# DESIGNING INSTITUTIONS FOR FINANCIAL STABILITY:

### Regulation and Supervision by Objective for the Euro Area

by

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## Designing Institutions for Financial Stability: Regulation and Supervision by Objective for the Euro Area^

#### Giorgio Di Giorgio and Carmine Di Noia

#### **ABSTRACT**

In this paper, we discuss pros and cons of different models for financial market regulation and supervision and we present a proposal for the re-organisation of regulatory and supervisory agencies in the Euro Area. Our arguments are consistent with both new theories and effective behaviour of financial intermediaries in industrialized countries. Our proposed architecture for financial market regulation is based on the assignment of different objectives or "finalities" to different authorities, both at the domestic and the European level. According to this perspective, the three objectives of supervision – microeconomic stability, investor protection and proper behaviour, efficiency and competition - should be assigned to three distinct European authorities, each one at the centre of a European system of financial regulators and supervisors specialized in overseeing the entire financial market with respect to a single regulatory objective and regardless of the subjective nature of the intermediaries. Each system should be structured and organized similarly to the European System of Central Banks and work in connection with the central bank which would remain the institution responsible for price and macroeconomic stability. We suggest a plausible path to build our 4-peak regulatory architecture in the Euro area.

<sup>^</sup> The opinions expressed are only those of the authors and do not necessarily coincide with those of the Institutions they are affiliated with. Giorgio Di Giorgio gratefully acknowledges financial support from MURST.

#### I. INTRODUCTION

Financial markets have significantly developed in the last decades throughout industrialized countries. This path is evident with regard to intermediaries, capital markets and financial instruments. Structural changes have mainly involved the more traditional financial operators in banking, but have also interested investment firms and insurance companies.

Accordingly, also the regulatory and supervisory arrangements of the financial system have been modified in many countries. As a matter of fact, the topic is still at the centre of a lively debate, and the United States, the United Kingdom, Australia, France and Japan are currently either undertaking or implementing radical reforms of their regulatory systems. In other European countries, evolutionary trends are moving in the same direction. Moreover, with the start of Phase III of the EMU, the responsibility for monetary policy in the Euro zone has been assigned to the European Central Bank, while banking and financial supervision tasks have been left to domestic agencies. A relevant novelty in Europe is then "the abandonment of the coincidence between the area of jurisdiction of monetary policy and the area of jurisdiction of banking supervision"<sup>2</sup>. The "double separation" (geographical and functional) between central banking and banking supervision, and the absence of any explicit reference to "who takes care of financial stability" in Europe, have cast some doubts about the efficacy of the current regulatory arrangements in preventing and managing financial crisis and are currently stimulating discussion in both academic and institutional circles.

At the same time, the increasing integration of financial markets and especially the (attempted) alliances among exchanges raise the question of whether the creation of a European SEC (Karmel, 1999, Wise Men, 2000) is likely and desirable. Furthermore, the increasing crossborder mergers among banks, securities and insurance firms, highlight the difficulties of keeping regulation and supervision at a national level, possibly with different agencies in charge of banks, securities and insurance firms.

At the EU level, the Financial Services Action Plan (COM 1999, 232, 11.5.1999) maps out a first set of improvements to the EU legislative framework for securities markets. In the meanwhile the Committee of Wise Men on the Regulation of European Securities Markets has been appointed by the Council of the European Union in July 2000 and released its Initial Report (Wise Men, 2000) on November 9th, 2000, indicating a 4-step approach to make improvements in the EU regulation of securities markets (broad framework principles; implementation of these principles through a new

<sup>1</sup> Regulation deals with the formation of rules, primary and secondary; generally, primary rules are part of legislation and thus are approved by national Parliaments while secondary rules may be implemented by administrative bodies such as agencies. Supervision deals with the enforcement of rules both ex ante (control) and ex post (sanctions).

<sup>&</sup>lt;sup>2</sup> Padoa Schioppa, 1999. On the pros and cons of separating monetary policy and banking supervisory tasks see Di

EU Securities Committee; implementation of Community law by Member States within the framework of strengthened cooperation and networking between national regulators; stronger work by the EU Commission to ensure open and fair competition in the European financial markets).

The objective of the present work is to set up a proposal for the reorganization of regulatory arrangements and supervisory agencies in financial markets in the European Union.

The paper starts with a section investigating objectives and theoretical models for the regulation of the financial system<sup>3</sup>. We then describe recent evolutionary dynamics in financial markets, intermediaries and instruments and we argue that the current domestic-based and different frameworks for financial market regulation in a single currency area are not appropriate.

Hence, we present a proposal for a new configuration for supervising the domestic financial market through the assignment of different objectives or "finalities" to different authorities. This perspective would thus entrust the attainment of the three objectives of supervision on the entire financial market -- stability, proper behaviour and investor protection (transparency), competition -- to three distinct authorities regardless of the subjective nature of the intermediaries, whether they be in banking, finance or insurance<sup>4</sup>. It would highlight the objective of competition in the financial sector as an important finality explicitly monitored by the regulator. For the sake of consistency, the existing rules applying to other forms of financial intermediation would be extended to include the life insurance sector.

The natural choice to make is between centralized or decentralized regulation. After discussing the pros and cons of the two approaches, we suggest a two-level architecture for financial market regulation which is inspired by the current organization of the European System of Central Banks. We suggest to establish a European System of Financial Regulators, with three distinct independent authorities (plus the ECB) at the European level. These agencies ought to be characterized by homogeneous procedures in terms of their creation, functioning and funding. They will push and coordinate the work of the three corresponding national authorities in each member country. At both the European and domestic level, a coordination committee would be the site for resolving conflicts and controversies.

An important issue in our proposal for a regulatory reform in the Euro area concerns the problem of who takes care of financial stability from a macroeconomic point of view in the Euro

Noia and Di Giorgio (1999).

<sup>&</sup>lt;sup>3</sup> See also Goodhart and Shoenmaker, 1992; Dewatripont and Tirole, 1994; Merton and Bodie, 1995; Goodhart 1996; White, 1997; Llewellyn (1999).

<sup>&</sup>lt;sup>4</sup> The reference is, in the following, to life-insurance, whose behaviour is very close to the other financial intermediaries.

area. We re-examine the matter of the need for a lender of last resort and of the proper relationship of the European Central Bank with other financial market regulators.

The paper is organized as follows. In section II we describe the objectives and the motivations for financial markets regulation and we identify four models of regulatory structure. In section III we deal with the regulatory frameworks currently in place in the Euro area and we argue that these are not suitable in a single-currency highly integrated area. We then present in section IV our hypothesis of reform based on a fully coherent application of the supervisory model by objectives (or by finality). Finally, we summarize our conclusions.

