

**Towards a New Architecture for Financial Stability:
Seven Principles**

Luis Garicano and Rosa Lastra

CEP Discussion Paper No 990

July 2010

Abstract

In this paper we use insights from organizational economics and financial regulation to study the optimal architecture of supervision. We suggest that the new architecture should revolve around the following principles: (i) banking, securities and insurance supervision should be further integrated; (ii) macro prudential supervisory function must be in the hands of the central bank; (iii) the relation between macro and micro supervisors must be articulated through a management by exception system involving direct authority of the macro supervisor over enforcement and allocation of tasks; (iv) given the difficulty of measuring output on supervisory tasks, the systemic risk supervisor must necessarily be more accountable and less independent than Central Banks are on their monetary task; (v) the supervisory agency cannot rely on high powered incentives to motivate supervisors, and must rely on culture instead; (vi) the supervisor must limit its reliance on self regulation; and (vii) the international system should substitute the current loose, networked structure for a more centralized and hierarchical one.

Keywords: Banks, international financial markets, systematic risk

JEL Classifications: E61, G21

This paper was produced as part of the Centre's Productivity and Innovation Programme. The Centre for Economic Performance is financed by the Economic and Social Research Council.

Acknowledgements

We thank seminar participants in Stockholm SIFR, the LSE FMG, the Central Banking Annual Conference in Cambridge, and Thomas Baxter, Douglas Diamond, Charles Goodhart, Raghuraj Rajan and Hyun Shin for their useful comments.

Luis Garicano is an Associate of the Centre for Economic Performance and Professor of Economics and Strategy, London School of Economics. Rosa Lastra is a Professor in International Financial and Monetary Law at the Centre for Commercial Law Studies (CCLS), Queen Mary, University of London.

Published by
Centre for Economic Performance
London School of Economics and Political Science
Houghton Street
London WC2A 2AE

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the prior permission in writing of the publisher nor be issued to the public or circulated in any form other than that in which it is published.

Requests for permission to reproduce any article or part of the Working Paper should be sent to the editor at the above address.

© L. Garicano and R. Lastra, submitted 2010

Introduction: Financial Crisis and the Organization of Supervision

Policy-makers have concluded that the recent financial crisis resulted in part from an insufficient focus on systemic risks. To deal with such problem, the G20 decided to push for the creation of systemic risk supervisors. In this paper, we discuss the optimal organization of such authority under the light of the organizational economics literature. We then use our analysis to discuss current reform proposals. These include, in Europe, the establishment of a European System of Financial Supervision with three authorities (revamped Lamfalussy Level 3 committees¹) and the creation of a European Systemic Risk Board or ESRC under the aegis of the ECB, based upon the recommendations of the De Larosière Report. In the UK, the Financial Services Act² introduced a Council for Financial Stability and the new Government is proposing a radical overhaul of the regulatory structure that will see the powers of the Bank of England substantially expanded and the Financial Services Authority (FSA) ceasing to exist in its current form.³ And in the US, new financial legislation will establish *inter alia* a Financial Services Oversight Council and will give the Federal Reserve System responsibility for the regulation of systemically significant firms.⁴ In our paper we focus on the architecture of the system and not on the content of the specific regulations concerning liquidity, risk taking, capital requirements and other rules that have been addressed by several reports,⁵ national legislative initiatives, EU and international proposals.

We are mindful that all existing architectures, independently of their specific characteristics, performed poorly at their mission. Whether twin peaks (like in the Netherlands), fragmented (like in the US), unitary (like in the United Kingdom with the FSA) or separated (like in France), most advanced countries suffered a severe hit to their financial systems. While to some extent that may mean that the architecture does not matter, since it was not a cause of the crisis, we do believe, however that the institutional design is important for the resolution of the crisis and for the establishment of a more effective framework of supervision, systemic risk control and crisis management going forward.

The terms supervision and regulation are conceptually different, even though many commentators use them interchangeably. Supervision has to do with monitoring and enforcement, and regulation with rule-making. Crisis management refers to the instruments available to the authorities to confront crisis, in particular lender of last resort assistance, deposit insurance and insolvency proceedings.

¹ For a summary of the tasks of these Committees see Appendix 9 of report of the House of Lords' European Union Committee on 'The Future of EU financial regulation and supervision' published on June 17, 2009 available at <http://www.publications.parliament.uk/pa/ld200809/ldselect/ldcom/106/106i.pdf>

² On 19 November 2009 the Chancellor of the Exchequer, Alistair Darling, introduced the Financial Services Bill into Parliament, and received Royal Assent in April 2010. The Financial Services Act 2010 is available at http://www.opsi.gov.uk/acts/acts2010/pdf/ukpga_20100028_en.pdf

³ See Speech at The Lord Mayor's Dinner for Bankers & Merchants of the City of London by The Chancellor of the Exchequer, The Rt Hon George Osborne MP, at Mansion House on 16 June 2010, available at http://www.hm-treasury.gov.uk/press_12_10.htm

