdf> (last visited June 15, 2005).

3. Christian Hawkesby, *The Institutional Structure of Financial Supervision: A Cost Benefit Analysis*, 2 J. INT'L BANKING REG. 36, 54 (July 2000).

4. See generally JOSÉ DE LUNA MARTINEZ & THOMAS A. ROSE, INTERNATIONAL SURVEY OF INTEGRATED FINANCIAL SECTOR SUPERVISION (World Bank Policy Research Working Paper No. 3096, 2003), available at <http://econpapers.repec.org/paper/wbkwbrwps/3096.htm> (last visited June 15, 2005) (providing a complete analysis on the arguments for and against integrated supervision).

5. See generally CHARLES M. KAHN & JO O A.C. SANTOS, ALLOCATING BANK REGULATORY POWERS: LENDER OF LAST RESORT, DEPOSIT INSURANCE AND SUPERVISION (Monetary and Economic Department, BIS Working Papers, n.102), available at <http://ideas.repec.org/p/att/baiswp/2001102.html> (last visited June 15,

The principal advantage of a single authority lies in the fact that it avoids the complex issues associated with the allocation of supervisory tasks.⁶ The use of a single authority may result in economies of scale and scope, especially where various operating divisions can be created. The economies of scale and scope may derive from the fact that the single authority can benefit from a centralized operating unit, with benefits from the standpoint of human resources, information systems, etc. Furthermore, it avoids the useless multiplication of costs associated with the existence of multiple authorities. A single authority's presence may also lead to reduced information costs, because cooperation and interchange can be better ensured among the various supervisory sectors. The costs associated with supervision can be reduced.

There can be significant benefits for the supervised parties, who need deal with only a single agency, especially regarding authorization procedures. All ambiguities regarding tasks—who exercises supervision and is responsible for each procedure—are eliminated.

Another advantage of the single authority is that it may reduce the risks of arbitrage in supervision, ensuring greater regulation neutrality through the unification of the sector regulations.

Nevertheless, the single authority model also presents problems and potential risks. According to some authors,⁷ the cost advantages associated with a single authority are not necessarily true, since the single authority compromises specialized divisions that may themselves be affected by problems of coordination and information interchange. It seems unlikely, however, that the costs of information coordination and sharing sustained by the various divisions of a centrally managed authority could exceed the costs associated with cooperation between different authorities.⁸

Another argument against the single authority is its potentially higher profile. This model of supervision could be associated with the idea, not necessarily true, of a totally secure financial system, an idea that would reduce the incentives for the supervised parties to have operating systems based on prudence and would relax the caution of consumers—investors toward the financial services offered.⁹

2005) (offering a theoretical analysis of several alternative institutional allocations of regulations in the specific banking regulation area).

6. Donato Masciandaro & Angelo Porta, *Single Authority in Financial Market Supervision: Lessons for EU Enlargement*, in FINANCIAL INTERMEDIATION IN THE NEW EUROPE (Donato Masciandaro ed., 2004).

7. CHARLES GOODHART ET AL., FINANCIAL REGULATION: WHY, HOW AND WHERE NOW?, (Routledge 1998) [hereinafter FINANCIAL REGULATION].

8. Lannoo, *supra* note 2.

9. *Id.*

A further argument against the single authority refers to the fact that the “institutional failure” of such an authority in implementing a specific task, since it is active in several sectors, would generate broader negative effects.

Therefore, it is possible to agree with the initial intuition—the importance of the cost-benefit analysis—but the relative conclusion on the possibility to find the optimal supervisory regime seems to be rather unsatisfactory. First, given a single authority, it is possible to increase the efficiency in the relationship between supervisor and regulated firms because the cost of supervision and the possibility of supervisory arbitrage decrease.¹⁰

Nevertheless, given the single supervisor model, efficiency in the supervisor-regulated firm relationships decreases because with a single authority, the capture risks could increase,¹¹ and the innovations incentive in the regulated industry could decrease.¹² Therefore, the sign and the magnitude of the single supervisor model effects, with respect to the regulated firm relationship issues, seem rather vague and ambiguous.

The same kind of conclusion can be reached by analyzing the relationship between the single authority and the political system (independence and accountability,¹³ discretion¹⁴ or capture¹⁵), the effects in terms of supervisory organization and resource allocation (economies¹⁶ or diseconomies of scale,¹⁷

10. Briault, *supra* note 2; Charles Goodhart, *The Organizational Structure of Banking Supervision*, 31.1 ECONOMIC NOTES 1 (2002); David Llewellyn, *Introduction: the Institutional Structure of Regulatory Agencies*, in *HOW COUNTRIES SUPERVISE THEIR BANKS, INSURERS AND SECURITIES MARKETS* (Neil Courtis, ed. 1999).

11. MARC QUINTYN & MICHAEL TAYLOR, REGULATORY AND SUPERVISORY INDEPENDENCE AND FINANCIAL STABILITY (IMF Working Paper 2002), available at <http://ideas.repec.org/p/imf/imfwpa/0246.html> (last visited June 21, 2005).