#### II. MODELS FOR FINANCIAL MARKET REGULATION AND SUPERVISION.

#### **II.1 Financial Market Regulation.**

The theoretical underpinning for public intervention in economic matters is traditionally based on the need to correct market imperfections and unfair distribution of the resources. Three more general objectives of public intervention derive thereby: the pursuit of stability, equity in the distribution of resources and the efficient use of those resources.

The regulation of the financial system can be viewed as a particularly important case of public control over the economy. The accumulation of capital and the allocation of financial resources constitute an essential aspect in the process of the economic development of a nation. The peculiarities of financial intermediation and of the operators who perform this function justify the existence of a broader system of controls with respect to other forms of economic activity. Various theoretical motivations have been advanced to support the opportunity of a particularly stringent regulation for banks and other financial intermediaries. Such motivations are based on the existence of particular forms of market failure in the credit and financial sectors<sup>5</sup>.

The objectives of financial market regulation.

The definition of the term 'financial market' has traditionally included the banking, financial and insurance segments. The bounds dividing institutions, instruments and markets were clear-cut, so that further distinctions were drawn within the different classes of intermediaries (with banks

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<sup>&</sup>lt;sup>5</sup> White (1996) identifies certain categories of "market failure", describing them with special regard for the financial markets: i) situations of market power brought about because of collusion, concentration, technological conditions or public regulatory conditions; ii) economies of scale, as in the case of capital markets where an inverse relation exists between the volume of transactions and the costs of transaction; iii) externality (spillover) effects, as in the case of a bank failure generally affecting the confidence of savers in the entire banking system; iv) public good problems, as in the case of the property of prices formed on the exchanges; v) information asymmetries, typically found among buyers and sellers of financial products; vi) individuals who are unable to know their own best interest, as in the case of forms of savings they are "unacquainted with" present in financial markets.

specialized in short or medium/long term maturities, functional/commercial operations, deposits and investments; with financial intermediaries handling broker-dealer negotiations, asset management and advisory functions, and with insurance companies dealing in life and other insurance policies). These distinctions were mirrored in the regulatory structure with different agencies for banks (often the Central Bank), securities and insurance firms at a national and international level (Basel Committee for Banking Superviosion, International Organization of Securities Commissions, IOSCO, and the International Association of Insurance Supervisors, IAIS).

In this essay, as the bounds dividing the various types of financial institutions are becoming increasingly blurred (Corrigan, 1987), we shall refer to the financial market as an economic space wherein operators of various kinds -- banks, financial intermediaries, mutual funds, insurance companies, pension funds -- offer financial instruments and services.

A primary objective of financial market regulation is the pursuit of macroeconomic and microeconomic stability. Safeguarding of the stability of the system translates into macrocontrols over currencies, interest rates and payment systems which are functions, together with the lender of last resort function typical of the entities which are in charge of monetary policy: the central banks. Measures pertaining to the microstability (prudential regulation) of the intermediaries can be subdivided into two categories: general rules on the stability of all business enterprises and entrepreneurial activities, such as the legally required amount of capital, borrowing limits and integrity requirements; and more specific rules due to the special nature of financial intermediation, such as risk-based capital ratios, limits to portfolio investments and the regulation of off-balance activities, the managing of deposit insurance funds or investor compensation schemes. Furthermore micro-stability controls can be directed to the financial exchanges, clearing houses and securities settlement systems.

A second objective of financial regulation is transparency in the market and of intermediaries and investor protection. This is linked to the more general objective of equity in the distribution of the available resources and may be mapped into the search for "equity in the distribution of information as a precious good" among operators.<sup>6</sup> At the macro level, transparency rules impose

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<sup>&</sup>lt;sup>6</sup> One of the classic instances of market failure is relative to the presence of information asymmetries. However, some recent theories of financial intermediation (Allen and Santomero, 1997) seem to go beyond theories based on information: a look at reality in fact shows that while transaction costs and asymmetric information have greatly decreased, the activity of intermediation has considerably increased. Financial markets seem to be more and more markets for intermediaries than for investors or firms. The nature of all financial intermediaries (not only banks, but also mutual funds, financial intermediaries, financial firms, pension funds) seems to be that of operators who perform risk management activities on behalf of third parties and decrease the "costs of participation" in the financial market: these two aspects have not yet been the object of in-depth analysis by intermediation theorists. These same two motivations are thought to contribute to the building of long-term relationships between intermediaries and customers in such a way that the latter avoid *ex ante* research costs by simply buying the implicit insurance supplied by the

equal treatment (for example, rules regarding takeovers and public offers) and the correct dissemination of information (insider trading, manipulation and, more generally, the rules dealing with exchanges microstructure and price-discovery mechanisms). At the micro level, such rules aim at non-discrimination in relationships among intermediaries and different customers (conduct of business rules).

A third objective of financial market regulation, linked with the general objective of efficiency, is the safeguarding and promotion of competition in the financial intermediation sector. This requires rules for controlling the structure of competition in the markets and, at the micro level, regulations in the matter of concentrations, cartels and abuse of dominant positions.

Specific controls over financial intermediation are justified by the forms that competition can assume in that field. They are related to the promotion of competition as well as to limiting possible destabilizing excesses generated by competition itself.<sup>7</sup>

#### **II.2 Financial Market Supervisory Models.**

There is neither a unique theoretical model nor just one practical approach to the regulation and supervision of financial markets. Significant differences are found in the literature in terms of both definition and classification of regulatory models and techniques.

We identify four approaches for financial market supervision and regulation: "institutional supervision", "supervision by objectives", "functional supervision" and "single-regulator supervision".

#### *Institutional supervision.*

In the more traditional "institutional approach" (also known as "sectional" or "by subjects" or "by markets"), supervision is performed over each single category of financial operator (or over each single segment of the financial market) and is assigned to a distinct agency for the entire complex of activities. In this model, which follows the traditional segmentation of the financial system into three markets, we thus have three supervisory authorities acting as watchdogs over, respectively, banks, financial intermediaries and mutual funds, and insurance companies (and the corresponding markets). The authorities control intermediaries and markets through entry selection processes (e.g., authorizations and enrolling procedures in special registers), constant monitoring of the business activities (controls, inspections and sanctions) and eventual exits from the market (suspensions or removal)<sup>8</sup>.

<sup>7</sup> On more than one occasion the European Commission has reaffirmed the applicability to financial markets of the

intermediaries (Allen and Gale, 1998).

general regulation on competition. The Court of Justice has also upheld such orientation.

As an example of the institutional approach, one can consider the regulatory system provided for the insurance

"Institutional" regulation facilitates the effective realization of controls, being performed with regards to subjects that are regulated as to every aspect of their activity and as to all the objectives of regulation. Each intermediary and market has only one supervisory authority as a counterpart. The latter, in turn, is highly specialized. As a result, duplication of controls is avoided and the costs of regulation can be considerably reduced.