12. JAMES R. BARTH ET AL., A CROSS-COUNTRY ANALYSIS OF THE BANK SUPERVISORY FRAMEWORK AND BANK PERFORMANCE (Economic and Policy Analysis Working Paper 2002-2, 2002), available at <http://www.occ.treas.gov/ftp/workpaper/wp2002-2.pdf> (last visited June 21, 2005).

13. Richard K. Abrams & Michael W. Taylor, *Assessing the Case for Unified Sector Supervision*, Risk Management and Insurance International Conference (2001); Briault, *supra* note 2; Lannoo, *supra* note 2; Llewellyn, *supra* note 10. See Quintyn & Taylor, *supra* note 11 (explaining the meaning of regulatory and supervisory independence); THORSTEN BECK ET AL., BANK SUPERVISION AND CORPORATE FINANCE, (NBER Working Paper, n. W9620, 2003), available at <http://ideas.repec.org/p/nbr/nberwo/9620.html> (last visited June 21, 2005) (examining the impact of bank supervision independence on corporate financing obstacles).

14. FINANCIAL REGULATION, *supra* note 7; Quintyn & Taylor, *supra* note 13. See Taylor, *supra* note 11; see also Briault, *supra* note 2; Llewellyn, *supra* note 10 (reviewing the risks of excessive power of a single regulator).

15. INGO FENDER & JURGEN VON HAGEN, CENTRAL BANK POLICY IN A MORE PERFECT FINANCIAL SYSTEM (ZEI Policy Paper, 1998).

16. See Abrams & Taylor, *supra* note 13; Briault, *supra* note 2; CLIVE BRIAULT, REVISITING THE RATIONALE FOR A SINGLE NATIONAL FINANCIAL SERVICES REGULATOR (FMG Special Paper, n.135, 2002); Goodhart, *supra* note 10; Lannoo, *supra* note 2; Llewellyn, *supra* note 10 (claiming that the economies of scale argument is most applicable in small countries or those with small financial systems); Abrams & Taylor, *supra* note 13 (arguing that the shortage of supervisory resources is a serious problem, particularly in emerging market economies).

17. FINANCIAL REGULATION, *supra* note 7.

benefits or costs of goal conflicts' internalization¹⁸), and the consequences on the financial services costumers behaviour (confidence¹⁹ or over-confidence²⁰).

It is manifestly evident that the quest for an optimal degree of supervision unification cannot be pursued through a simple analysis of the costs and benefits expected from the possible alternative structures. A theoretical analysis of the *potential effects* of alternative supervisory structures does not take us very far.

The first natural response to this problem would therefore be to estimate the *real effects* the two alternative supervisory models have on key economic variables.²¹ But this immediately fosters at least three orders of difficulty.

Firstly, the emergence of a single authority is only the most striking aspect of a more general and gradual phenomenon: diversification, from country to country, in the degree of centralization of financial supervisory power. Compared to the traditional model of control by sectors, some countries have confirmed the diversification model while others have radically changed it by adopting a single authority, and still others have taken or confirmed intermediate choices. This raises the problem of measuring the degree of concentration of powers, country by country, in order to attempt the quantitative description of a qualitative phenomenon. Hence, the first objective of the research agenda is to improve the descriptive analysis.

Secondly, the issue of the optimal degree of concentration of financial supervisory powers has emerged only recently, with the reforms adopted in various countries. Thus, considering the type of supervisory regime as an explicative or *exogenous* (though not unique) variable of any other economic phenomenon requires an analysis of an extremely short historical series, with all the related problems of interpretation.

Thirdly, completely and satisfactorily identifying what the key economic variables are, and the most possible object of an estimate on which a supervisory structure makes its effects felt, is not a simple problem. Alternative supervisory structures may, for example, affect the level of efficiency of the public resources invested in monitoring the financial markets. Indicators can be found for the efficiency phenomenon, and empirical analysis can therefore proceed.

18. Briault, *supra* note 2; Lannoo, *supra* note 2; Llewellyn, *supra* note 10; Larry D. Wall & Robert A. Eisenbeis, *Financial Regulatory Structure and the Resolution of Conflicting Goals*, 16 J. FIN. SERVICES RESEARCH 223 (1999).

19. Llewellyn, *supra* note 10.

20. Lannoo, *supra* note 2.

21. James R. Barth et al., *The Regulation and Supervision of Bank Around the World: A New Database*, in INTEGRATING EMERGING MARKET COUNTRIES INTO THE GLOBAL FINANCIAL SYSTEM (Robert E. Litan & Richard Herring eds., 2001).

The point is that alternative structures may also (perhaps especially) affect other variables that are important but less easily expressed by concise indicators. Examples are reputation risk, and the risk that the authority will be captured by the policymakers or by the controlled intermediaries. Thus a quantitative search for the effects of alternative supervisory structures is probably premature.

It might be interesting, rather, to ask: are there any common determinants in the decision each country makes to maintain or reform its control structure? Finding a response would help us not only to interpret what has happened in the past but also to project scenarios of change for the future.