The institutional approach seems to be particularly effective in cases of intermediaries of a very similar type and that do operate in just one of the three traditional segments of financial intermediation. Vice versa, the institutional model may give rise, in the presence of more subjects entitled to perform the same financial intermediation activities<sup>9</sup>, to distortions in the supervisory activity caused by the enforcement of different dispositions for operations of the same nature that are executed by different entities. The disadvantages of this approach are represented by the previously mentioned trend toward multiple-sector activities and by the progressive de-specialization of the intermediaries. In turn, these phenomena are connected to the growing integration of both markets and instruments, that frequently leads to the building of large financial conglomerates. In a context where the boundaries separating the various institutions are progressively being erased, it is no longer possible to establish whether a particular subject is a bank, a non-banking intermediary or an insurance company; or whether a group is involved more in one or another of such activities. Therefore, there is the risk that "parallel" systems of intermediaries may be created, reflecting the diversity of the respective control authorities. In this case, the way the controls are set up may become a destabilizing rather than stabilizing factor. Moreover, the intermediaries might be induced to choose their juridical status in a way which is contingent on the different rules that discipline different subjects.

A further possible element of weakness in the model lies in the fact that when a single authority supervises a category of subjects and pursues more than one objective, the result of the control activity might not be effective in the event that different objectives are in conflict<sup>10</sup>.

market and intermediaries in many European countries by specific Insurance Supervisory Agencies.

<sup>&</sup>lt;sup>9</sup> Consider the negotiating activity in the stock exchange performed by both banks and financial intermediaries, or else the gathering of savings realized by life insurance companies, similar to that undertaken by mutual funds.

<sup>&</sup>lt;sup>10</sup> The classic example is the trade-off between the objective of stability and that of competition. In Italy for example the two tasks are under the responsibility of the central bank in the banking sector, a striking anomaly which is unique in the Euro area. We do not think that there is any motivation nowadays to give antitrust responsibility in banking to a different institution from the one (l'Autorità Garante per la Concorrenza ed il Mercato) that controls over this feature in all other economic sectors. The original rationale was to be found in the fact that the Antitrust Authority was established only recently in Italy (1990). In absence of such an institution, the possibility that dominant coalitions and excessive market power could arise in the banking sector was considered too dangerous and justified the assignment of the task of preserving competition in the market to the already existing institution controlling the banking system for prudential supervision. Today, however, no reason remains to assign the same objective of regulation to different Institutions in different sectors. Moreover, it is logically incoherent to assign responsibility for

#### Supervision by objectives.

The supervisory model by objectives (or by finalities) postulates that all intermediaries and markets be subjected to the control of more than one authority, each single authority being responsible for one objective of regulation regardless of both the legal form of the intermediaries and of the functions or activities they perform. According to this scheme, an authority, different from the Central Banks, in charge for monetary policy and macro-stability, is to watch over prudential regulation and micro-stability of both markets and all intermediarries, whether in banking, finance or insurance; another authority will be responsible for the transparency of financial markets and will control the behaviour of banks, financial intermediaries and insurance companies toward customers; a third authority will guarantee and safeguard competition over the entire financial market and among intermediaries<sup>11</sup>.

The basic advantage of this 4-peak model (recently chosen in Australia) lies in the fact that it is particularly effective in a highly-integrated market context and in the presence of polifunctional operators, conglomerates and groups operating in a variety of different business sectors. At the same time, it does not require an excessive proliferation of control units.

The most attractive feature of this scheme is that it provides uniform regulation for the different entities engaged in the same activities: for examples ATS and exchanges, banks issuing bonds.

Compared to the "institutional" model, a regulatory framework organized by objectives may produce a certain degree of multiplication of the controls. And sometimes it could lead to a lack of certain controls. Indeed, the specific assignment of competencies with respect to the objectives of regulation is not necessarily univocal and all-inclusive in practice. In such a model, each intermediary is subject to the control of more than one authority, and this may be more costly. The intermediaries might in fact be required to produce several reports relating to supervision, often containing identical or similar information. At the same time, the intermediaries may have to justify the same action to a

competition in one sector to the same institution that is responsible for the stability of the same sector. An obvious conflict emerges between the two objectives. As a matter of fact, in many of the M&A operations in the Italian banking sector, the opinions of the Antitrust Authority (which are not compelling) and those of the Bank of Italy have been opposite (Cafagna and Sciolli, 1996). The Authority which is responsible for the stability of the system could indeed have a regulatory bias for the protection of firms that should be left to exit the market. The usual motivation of the risk of contagion and of investors protection would be advocated. However, we think that the risk of contagion is not necessarily and inevitably linked to all single bank crisis. Moreover, this risk could be countered with other instruments, including more transparency and information diffusion in the market.

<sup>&</sup>lt;sup>11</sup> In the Italian system, the supervisory model by objectives has found application, at least nominally, in the Finance Law "Testo Unico delle disposizioni in materia di intermediazione finanziaria" (DL 58/1998) where it is established, with reference to intermediaries, that the competent authority in the matter of risk containment and financial stability is the Banca d'Italia, while the Consob is responsible for transparency and proper behavior, but only with reference to investment services.

whole set of authorities contemporaneously, even though for different reasons. Vice versa, a deficit of controls might occur whenever the exact areas of responsibility are not clearly identifiable in specific cases.

#### Functional Supervision.

The third regulatory model is the so-called "functional supervision", or supervision "by activity". It considers as "given" the economic functions performed in the financial system; unlike other lines of thought regarding supervisory activities, this approach does not postulate that existing institutions, whether operative or regulatory activities, this approach does not postulate that existing institutions, whether operative or regulatory activities undertaken are considered to be more stable than the institutions that perform them. Competition among financial systems is thought to drive existing institutions to evolve in a dynamic perspective in the direction of new and more efficient forms.

According to Merton and Bodie (1995), the financial system is considered to perform six basic functions:

- to provide ways of clearing and settling payments in order to facilitate trade;
- to provide a mechanism for the pooling of resources and for portfolio diversification;
- to provide ways of transferring economic resources through time, across borders, and among industries;
- to provide ways of managing risks;
- to provide price information to help coordinate decentralized decision making in the various sectors of the economy;
- to provide ways of dealing with the incentive problems created when one party in a transaction has information that the other party does not have or when one party acts as agent for another.