The second objective of the research agenda is to attempt to concentrate on an analysis of the causes that have helped bring about a given supervisory structure in different countries.

Our analysis is consistent with a political approach to the supervisory design.²² The approach we intend to follow here—extending the indication that the new political economy²³ has formulated in analyzing the definition of public policies—is to consider the supervisory structure with one or more authorities as a dependent variable, determined in turn by the dynamics of other structural variables, economic and institutional, that can summarize and explain the *political* process that leads a country to maintain or reform its supervisory structure.

A country confirms or reforms its supervisory structure when its policymakers decide to do so. While we do not believe that policymakers are always and ever benevolent dictators, nor do we wish to exclude this *a priori*, we can assume that these decisions are generally determined, in turn, by structural factors of a financial, economic, and institutional nature. The search for these factors is a task for economic analysis.

III. THE DEGREE OF FINANCIAL SUPERVISION UNIFICATION

If we wish to consider the financial supervision unification as a dependent variable determined by the policymaker, the first problem is to construct this variable. The question is: how to “measure” the degree of concentration of financial supervision?

To this end we use a Financial Authorities Concentration Index (“FAC Index”).²⁴ The creation of the FAC Index is based on an analysis of which and how many authorities in sixty-eight countries are empowered to supervise the

22. Donato Masciandaro, *Central Banks or Single Financial Authorities? A Political Economy Approach, Central Banks and Single Financial Authorities in Europe* (forthcoming 2005) (describing this approach).

23. Torsten Persson & Guido Tabellini, *POLITICAL ECONOMY: EXPLAINING ECONOMIC POLICY* (2000).

24. Donato Masciandaro, *Unification in Financial Sector Supervision: the Trade Off between Central Bank and Single Authority*, *J. FIN. REG. AND COMPLIANCE* (forthcoming 2005) [hereinafter *Unification in Financial Sector*].

three traditional sectors of financial activity: banking, securities markets, and insurance. To transform the qualitative information into quantitative indications, and to gauge the degree of consolidation of each national regime of national supervision, the information has been assigned a numerical value to each type of authorities design, according to the following scale:

7 = Single authority for all three sectors (total number of supervisors = 1);

5 = Single authority for the banking sector and securities markets (total number of supervisors is two);

3 = Single authority for the insurance sector and the securities markets, or for the insurance sector and the banking sector (total number of supervisors is two);

1 = Independent specialized authority for each sector (total number of supervisors is three).

The rationale with which the values have been assigned considers the concept of concentration of supervisory powers: the greater the concentration, the higher the index value.

The FAC Index has elected to assign a value of five to the unique supervisor for the banking sector and securities markets because of the predominant importance of banking intermediation and securities markets over insurance in every national financial industry. It is also interesting to note that, in the group of unified supervisory agencies' countries, there seems to be a higher degree of integration between banking and securities supervision than between banking and insurance supervision;²⁵ therefore, the degree of concentration of powers is, *ceteris paribus*, greater.

These observations do not, however, weigh another qualitative characteristic: different countries are characterized by the fact that one sector is supervised by more than one authority.

It is likely that, other conditions being equal, when two supervisory authorities exist in a given sector, one of which has other powers in a second sector, the degree of concentration of power is greater. When, on the other hand, there are two control authorities in a given sector, neither of which has other powers in a second sector, the degree of concentration is reduced, because the total number of supervisors increases.

25. De Luna Martinez & Rose, *supra* note 4.

It would therefore seem advisable to include these aspects in evaluating the various national supervisory structures by modifying the index as follows:

Adding one if in the country there is at least one sector with two authorities assigned to supervision, and one of these authorities is also responsible for at least one other sector;

Subtracting one if in the country there is at least one sector with two authorities assigned to supervision, but none of these authorities has responsibility for another sector;

Zero elsewhere.

Finally, there are three qualitative characteristics of supervision regimes that we have decided not to consider in constructing the index.

Firstly, the institutional nature of the authorities involved in the financial supervision setting has not been considered. In particular, in several countries it is the central bank—i.e., the authority responsible for monetary policy—that is responsible for at least one of the three sectors considered, typically the supervision of the banking industry. The attribution of supervisory power to the central bank has been at the center of an intense debate over the past decade.²⁶

By analogy with the problem discussed here, this debate has come to no general conclusions, perhaps for the same methodological reasons illustrated earlier. Furthermore, we have not considered the legal nature—public or private—of the supervisory agencies, or their relationships with the political system (degree of independence, level of accountability, etc.).

The FAC Index captures the degree of concentration of financial supervisory power regardless of the nature of the institutions involved in this process, that is, stressing just the importance of the number of supervisors involved. The role of the nature of the authorities is considered later on, when we deal with the role of the central bank in the overall architecture of financial controls.

26. Franco Bruni, *Financial Stability, Regulation, Supervision and Modern Central Banking*, in CHALLENGES FOR CENTRAL BANKING (Anthony M. Santomero et al. eds. 2001); Di Giorgio & Di Noia, *supra* note 1; Alicia Garcia Herrero & Pedro del Rio, *Implication of the Design of Monetary Policy for Financial Stability*, 24th SUERF Colloquium, Tallin, Estonia (2003); Dirk Shoenmaker, *Institutional Separation Between Supervisory and Monetary Agencies*, *GIORNALE DEGLI ECONOMISTI E ANNALI DI ECONOMIA* 9-12 (1992); DONATO MASCIANDARO, CENTRAL BANK INDEPENDENCE, BANKING SUPERVISION AND INFLATION (IGIER Working Paper, n.53, 1993); Donato Masciandaro, *Designing a Central Bank: Social Player, Monetary Agent or Banking Agent?*, 6 OPEN ECONOMIES REVIEW 399 (1995); José Tuya & Lorena Zamalloa, *Issues on Placing Banking Supervision in the Central Bank*, in FRAMEWORKS FOR MONETARY STABILITY: POLICY ISSUES AND COUNTRY EXPERIENCES 663 (Tomas Balino & Carlo Cottarelli eds., 1994).

Secondly, at least in each industrial country, there is an authority to protect competition and the market, with duties that impinge on the financial sectors. But, since it is a factor common to all the structures, we have decided not to take the antitrust powers into account in constructing the index.²⁷

The FAC Index for the sixty-eight countries is shown in Table 1.

IV. THE DEGREE OF CENTRAL BANK INVOLVEMENT IN SUPERVISION

At this point, we should also consider the nature of the institutions involved in the supervision responsibilities. Any supervisory regime has to provide a link between the supervision and the central bank, given the potential relationships between monetary stability and financial stability.²⁸

It has been correctly pointed out²⁹ that, irrespective of what role, if any, assigned to the central bank with respect to the prudential supervision, it is universally the case that the central bank must be the authority for the stability of the payment system, liquidity assistance to markets and solvent institutions, and systemic stability. The debate of the optimal characteristics of this link is particularly important in the EU, where monetary policy is separated from financial supervision.³⁰

Therefore, we must ask what role the central bank plays in the various national institutional structures.³¹ We focus on the degree of involvement the central bank has in financial supervision as a whole. The specific nature of the

27. ELENA CARLETTI & PHILIPP HARTMANN, COMPETITION AND STABILITY: WHAT'S SPECIAL ABOUT BANKING? (European Central Bank Working Paper Series, n.146, 2002), available at <http://www.ecb.int/pub/pdf/scpwps/ecbwp146.pdf> (last visited June 21, 2005) (examining the relationship between competition policies and stability).

28. Herrero & Del Rio, *supra* note 26; Abrams & Taylor, *supra* note 13; Charles Goodhart & Dirk Schoenmaker, *Should the Functions of Monetary Policy and Banking Supervision be Separated?*, 47 OXFORD ECONOMIC PAPERS 539 (1995); Joseph G. Haubrich, *Combining Bank Supervision and Monetary Policy*, Federal Reserve Bank of Cleveland Economic Commentary (1996), available at <http://www.clevelandfed.org/research/com96/1196.htm> (last visited June 21, 2005); Joe Peek et al., *Is Bank Supervision Central to Central Banking?*, 64 QUARTERLY J. ECON. 629 (1999) (discussing the role of the central bank in banking supervision).

29. David Llewellyn, *Introduction: Some Key Issues and Perspectives*, in CHALLENGES FOR THE UNIFIED FINANCIAL SUPERVISION IN THE NEW MILLENNIUM 7, 8 (2001) available at <http://www.fin.ec/?id=3528> (last visited June 21, 2005).

30. Sylvester C.W. Eijffinger, *Briefing Paper on "The Conduct of Monetary Policy and an Evaluation of the Economic Situation in Europe – 2nd Quarter 2001" for the European Parliament: Should the European Central Bank Be Entrusted with Banking Supervision in Europe?*, (2001) available at http://www.europarl.eu.int/comparl/econ/pdf/emu/speeches/20010528/20010528_eijffinger.pdf (last visited June 21, 2005); Goodhart & Schoenmaker, *supra* note 28; Charles Goodhart et al., *The Skill Profile of Central Bank and Supervisors*, 6 EUROPEAN FIN. REV. 397, 399-400 (2002), available at http://pluto.huji.ac.il/~efr/6/6_3_goodhart.pdf (last visited June 21, 2005); Tommaso Padoa-Schioppa, *Financial Supervision: Inside or Outside Central Banks*, in FINANCIAL SUPERVISION IN EUROPE 160 (Jeroen Kremers et al. eds., 2003); Xavier Vives, *Restructuring Financial Regulation in the European Monetary Union*, 19 J. FIN. SERVICES RESEARCH 57 (2001).

31. S. Oosterloo & J. De Haan, *The Role of Central Banks in Fostering Financial Stability*, in THE HANDBOOK OF CENTRAL BANKING AND FINANCIAL STABILITY IN EUROPE (Donato Masciandaro ed., 2005).

institution with respect to others is important since that relationship signifies that the particular institution is the authority responsible for monetary policy and for the stability of the payment system.