In the functional supervisory model, each type of such financial services should be regulated by a given authority independently of the operator who offers it. Hence, also this approach has the important advantage that it calls for the same rules to be applied to intermediaries who perform the same activity of financial intermediation even though such operators may fall into different categories from a legal standpoint. For example, activities including investment management, the gathering of deposits, lending, and savings invested in insurance/retirement funds are each subject to homogeneous rules established by individual authorities, which independently supervise such

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<sup>&</sup>lt;sup>12</sup> Banks, mutual funds, intermediation firms, insurance companies and other financial intermediaries.

<sup>&</sup>lt;sup>13</sup> Bodies for controlling stability, supervisory organs to guarantee transparency, antitrust authorities and other supervisory agencies.

activities regardless of the institutions engaged. This approach fosters economies of specialization within the supervisory authorities and might represent a rather attractive solution for the regulation of integrated, advanced financial markets. However, it is not without drawbacks. This model envisions an overlapping of bodies controlling the same subject: there is the risk of an excessive division of competencies among the regulatory agencies.<sup>14</sup>

A further disadvantage of the functional approach is that finally what is subject to failure is not the activity performed, but the institution. In case of serious problems of stability, it would be essential to guarantee protection and oversight with regard to the institutions rather than to individual operations (Padoa-Schioppa, 1988).

#### "Single-regulator supervision".

The single-regulator supervisory model is based on just one control authority, separated from the central bank, and with responsibility over all markets and intermediaries regardless of whether in the banking, financial or insurance sector. This authority would be concerned with all the objectives of regulation (stability, transparency and investor protection, maybe competition).

In the regulatory practice, the centralized supervisory model has typically characterized early stages of financial system development, often in periods when the central bank was the only institution that supervised the activity of financial intermediaries. Faced in recent times with the globalization and integration of the markets, the English brought this model back into being with the creation of the Financial Services Authority - FSA (See Briault, 1999). The British executive's decision to merge the preexistent supervisory authorities – part of the Central Bank staff, the Securities Investment Board, the directorship of the Department of Trade and Industry competent in the insurance field and the Security Regulatory Organizations (SROs) -- in the FSA is based on the search for a more efficient organization of regulatory activities including a reduction in the costs of

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Oldfield and Santomero (1997) view financial institutions as a set including banks, insurance companies, investment companies (open and closed funds, other forms of collective investment, pension funds), origination firms (investment firms, credit institutions, insurance brokers and financial promoters), market-makers (specialists, dealers and reinsurance companies), stock exchanges (cash and derivatives), clearing houses and other financial operators. The services provided by these financial institutions can be classified in six different activities: origination (identification, evaluation and creation of financial activities originating with the customers of an institution), distribution (the collection of funds through the sale of new financial products), servicing (the management of payments flow from financial activities issuers to holders), packaging (pooling and tailoring of financial activities to fit the specific needs of customers through greater personalization of goods and services offered), intermediating (setting up of financial activities and contemporaneous buy-back of different financial activities on the part of the same intermediary), market making (purchase or sale of financial activities). In a regulatory perspective this taxonomy might lead to an arrangement wherein every activity would correspond to a different supervisory activity.

<sup>&</sup>lt;sup>15</sup> The single-regulator model was first developed in Scandinavia (Denmark, Norway and Sweden) more than a decade ago. See Taylor and Fleming (1999).

regulation itself. Also, it was considered useful to have just one agency accountable to the Parliament and to the market<sup>16</sup>.

The advantages of this approach lie in the economies of scale that it produces. Fixed costs and logistical expenses, the costs of administrative personnel and the compensation for the top management are all considerably reduced. Moreover, this scheme calls for a unified view which is particularly useful and effective with respect to polifunctional groups and conglomerates. By the same token, the costs of supervision charged to the subjects regulated and/or to the taxpayer decrease, and there is less room for "regulatory arbitrage".

However, the validity of this model depends to a high degree on its internal organization: if the numerous areas of competence and specialization are not well-structured and coordinated, the risk is to slow the decision-making process. As underlined by Wilson (1989), what counts is a clear definition of the agency's "mission". Also, the presence of a sole regulator might render collusive relations more immediate and direct ("regulatory capture"). Finally, it might exacerbate problems of self-contradiction in the event that the authority should find itself forced to pursue conflicting supervisory objectives. This sort of problem might in part be overcome thanks to an internal organization divided "by objectives", but the fact that there is only one top management would end up in the prevalence of a single objective as final consequence of the decision-making process.

#### **II.3** Is There an Optimal Model for Supervision?

Our presentation of the main regulatory models of the financial system should have made clear how hard it is to establish which alternative offers a decisively superior arrangement. In real life we find a prevalence of "mixed" approaches which borrow in heterogeneous fashion elements that are proper to more than just one model.

The institutional model could be considered a good candidate only in a context with rigidly separated financial segments, and where no global players are at stake. Nowadays, we think that this picture does not apply to the major advanced countries, where we do observe high integration in financial markets and intermediaries and a strong presence of polifunctional groups and conglomerates.

The most evident problems with regard to the functional supervisory model are the following:
i) it might call for too many regulators, corresponding to the numerous functions and activities that
the intermediaries perform; ii) it does not explicitly address questions regarding the stability (possible
failures) of the single institutions.

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<sup>&</sup>lt;sup>16</sup> The costs of the FSA are funded directly by the market through a system of contributions and taxes charged to the

Hence, we think that modern financial systems should rely on either a single regulator or independent agencies, each one responsible for one of the three objectives of regulation.

However, we are particularly concerned with the possible conflict of interest in pursuing different objectives when these are assigned to the same agency. Clearly, the "single-regulator" model is truly affected by the possible incompatibility among the supervisory objectives. <sup>17</sup> In the credit sector, for instance, we find a clear trade-off between competition and stability (at least in the short run). The need to safeguard stability led, particularly in moments of economic and financial tension, to the use of instruments designed to limit competition, such as institutional barriers to entry in the market, or to the legal imposition of limits to operative activities. In financial systems where banks are prevalent but not efficient enough to compete cross-border, the objective of competition is usually sacrificed more easily than that of macroeconomic stability. The consequence is a "stable" environment in terms of the number and identity of the intermediaries. But this is obtained by altering the free play of competition through measures that prevent exit of inefficient actors from the market.

Another case is that of the possible conflict between the objectives of stability and transparency. Again with regard to the banking sector, scarce transparency in fund gathering activities (e.g., in the issue of securities) might allow the application of interest rates below market rates. Such behavior could be considered functional to the strengthening of the stability of banks, but it would result in direct injury to investors.

The most immediate response to this important problem might be to attribute to different authorities different objectives of supervision, that is to adopt the regulatory model by objectives as the benchmark for advanced financial systems. This solution could be designed so as to avoid an excessive proliferation of authorities and thus limit the increase in both direct and indirect costs of regulation<sup>18</sup>. This solution, in order to be effective and to avoid the conflict of interest among the different objectives, should be accompanied by a coordination committee participated by the members of the three different authorities and, eventually, of the central bank.