To highlight the central bank's role, we use an index of the central bank's involvement in financial supervision: the Central Bank as Financial Authority Index ("CBFA Index").³² For each country, and the three main possible financial sectors (banking, securities and insurance), the index is:

1= the central bank has no responsibility in any sector;³³

2 = the central bank has responsibility in one sector;

3 = the central bank has responsibility in two sectors;

4 = the central bank has responsibility in all three sectors.

Each national supervisory regime can be identified with at least two characteristics: the degree of concentration of powers (FAC Index) and the degree of involvement of the central bank in that distribution of powers (CBFA Index) (Table 1).

The analysis of the degree of financial supervision concentration and the level of central bank involvement provide us with a general picture of the supervisory regimes around the world. From a theoretical point of view, given the financial blurring trend, we can expect a higher or lower degree of supervision concentration, irrespective of the role of the central bank.

The comparative picture is quite different (Figure 1). The two most frequent models are polarized: on the one hand, nineteen countries with a high unification of powers with low central bank involvement (*Single Financial Authority Regime*); on the other, forty-one countries with a low concentration of powers with high central bank involvement (*Central Bank Dominated Multiple Supervisors Regime*). The polarization phenomenon seems more evident in the European Union and in the sample of industrialized countries.³⁴

V. THE DEGREE OF FINANCIAL SUPERVISION UNIFICATION AND THE ROLE OF CENTRAL BANK AS INSTITUTIONAL FACTOR

The descriptive evidence of the two most frequent financial supervision regimes seems to correct the idea that, given the blurring process in the financial landscape, there are two possible kinds of supervisory approach: (1) unification under the roof of the central bank; and (2) unification in a different supervisory

32. *Unification in Financial Sector*, *supra* note 24.

33. Each central bank involved in the payment system is considered without supervision responsibility and liquidity management only (and consequently in the crisis procedures).

34. Masciandaro & Porta, *supra* note 6.

body. In reality, the unification of supervision seems more evident in the case of Single Financial Authorities Regimes, while in the case of Central Bank-Dominated Multiple Supervisors Regimes the approach seems more consistent with a “leader-followers” framework.

In other words, the descriptive analysis signals an interesting result: the national choices on how many agencies must be involved in supervision is strictly linked to the role of the central bank: the degree of supervision unification seems to be inversely correlated with central bank involvement.

How do we explain this fragmentation effect given by the involvement of the central bank in supervision? The central bank fragmentation effect can be explained as a special case of *rule-driven path dependence*.³⁵ Rule-driven path dependence exists when, other conditions being equal, the choice of a given design of rules depends on characteristics already existing or already determined by the rules themselves.

In this case, a given policymaker’s choice of supervision concentration level will depend on the role the central bank plays in the supervision, or that the policymaker has decided to have the central bank play. In other words, the policymaker’s choice can be viewed as a sequential process in which the *institutional status quo* matters: the supervision concentration level is decided based on the position of the central bank. If the role of the central bank is limited, the supervision concentration level will probably be high and vice versa.

The central bank fragmentation effect can thus be explained as follows. Let us assume that the policymaker in a given country must decide whether to increase the supervision concentration level. Also assuming that the policymaker must decide whether or not to institute a single financial authority, the central bank’s level of supervisory involvement may be high or low for that particular country.

Let us first consider the case where the central bank’s involvement is low. The policymaker might raise the supervision concentration level by increasing the involvement of the central bank. The supervision concentration level and the central bank involvement would thus move in the same direction, but this does not seem to be the case. Why?

35. Lucian A. Bebchuk & Mark J. Roe, *A Theory of Path Dependence in Corporate Ownership and Governance*, 52 STAN. L. REV. 127, 153-166 (2000); see GORDON L. CLARK & DARIUSZ WOJCIK, *Path Dependence and the Alchemy of Finance: The Economic Geography of the German Model, 1997-2003* (2003) available at <http://www.geog.ox.ac.uk/research/wpapers/economic/wpg04-21.html> (last visited June 21, 2005) (using the concept of rules driven path dependence in the corporate governance literature).

First of all, the policymaker may not wish to involve the central bank in supervisory responsibilities to avoid moral hazard phenomena in the controlled intermediaries³⁶ (*moral hazard effect*). Or the policymaker may wish to avoid increasing the bureaucratic powers of the central bank since it is already responsible for monetary policy (*bureaucracy effect*).³⁷ Thus, in the case of a central bank not involved in supervision, the increased supervision concentration level may be achieved by creating a SFA.

If, on the other hand, the central bank is heavily involved in supervision, the policymaker may increase the supervision concentration level in one of two ways: by increasing the powers of the central bank or by assigning them to a single financial authority.

Again, the policymaker could fear that the safety net—the central bank's function of lender of last resort—might be spread to a wider set of institutions than just banks if the central bank is also involved in supervising insurance and securities firms (*moral hazard effect*). Furthermore, we can add another explanation: in a country where the central bank is deeply involved in supervision, the policymakers might fear the creation of an overly powerful bureaucratic agency (*bureaucracy effect*). The policymaker may therefore not wish to increase the involvement of the central bank.

At the same time, however, the policymaker may not be in a position to reduce the central bank's level of involvement in supervision, or may not regard it as advisable, especially if the policy of the central bank has been effective (*reputation endowment effect*).³⁸ Since the policymaker has decided (or was unable to decide) neither to increase nor reduce central bank involvement, he also decides not to increase the level of supervision concentration. Therefore, in cases where the central bank is heavily involved in supervision, there is a tendency not to increase the level of supervision concentration.

In summary, the degree of central bank involvement in supervision may condition the policymaker in his decision to alter the supervision concentration effect, according to an inverse relationship: the result may be the central bank fragmentation effect.

36. LLEWELLYN, *supra* note 29.

37. Donato Masciandaro, *Financial Supervision Architectures: Economics, Politics, Institutions and Law*, 22 *ECONOMIA POLITICA* 101 (forthcoming 2005).

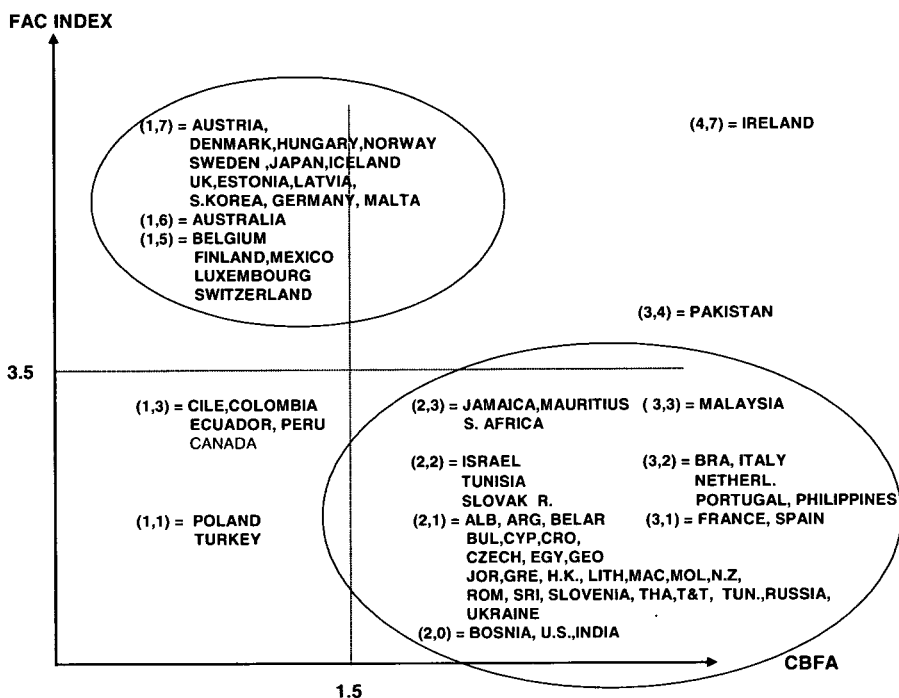
38. *Id.*

Table 1. CBFA INDEX & FAC INDEX in 69 countries

	Countries	CBFA Index	FAC Index
1	Albania	2	1
2	Argentina	2	1
3	Australia	1	6
4	Austria	1	7
5	Belarus	2	1
6	Belgium	1	5
7	Bosnia	2	0
8	Brazil	3	2
9	Bulgaria	2	1
10	Canada	1	3
11	Chile	1	3
12	Colombia	1	3
13	Croatia	2	1
14	Cyprus	2	1
15	Czech Republic	2	1
16	Denmark	1	7
17	Ecuador	1	3
18	Egypt	2	1
19	Estonia	1	7
20	Finland	1	5
21	France	3	1
22	Georgia	2	1
23	Germany	1	7
24	Greece	2	1
25	Hong Kong	2	1
26	Hungary	1	7
27	Iceland	1	7
28	India	2	0
29	Ireland	4	7
30	Israel	2	2
31	Italy	3	2
32	Jamaica	2	3
33	Japan	1	7
34	Jordan	2	1
35	Latria	1	7
36	Lithuania	2	1

	Countries	CBFA Index	FAC Index
37	Luxembourg	1	5
38	Macedonia	2	1
39	Malaysia	3	3
40	Malta	1	7
41	Mauritius	2	3
42	Mexico	1	5
43	Moldova	2	1
44	Netherlands	3	2
45	New Zealand	2	1
46	Norway	1	7
47	Pakistan	3	4
48	Peru	1	3
49	Philippines	3	2
50	Poland	1	1
51	Portugal	3	2
52	Romania	2	1
53	Russia	2	1
54	Slovak Republic	2	2
55	Slovenia	2	1
56	South Africa	2	3
57	South Korea	1	7
58	Spain	3	1
59	Sri Lanka	2	1
60	Sweden	1	7
61	Switzerland	1	5
62	Thailand	2	1
63	Trinidad and Tobago	2	1
64	Tunisia	2	1
65	Turkey	1	1
66	UK	1	7
67	Ukraine	2	1
68	USA	2	0

Figure 1. The Supervisory Regime in 68 Countries, 2003



VI. THE DETERMINANTS OF THE FINANCIAL SUPERVISION UNIFICATION

The analysis conducted in the preceding pages claims that each country has its index of concentration of powers of financial supervision, which reaches its maximum level in cases where there is a single authority and the minimum when there are more than three supervisors.