#### III. CURRENT REGULATORY ARRANGEMENTS IN THE EURO AREA

#### **III.1** Integration Among Intermediaries, Markets and Instruments.

supervised institutions.

Moreover, the single- regulator model could also lead to excessive concentration of regulatory powers.

<sup>&</sup>lt;sup>18</sup> The literature available to date is not vast. See Franks, Schaefer and Staunton (1997) for an empirical work on the direct and indirect costs of the regulation of financial markets, which among other things evidences the absence of

As already mentioned, banking, securities and insurance segments are becoming increasingly integrated in terms of markets, intermediaries and financial instruments. The boundaries separating banking, securities and insurance activities are in fact on their way out in most developed financial systems because of the strong process of technological, geographical and functional integration among these three sectors; and as a consequence of the de-specialization of the intermediaries. The "reserved activities" that characterized financial operators by type are constantly decreasing at both the normative and operative level. As a matter of fact the traditional tripartite division of the financial market failed to take into consideration that the creation and allocation of savings among sectors with a cash surplus and sectors with a cash deficit were basically unitary phenomena: hence, a unitary view of financial intermediation and its regulation should be adopted.

In the Euro area, the processes of integration within the financial market have come about in a rather articulated fashion and following quite heterogeneous paths.

As regards the intermediaries, ownership integration has been accentuated, coming about through the transfer of capital shares among institutions, or among controlling and controlled firms, through an increasing number of M&As and through the establishment of new alliances directed to diversify, either geographically or functionally, the business.<sup>19</sup> Even though the process is still characterized by a dominant share of domestic deals, cross-border operations have recently become more important and are likely to develop further in the near future. The prominent role of traditional banks in continental Europe is currently being challenged by the advances in information and delivery technology and the entry of new and aggressive players in the financial industry. While the former has the main effect of lowering barriers to entry in the banking and financial industry, the latter contribute to erode banks' monopoly and comparative advantages in information, monitoring, delivery capacity and processing by tending to specialize in particular segments of the financial business (brokerage on-line, retail insurance and financial services), and/or targeting certain categories of customers. The existence of more severe regulation in banking has also the consequence that banks meet more difficulties in diversifying their activities out of finance, with respect to the new entrants in the banking business. At the same time, less protection is gradually given to traditional banks as the process of de-regulation gains power and support in the industry.

research on the benefits of regulation.

<sup>&</sup>lt;sup>19</sup> A peculiar form of integration among intermediaries might also be detected in the transformation of their legal status, even when continuing to perform basically the same intermediation activities as before. This occurred in particular with investment firms which have been legally transformed into banks in countries where banks have traditionally benefited from competitive rents due to higher regulatory protection; and even though such firms did not have as their primary objective the issue of deposits or the provision of loans. The reasons for this "arbitrage" among legally diverse forms include the access to credit of last resort and to the interbank liquidity market, the possibility of directly managing customers' liquidity, the concerns about a sounder image ("too bank to fail"), the differing

European financial market liberalization did also start a deep process of business restructuring in the banking sector. The search for scale economies led to a reduced number of banks and a considerable increase in market concentration. Financial conglomerates and complex groups have become gradually more important and tend to act more and more on an international basis and at a European and global level.

The role of insurance companies as financial intermediaries is also constantly increasingly, thanks to contracts involving life insurance and capitalization, whose services are directly tied to investment funds or to stock exchange or other financial indices (so-called unit-linked or index-linked contracts). Nowadays, the inclusion of the life insurance segment among those activities subject to financial regulation is something accepted in the major financial systems. Over the last few years, market changes have actually lessened the distinctiveness of some schemes of life insurance compared to other financial products.<sup>20</sup>

As regards the markets, considerable integration has taken place between the banking/insurance markets and the securities markets. In many countries, this occurred by virtue of the issue and quotation on the stock exchanges or other securities markets of both banks and insurance companies. Also financial products and instruments have experienced a certain degree of integration, as many of these - even when keeping the same legal status - have rapidly either partially or totally changed their economic function. This is due to both exogenous factors -- such as fiscal considerations, or different regulations applied to similar financial tools – and to endogenous factors -- such as the different behavior of sellers and buyers (here we refer in particular to certificates of

modalities for crisis management, and different regulatory costs and different supervisory authorities to deal with.

<sup>&</sup>lt;sup>20</sup> In the English system, for instance, long-term life insurance contracts are included in the notion of investment (financial instruments) as provided by the Financial Services Act of 1986. This law and its implementing rules regulate the selling of long-term business (life and pensions, see also Boléat, 1998). Insurance companies have the same treatment of unit trusts in terms of their selling activity. The recent establishment of the FSA will further reduce the distinctiveness of insurance companies by applying a common regulation to all financial institutions. In the U.S. system, variable annuities and variable life insurance contracts whose yield is tied to "separate accounts" fall under the Investment Company Act of 1940, which provides the general guidelines relative to investment activities, reinvestment, and the buying and selling of financial securities. Besides, as contract owners assume certain investment risks under variable contracts, the contracts are securities under the Securities Act of 1933. In the Euro area, on the contrary, insurance companies are generally excluded from the set of rules that apply to banks and to other financial intermediaries. In most countries life insurance policies are not considered financial instruments and insurance companies are not authorised to perform investment services. Although there is an increasing tendency to recognise the high degree of contiguity between certain insurance products and typical financial products, the regulatory differences remain significant and insurance companies are supervised and controlled by a specialized supervisory authority (with the exception of Austria and Ireland where responsibility is given to a government department). In the Maastricht Treaty, it is also explicitly forbidden that the ECB could intervene in and regulate the insurance field.

<sup>&</sup>lt;sup>21</sup> As an example, the Italian financial market is experiencing a peculiar progressive coincidence between issuers and financial intermediaries. Data on stock exchange capitalization indicate that the weight of the financial sectors in the Italian stock market is much higher in 1998 (42.4% of market capitalization) than in other advanced countries (18.2% in the US, 26.4% in France, 33.7% in Germany, 26.9% in the UK, 18.2% in Japan. *Source*: IRS, Rapporto sul Mercato Azionario 1999).

deposit and bonds issued by banks, and to certain types of life insurance policies). In general financial products have become increasingly complex, calling for new and enhanced skills in regulatory and supervisory activities.