Now we are prompted to ask: can common determinants be found in the decisions the policymakers in each country have made in recent years to maintain or reform their supervisory structures?

Our response is precisely to regard the supervisory structure with single or multiple authorities as a dependent variable, determined in turn by the dynamics of other structural, economic, and institutional variables, which can summarize and explain the *political* process that leads policymakers in one country to decide to maintain or reform its supervisory regime.

What are the structural variables that can explain the decisions of national policymakers? Policymakers can decide the architecture of controls on the basis of *institutional* characteristics and of the *economic* and *financial* characteristics of their country. In particular, we can assume that the physiognomy of the institutional system and that of the banking and financial system are relevant in each country. Having identified in the above section a possible relevance of the role the central bank plays in the supervisory regime, it may be interesting to consider this aspect as well.

To assess the relationship between the policymakers' decisions to determine the financial architecture, and the economic and institutional characteristics of each policymaker's own country, we can estimate a model of the probability of different regime decisions as a function of these structural variables. This model can be estimated with an ordered Probit model or with a ordered Logit model.³⁹

We have produced an econometric analysis of the Probit and Logit types: the dependant variable is the FAC Index, while the independent regressors proved are a broad set of economic, financial, and political variables, based both on our own assessment of variables that could play a significant role in explaining the financial regime, and on data availability. The selected sample is the broader one, represented by 68 countries.

As previously claimed above, no theory exists on the relationships between politics and financial supervisory architecture. Therefore, we try to test the more general hypotheses.

Firstly, policymaker choices made with a view to maintaining or reforming the financial supervisory architecture could depend on the structure of the financial systems itself. The modern debate on financial structure confronts the equity dominance model (or *market based regime*) with the bank dominance model (or *bank based regime*).⁴⁰ Furthermore, recent literature points out the close relationship, in every country, between the financial structure model and the corporate governance model, with particular attention to the relative political determinants. Therefore, the first relevant question is: does the financial structure model (i.e., the private governance model), and the *private governance factor*, matter in defining the policymaker's choices on the level of concentration in the supervisory structure?

The expected sign of the relationship between the degree of supervision consolidation and the private governance factor is undetermined (i.e., it can be either positive or negative). In section two we stressed the importance of the blurring process for the banking and the financial market worldwide. The blurring process means potential changes in the nature and in the dimensions of intermediaries (the *financial conglomerates effect*). In a bank based regime, if we

39. *Id.*

40. Asli Demigüç-Kunt & Ross Levine, *Bank Based and Market Based Financial Systems: Cross Countries Comparisons*, Development Research Group, Finance Department, World Bank (1999) available at http://www.worldbank.org/research/projects/finstructure/pdf_files/structures3.pdf (last visited July 5, 2005).

think that the policymakers' choices depend on the features of their own regime, we can suppose a positive relationship exists between the kind of regime and the degree of financial supervision consolidation, in the face of the financial conglomerates effect. At the same time, however, the blurring effects mean potential changes in the nature and in the dimensions of the financial markets (the *securitization effects*). Therefore, also in a market based regime, we can expect a positive relationship between the kind of regime nature and the degree of financial supervision consolidation, in the face of the securitization effect.

Secondly, the institutional environment (i.e., the public governance climate) determines the ability of the policymakers to implement their choices. Then the second relevant question is: does the quality of the public governance (*public governance factor*) matter in defining the policymaker choices on the level of concentration in the supervisory structure?

Also, the expected sign of the relationship between the degree of supervision consolidation and the public governance factor is undetermined. In section two we note that a policymaker, whatever is the financial regime of his country, can choose a higher degree of consolidation in order to improve the capacity to face the challenges proposed by the blurring process. Then we can suppose a positive relationship between good governance indicators and financial supervision consolidation. But, at the same time, a policymaker can prefer a single financial agency in order to increase his probability of capturing the supervisory structure. Therefore, we could also expect a relationship between bad governance indicators and the financial supervision consolidation.

Finally, given the above descriptive analysis, we conclude our search for the explanatory variables by using the CBFA Index. The political choice of the optimal level of financial supervisors' concentration could be dependent on the role of the central bank in the financial architecture.

The third relevant question is: does the degree of central bank presence (*central bank factor*) in the financial supervision matter in defining the level of concentration in the supervisory structure? Given the descriptive analysis developed above the expected sign of the relationship between central bank involvement and financial supervision consolidation is negative.