### III.2 The Regulatory Models.

In each country of the Eurosystem, financial markets regulation has been affected by the structure and the evolution of the domestic financial system as well as by the legal system in place. In general regulation was primarily focused on banking intermediaries, given their traditional dominant role in the financial sector.<sup>22</sup> Most of the recent changes have been induced in member countries under the pressure of the EC directives and of increasing cross-border financial market integration which first stimulated and then followed the important 1992 single market program. A part form the member countries' implicit committment to ensure that single financial sectors were adequately regulated and supervised, however, no European law deals with the problem of how regulating and supervising financial markets and intermediaries. As a consequence, the current picture in the Euro area is that of a combination of the different regulatory approaches described in section 2, but with a still prominent role for the traditional "institutional" model. In the European Union, only the nordic countries (in particular Denmark and Sweden) and recently the UK have moved to a single supervisor. The central bank is often responsible for banking supervision, even though there are cases (Austria, Germany, Luxembourg, Finland and partially France) in which this task is assigned to a separate agency; securities are regulated and supervised by a specialized agency in most countries, and the same seems to apply to the insurance sector.

The regulatory agencies also differ in terms of their funding, working and appointment procedures. In particular, there are cases in which the cost is partly (or totally) beared by the supervised entities (as the banking supervisor in Belgium, Germany, Luxembourg and Finland) and cases in which it is mostly coming from the public budget. Table 1 summarizes the current structure of supervision in the European Union.

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<sup>&</sup>lt;sup>22</sup> Still in 1998, evaluated in billions of Euro, the nominal value of equity and bond markets in the US was much higher than in the Eurosystem, with figures of respectively 11,000 and more than 12,000 with respect to about 3,300 and 6,000 in the Euro area. However, in terms of commercial bank assets, the Eurosystem countries summed up to about 14,000 billions of Euro (1997 data) against the 4,000 of the US. See Lannoo, 2000.

Table 1: Supervision in Banking, Securities and Insurance in the EU

Country	Banking	Securities	Insurance
Belgium	BS	BS	I
Denmark	U	U	U
Germany	В	B,S	I
Greece	СВ	S	I
Ireland	СВ	СВ	G
Italy	CB*	CB, S	I
Luxembourg	BS	BS	I
France	В,СВ	B,S	I
Spain	СВ	S	I
Netherlands	СВ	CB, S	I
Portugal	СВ	CB, S	I
Austria	G	G	G
Finland	BS	BS	I
Sweden	U	U	U
<b>United Kingdom</b>	U	U	U

Sources: ECB (Monthly Bullettin, April 2000), Lannoo (2000).

Legenda: CB: Central Bank, BS: banking and securities supervisor, B: banking supervisor,

S: securities supervisor, I: insurance supervisor, G: government department, U: single financial supervisor.

#### **III.3** Is Domestic Regulation Still Good?

Our previous description of the recent evolution in European financial markets and products should have made clear that the trend is towards the emergence of Europe as the home market of at least the most important financial institutions. The single currency will only speed up a naturally ongoing process to further market integration and towards financial conglomeration. Supervising groups is not necessarily a minor challenge for regulators. If it is true that risk diversification might be at reach, there is also the possibility of excessive risk concentration, expecially when a domestic-based regulator looses control over the many internationally linked activities of the supervised entities. Risks at group level do not always coincide with the sum of individual risks. Moreover, larger balances allow for more creative accounting.

We think that there is no point in having a common monetary policy and aiming at an always more integrated financial system in the Euro area while keeping different financial regulations and

<sup>\*</sup> In Italy the central bank is also the authority responsible for antitrust in the banking sector.

supervising rules in each member country. As a matter of fact, these institutional differences are an important barrier to further financial integration. In this field, the principle of minimum harmonization and mutual recognition, that was originally thought to be able to naturally induce over time a convergence of regulatory behaviour and more uniform rules, clearly did not work. Moreover, there is a concrete risk that competition in this area will not even generate the more efficient outcome: on one side there exists an obvious incentive to promote less demanding domestic financial regulations and supervision in order to let the own country become more attractive for running financial business; while on the other side it is not clear who will pay the costs of potential insolvency following excessive risk taking behavior and financial misconduct in a member country (see below). Finally, with increasing international banking activities and a European real time gross settlement system in place (Target), the argument that domestic regulators and supervisors have better knowledge and can exercise more efficient control becomes day by day less effective (See Prati and Schinasi, 1998).

Another important point is that no clear tool nor any responsibility to counter and/or manage the risk of financial instability and crisis has been established in Europe. The Treaty is silent on this topic. It is not even evident that the role of lender of last resort will be performed by the ECB, as it would be desirable being an essential function of a central bank. In fact, this solution will probably occur only in the case of a widely spread liquidity crisis affecting the whole Euro area. But what will follow a liquidity crisis located in a single country? And what a solvency crisis?

Suppose we face a situation in which a single financial institution located in a member country is in trouble. What kind of intervention, if any, is currently allowed? One of the typical forms of public intervention seems lost, and probably the most natural, that of central bank last resort loans. The ECB will not intervene in favour of a single institution, especially if its financial links are mostly domestic. Also because it could always assign some of the responsibility for the crisis to the domestic financial regulator-supervisor. The domestic central bank can not intervene by providing funds without an explicit authorization by the ECB. In this case, it will have to convince the latter that the institution is facing a liquidity and not a solvency crisis, according to the old Bagehot's doctrine, and / or that the risk of potential spread and contagion of the crisis is high.<sup>23</sup> This requires time and resources. The other two traditional instruments, bail out through a safety net provided by the banking system or through the government budget will ultimately shift the burden on the shoulders of domestic taxpayers, especially in the framework established in the Stability and Growth Pact. Given the current level of taxes in Europe, this is hardly an optimal solution.

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<sup>&</sup>lt;sup>23</sup> See Freixas et al. (1999), De Cecco (1999) and Bruni and de Boisseu (2000).

We think that a much higher degree of co-ordination in the field of financial regulation and prudential supervision is both desirable and needed in the EMU. Our view is not limited to the banking system but embraces all financial intermediaries. A somehow good example of international cooperation can already be found in the banking supervision, with the Basle Committee working on a wide range of topics with no formal by-laws, but a very strong leadership. Furthermore, at the EU level there exist many Institutional arrangements for the regulation and supervision of the financial sector: the most important are the Banking Advisory Committee and the Insurance Committee, both capable of Comitology powers (European Commission, 2000). Comitology refers to the delegation of implementing powers by the Council to the Commission for the execution of EU legislation: representatives of the member States, acting through Committees called "comitology committees", assist the Commission in the execution of the implementing powers conferred on it (Wise Men, 2000).

On the contrary, the securities supervision has succeeded in establishing neither a similar long record of international rule-making nor a Securities Committee capable of comitology powers. In a world of complete mobility of capital and financial services, where institutions and markets operate without frontiers, supervision should operate at the same level, that is to say, it must be structured internationally<sup>24</sup>. The European supervisory system would gain both in consistency and effectiveness if all stability oriented rules, all transparency oriented rules and all competition oriented rules for all types of financial institutions were either issued or (better) coordinated by distinct independent agencies at the Euro level.