The econometric results seem really interesting. The results of the estimates show the robustness of the role of central bank involvement in explaining the degree of supervision concentration. In fact, the probability of a SFA is always inversely and significantly related to the involvement of the central bank. The institutional factor seems to matter.

How should the results be interpreted? First of all, the analysis seems to confirm the rule-driven path dependence hypothesis. The prior choice of the policymaker regarding "whom" to delegate supervisory policy seems to have consequences on the choice of "how many" institutions to delegate, according to an inverse relationship. The central bank fragmentation effect holds true: the more the central bank is involved in financial supervisory powers, the lower the degree of concentration of those powers is likely to be. The econometric analysis

confirms the descriptive trade-off between supervision consolidation and central bank involvement. The institutional factor seems to matter.

Secondly, the choice of the degree of supervisory unification seems to be influenced by the characteristics of the financial markets. More specifically, given a market-oriented model, the smaller these markets, and the lower the level of economic development, the more likely it seems that the probability of consolidation will increase, perhaps confirming the hypothesis of policymakers conditioned by the “small country” situation. The financial factor seems to matter.

Furthermore, a positive relationship between the market-based regime and the degree of supervision consolidation seems to hold true. This fact could be explained by the focus of policymakers on the securitization effect. In the face of changes in the nature and dimension of the financial markets, policymakers prefer to increase the degree of consolidation in the supervision structure. Alternatively, this fact could also be explained by the role of financial conglomerates, if there were robust evidence of a positive relationship between the degree of financial deepening and development of cross-sector intermediaries.

Thirdly, the choice of policymakers to establish the concentration of supervisory powers seems to be facilitated by an institutional environment characterized by good governance. The relationship between good governance and the supervision concentration process can be explained, if we suppose that a policymaker who cares about soundness and efficiency would prefer the SFA as the optimal choice in the face of the blurring challenges. Finally, the German and Scandinavian roots of the law seem to matter. This law effect is puzzling. The law and finance literature claims the existence of a strong relationship between market oriented financial systems and the British law jurisdictions. Here, we do not find that financial supervision unification is directly correlated with a market-based regime, while a link exist with the civil law root, in particular with the German and Scandinavian legal systems.

VII. CONCLUSIONS

The objective of this paper was to discuss the current tendency toward the concentration of powers of financial supervision.

First of all, the phenomenon of supervision unification does exist; the comparative analysis of sixty-eight countries, based on institutional indicators (FAC Index and CBFA Index), confirmed the qualitative impression that an increase in the degree of concentration of powers was evident in the developed countries, particularly in the EU.

Secondly, to empirically gauge the possible structural determinants of the degree of concentration of powers, we use the results of an empirical analysis.

The approach was to consider the supervisory structure with one or more authorities as a dependent variable, determined in turn by the dynamics of other structural factors. Looking for common determinants in the decision each country

takes to maintain or reform its supervisory architecture, the empirical analysis highlighted that the level of financial supervision consolidation seems to depend on the institutional, financial, political, and legal factors, while the effect of the economic and geographical factors seems negligible.

The results seem particularly interesting for future research developments, in the hope that it increases the availability of institutional information to expand the sample of countries that can be analyzed. It will be necessary to study the role of various structural factors—institutional, financial, political, and legal—in determining the decision-making process of policymakers.

The proposed approach can be used to expand the field of analysis. For example, in recent years the design of the regulation and supervision of the banking, financial, and insurance markets has been influenced by two phenomena. On the one hand, as it has been stressed above, to safeguard financial stability, supervision has undergone a unification process, with rationalization of the controls and a reduction in the number of supervisory authorities. On the other, to ensure economic and financial integrity, financial intelligence units have been instituted in several countries, to make the national and international fight against organized crime and terrorism more effective.

What relationship exists between these two tendencies? The question is relevant, as it is important to proceed in the same direction to safeguarding stability and integrity. The two phenomena are not automatically synergetic, however. In fact, the institution of a unit specialized in the collection and processing of information to combat money laundering could be an obstacle to the consolidation of financial supervision. Furthermore, the institutional nature of the unit might also lend it importance: the creation of an independent unit might run counter to the need to rationalize and unify financial supervision. Therefore, it is important to investigate the consistency between the supervision unification trend and the establishment of financial intelligence units.⁴¹

From this standpoint, in-depth studies on the individual countries could be interesting, reconstructing the underlying reasons and the decision-making process that have driven the individual policymakers to select a given architecture of financial supervision. In other words the narrative approach could be usefully used in the financial supervision architecture field. Historical and institutional analysis might also provide indications useful for the empirical part, so as to construct time-series analyses of the dynamic evolution of the supervision concentration level in the various countries.

41. Donato Masciandaro, *Financial Supervision Unification and Financial Intelligence Units: A Trade Off?*, J. MONEY LAUNDERING CONTROL (forthcoming 2005).

Finally, from the theoretical point of view, the next step forward in the research will be to model the policymaker decision framework to better highlight the features of the institutional and political process that leads a supervisory regime to assume given characteristics. Using the principal agent approach for addressing the architecture of financial supervision seems a very promising avenue for future research.