#### IV. REGULATION BY OBJECTIVE IN THE EURO AREA.

In section 2, we argued in favour of the regulatory model by objectives. According to this view, while continuing to assign to the central bank the objective of price and macroeconomic stability, a separate agency should be in charge of micro stability. This should supervise the stability of the entire financial market and of single financial intermediaries whether in banking, securities or insurance<sup>25</sup> (authorizations; professional registers; supervision in the area of information, regulations and inspections of intermediaries and conglomerates; other matters regarding stability; crises

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<sup>&</sup>lt;sup>24</sup> This does not necessarily lead to the death of national securities supervisor and the creation of a European SEC (see Lannoo 1999, Karmel 1999, Onado, 1999), even though such hypothesis could become realistic in the medium run (see the Financial Services Action Plan and Wise Men, 2000).

<sup>&</sup>lt;sup>25</sup> We view as somehow problematic the different regulation currently given in most countries to life insurance firms, particularly when they act purely as financial intermediaries. As a matter of fact, the life insurance industry, throughout contracts such as unit and index-linked schemes, has been gradually losing its original distinctiveness. We think it should no longer be regulated as a different function from banking and financial investment, nor having its own regulator.

management). We think that this authority should also manage deposit insurance and the investor compensation scheme.<sup>26</sup> This authority should cooperate with the central bank, which remain in charge of monetary policy and lender of last resort function, in supervising security settlement and payment systems and clearing houses; it could be charged with responsibility over financial instruments in wholesale markets, with particular regard to government bonds and derivatives.

An authority responsible for transparency and investor protection should supervise disclosure requirements and the proper behavior of intermediaries and the orderly conduct of trading in all financial intermediation activities performed by banking, securities, and life insurance intermediaries (including discipline and control in the area of transparency in contracts). Moreover, this authority would be assigned powers in the area of misleading advertising by financial intermediaries. Finally, it should control macro-transparency in financial markets (including the discipline of insider trading, takeovers and public offers).

A fourth authority (including the central bank) should guarantee fair competition, and should avoid abuses of dominant position and limit dangerous concentrations in banking, security and insurance sectors. A non-binding opinion of the authority for stability might be contemplated in certain instances.

A sketch of this "four-peak" model for financial regulation follows (Figure 1).

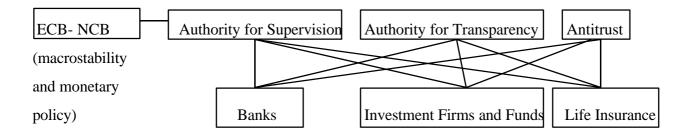


Figure 1. A 4-Peak Model for Financial Regulation

In this paragraph, we will present an institutional proposal to modify the current regulatory architecture of the Eurosystem financial sector which is a simple application of the above model. We think that this could be considered a good candidate to solve some problematic issues regarding financial stability in the Euro area and the need for more coordinated transparency and investor protection rules. Of course, we are aware that it is not easy to structure and create such an integrated system of rules and institutions in the EU, that it will require time, resources, political support and a

<sup>26</sup> In fact, often the domestic agencies for deposit protection have no regulatory and supervisory powers at all, and they simply act as the cash management department of other regulating institutions when reimboursing depositors and investors. There are clearly cost reductions that could be achieved by their elimination.

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widespread collaborative attitude. Nevertheless, we hope at least to contribute to the current discussion in a constructive way. <sup>27</sup>

A first issue to tackle is whether financial regulation in the Euro area should be fully centralized at the European level, or only better harmonized but still maintained at a regional dimension.

Many arguments support the view of centralizing and unifying financial regulation in the Eurosystem. Increasing integration among financial markets goes along with implicit or exlicit mergers among exchanges and intermediaries, and involves dual and cross-border offerings and listings. An integrated supervision on markets and intermediaries would be valuable in a scenario dominated by conglomerates and characterized by the expansion of electronic communication networks, market manipulation and trades on the net. At the same time, there is the need for enforcement at European level.

However, the feasibility and opportunity of a European centralized solution is diminished by the observation that the Euro area might be too large to be controlled by a central agency, that many different rules are still in place with respect to commercial codes, company laws, corporate governance schemes, failure procedures and so on. The EU directives, when they exist, do only establish a common floor; and even with a single currency and a common monetary policy, different fiscal policies are still in place, and taxation of both financial services and other items is not homogeneous in the Eurosystem. Some form of national enforcement is probably still needed.

Hence, we propose to establish a European System of Financial Regulators (ESFR), structured similarly to the ESCB, and organized accordingly to the model of regulation by objective. A European Central Authority, separated by the ECB, should be at the centre of the system for each objective of regulation. In a first stage (3 years?), these authorities would harmonize and coordinate financial regulation in member countries, design common principles and guidelines for prudential supervision and set out appropriate disclosure instruments and requirements. They should sponsor the necessary institutional change at domestic level leading to merging and re-organization of supervisory and regulatory powers in the financial sector of each member country. At the end of the process, in each country there will be just one national agency responsible for each objective of financial market regulation. This national agency will participate to the definition of the general strategies and principles of financial regulation in the area, becoming a member of the ESFR. It will

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<sup>&</sup>lt;sup>27</sup> On these topics see also Padoa Schioppa, 1999; Lannoo, 1999; Vives, 1999.

be responsible for the implementation in the domestic country of both the rules and the supervisory duties agreed upon at the Euro level.<sup>28</sup>

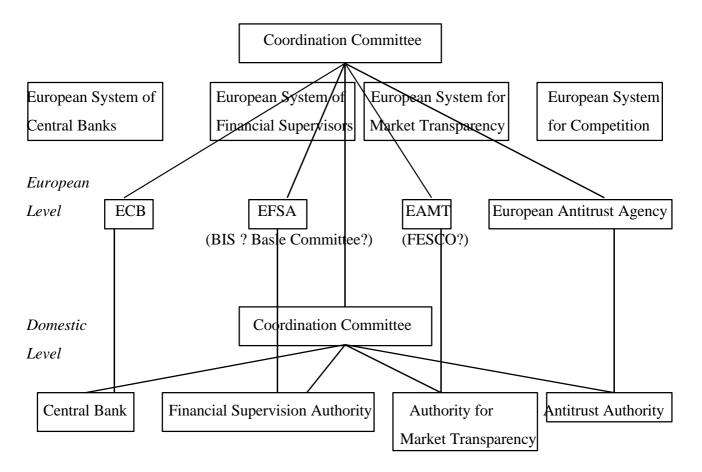
This reform calls for establishing two new European Agencies, one responsible for the microeconomic stability ("European Financial Supervision Authority") and one for transparency in the market, investor protection and disclosure requirements ("European Authority for Market Transparency") of all financial intermediaries. These two central agencies should co-ordinate the different domestic agencies in each member country. A part form this vertical form of coordination, cooperation would be also desirable horizontally, at both the European and national levels. This coordination, and resolution of eventual controversies, could be provided by special Commissions for the Supervision of the Financial System (as in the Corrigan Report - Corrigan 1987) established at the European Commission and at national Treasuries. These commissions would be the natural place for activities involving proposals and consultation concerning measures regarding financial market regulation.

No antitrust power will be given to any member of the ESFR, so as to avoid the trade-off between competition on one side and stability and transparency on the other. Moreover, agencies responsible for supervising market competition do exist at both Euro and domestic levels. We think that it would be wise to transform in a third separate and independent central agency the EU Antitrust DG. This will then coordinate and promote the harmonized activities of domestic Antitrust agencies. In each member state, the national Antitrust agency will safeguard competition in all economic sectors.

Our suggested 4 - peak model for financial regulation in Europe is sketched in figure 2.

<sup>&</sup>lt;sup>28</sup> Both the national and the central European levels of financial supervisors should exist, given the current level of harmonization in the financial market legislation, which is far from complete, in particular with respect to taxation, accounting rules and banking crises management.

Figure 2: European System of Financial Regulation



We are aware that our proposed architecture is very ambitious and requires indeed a substantial amount of coordination among the different authorities. Another important obstacle is the institutional and political resistance of the existing national bodies that would not easily accept to see their powers diminished or even abolished.

For such reasons, although less satisfying from a theoretical point of view, a second best solution could be the creation of a single regulator, by merging the financial supervision authority and the market transparency agency into a single one. This kind of three-peak model could still be a good, and more practical solution to implement, especially in the medium run. In such a scheme, the single European Central Agency for financial market regulation would cooperate with the ECB for the purpose of macroeconomic stability. It would also organize and coordinate the work of the various domestic agencies, which in different countries could be either specialized by objective or responsible for both market transparency and stability the **FSA** in the UK. as

#### V. CONCLUSIONS.

In this paper we argued that financial market regulation should be re-designed and harmonized in Europe according to a regulatory model by "objectives" or "finalities". This would call for assigning to three distinct and independent agencies (separated by, but coordinated with the central bank) all supervisory powers and regulatory responsibilities in financial markets and on financial intermediaries, regardless of these being insurance companies, banks or investment firms. One agency should be responsible for financial microstability, another for transparency and disclosure requirements, and the third for protection of competitive features in the markets.

We are in favour of the establishment in the Euro area of two new European financial regulation agencies, each formally separated by the ECB. These agencies should be responsible for the comprehensive co-ordination of both legislation and execution of regulation in financial markets: the first European central agency should be responsible for the microeconomic stability of all intermediaries, while the second for transparency and disclosure requirements. The third objective of guaranteeing competition in financial (and nonfinancial) markets is already safeguarded by having the Antitrust General Direction of the European Commission plus the domestic agencies. It would be wise to transform in a central and independent European agency the EU Antitrust General Direction. The latter and the two newly created central agencies will be at the centre of three European Systems of Financial Regulators, each one structured similarly and working in connection to the ESCB, thereby requiring active participation of national agencies in member countries. A 4 - peak regulatory model "by objective" would be in place in the Euro Area as well as in each member country.

#### *International Finance*, 3.

Di Noia C. and Piatti L., 1998, "Regolamentazione e Mercato Finanziario", Quaderni di Finanza CONSOB, n. 30.

European Commission, 2000, Institutional Arrangements for the Regulation and Supervision of the Financial Sector.

Franks J., Schaefer S. and Staunton, M., 1997, "The Direct and Compliance Costs of Financial Regulation", *Journal of Banking and Finance*, n. 11.

Freixas X., Giannini C., Hoggarth G. and Sousa F., 1999, "Lender of Last Resort: a Review of the *Financial Stability Review*, November.

Goodhart C., 1996, "An Incentive Structure to Financial Regulation", *Special Paper*, LSE Financial Markets Group, n. 88.

Goodhart C. and Shoenmaker D. (1992), "Institutional Separation between Supervisory and Monetary Agencies", *Giornale degli Economisti e Annali di Economia*, n. 9-12.

Karmel R., 1999, "The Case for a European Securities Commission" Columbia Journal of Transnational Law, vol. 38.

IOSCO, 1998, Objectives and Principles of Securities Regulation.

Lannoo K., 1999, "Do We Need a European SEC? Securities Market Regulation in the EU", mimeo.

Lannoo K., 2000, "Challenges to the Structure of Financial Supervision in the EU", paper presented at the 22<sup>nd</sup> SUERF Colloquium, Vienna, 27-29 April.

Llewellyn D., 1999, "The Economic Rationale for Financial Regulation", FSA Occasional Paper.

Merton R. and Bodie Z., 1995, "A Conceptual Framework for Analyzing the Financial Environment", in Crane D. *et alii*, <u>The Global Financial System</u>, <u>A Functional Perspective</u>, Harvard Business School Press, Cambridge.

Oldfield G. and Santomero, A., 1997, "Risk Management in Financial Institutions", Sloan Management Review, Fall, Vol. 39.

Onado M., 1999, "The Consequences of European Financial Integration for the Regulatory

Padoa-Schioppa T., 1988, "Sistema finanziario e regolamentazione", *Bollettino Economico*, Banca d'Italia, n. 11.

Padoa Schioppa T., 1999: "EMU and Banking Supervision", International Finance, 2.

Prati A.-G. Schinasi, 1998: "Will the ECB be the lender of last resort in EMU?", paper presented at the SUERF Conference, Frankfurt, October 1998.

Stiglitz J., 1993, "The Role of the State in Financial Markets", Proceedings of the World Bank Annual Conference on Development Economics.

Taylor M., 1997, "Redrawing the regulatory map: A proposal for reform", *Journal of Financial Regulation*, n. 1.

Taylor M. and A. Fleming, 1999, "Integrated Financial Supervision: Lessons of Scandinavian *Finance and Development*.

Vives X. (1999): "Banking Supervision in the European Monetary Union", mimeo.

White L., 1996, "International Regulation of Securities Markets: Competition or Harmonization?", in Lo A. (ed), <u>The Industrial Organization and Regulation of the Securities Industry</u>, NBER, Cambridge.

White L., 1997, "Technological Change, Financial Innovation, and Financial Regulation: the Challenges for Public Policy", Wharton Financial Institutions Center w.p. 33.

Wilson J., 1989, <u>Bureaucracy</u>, Basic Books.

Wise Men, 2000, "Initial Report of the Committee of Wise Men on the Regulation of European