⁴ The US Treasury published a White Paper on 'Financial Regulatory Reform, a New Foundation' in June 2009, <http://www.financialstability.gov/docs/regs/FinalReport_web.pdf>. The House of Representatives, led by Barney Frank, chairman of the House Financial Services Committee Chairman, passed a Bill (entitled 'Wall Street Reform and Consumer Protection Act of 2009') on December 11, 2009 by a 223-202 vote. See <<http://thomas.loc.gov/cgi-bin/bdquery/z?d111:H.R.4173>> The Senate bill, unveiled on March 16, 2010 under the name 'Restoring American Financial Stability Act' has been led by Christopher Dodd, chairman of the Senate Committee on Banking, Housing and Urban Affairs and was passed by the US Senate on 20 May 2010. See <http://banking.senate.gov/public/ files/FinancialReformSummary231510FINAL.pdf> Following the House-Senate Finance Bill Reconciliation process the new legislation is expected to be enacted on 4 July 2010.

⁵ See e.g., Brunnemaer's et al. "Geneva report" (2009), Paul Volcker's et al. G30 Report and, the de Larosière (2008) report. The latter also covers architectural issues extensively.

In designing a new architecture, we must take into account the goals of this architecture. Financial stability is the ultimate goal of supervision, regulation and crisis management. Yet, supervision is designed to meet also other goals, such as consumer protection, market integrity and prevention of fraud (depending on the type of financial institution subject to oversight). Regulation is also driven by these ‘supervisory objectives’ and other considerations such as fair competition or the needs of a single market. And crisis management has also objectives of its own, which tend to vary from country to country (e.g. minimization of costs to the FDIC/taxpayers is a goal in the USA) and across institutions (with differential treatment of debtors and creditors in the case of bankruptcy).

The principles for a new financial architecture that we propose affect three very different realities in the US, UK and Euro area, which we describe first.

United States. The US is a single monetary area with a single currency, combined with an extremely fragmented supervisory landscape and a complex regulatory system based upon federal law (financial laws enacted by Congress), state law (laws enacted by state legislatures, particularly relevant in terms of insurance companies), regulation by agencies (the Fed and the SEC have rule-making powers) and self-regulation (in the field of securities, the rules of the SROs), features which are to remain in the expected new legislation.

Decentralization in the US runs deep in the fabric of the country and its constitutional tradition. It is both geographic – under its federalist structure the powers of the states are very important – and functional, with the allocation of authority to narrowly focused agencies. The existence of multiple regulators, with sometimes overlapping roles, often allows firms to choose their regulator. Banking in the USA is subject both to federal law and to state law, with several supervisory authorities at the federal level (the Federal Reserve System, the Office of the Comptroller of the Currency and the Federal Deposit Insurance Corporation⁶), and at the state level. The securities industry is subject to a combination of federal law and self-regulation (with some elements of state law). The Securities and Exchange Commission is a federal agency which oversees the exchanges and administers the federal system for the registration of new issues of securities.⁷ The exchanges are self-regulatory organizations with powers to promulgate rules for its member firms and listed companies. The Financial Industry Regulatory Authority (FINRA) was created in July 2007 through the consolidation of the National Association of Securities Dealers (NASD) and the member regulation, enforcement and arbitration functions of the New York Stock Exchange. It also performs market regulation under contract for the NASDAQ Stock Market, the American Stock Exchange, the International Securities Exchange and the Chicago Climate Exchange.⁸

The Sarbanes-Oxley Act of 2002 - which introduced sweeping reforms with regard to corporate governance - did not change much the regulatory structure of US securities markets. Investment companies (including mutual funds) are regulated almost exclusively at the federal level by the SEC since the enactment of the 1940 Investment Company Act and the

⁶The FDIC has ‘three hats’ as supervisor, insurer and receiver of failed banks.

⁷ The Securities Act of 1933 established a federal system for the registration of new issues of securities, and the Securities Exchange Act of 1934, created a new federal agency, the Securities and Exchange Commission. Following the stock market crash of 1929, these pieces of legislation were enacted to promote stability and confidence in capital markets and to protect investors in view of the shortcomings and inadequacies of the state ‘blue sky’ laws. The reason why state securities statutes were known as ‘blue sky’ laws is because some lawmakers believed that ‘if securities legislation was not passed, *financial pirates would sell citizens everything in the state but the blue sky*’. See Howell E Jackson and Edward L Symons, *Regulation of Financial Institutions*, (St. Paul, Minn.: West Group, 1999), 655-662 and 751-755.

⁸ FINRA is involved in registering industry participants, examining securities firms, regulating markets and writing rules. A summary of its activities can be found at <http://www.finra.org/AboutFINRA/index.htm>

1940 Investment Advisers Act.⁹ Insurance in the USA remains a matter of state law since the McCarran-Ferguson Act of 1945, though pension funds are subject to federal law since the enactment of ERISA (Employee Retirement Income Security Act) in 1974. The US financial regulatory landscape also comprises other regulators, such as the Commodities Future Trading Commission for financial derivatives (commodity futures and options).

The failure to provide adequate supervision of large sectors of the financial market has triggered a process of legislative reform. Amongst the “architectural” issues considered in the legislation (a somewhat watered-down version of some earlier proposals¹⁰) are: the powers to the Federal Reserve System with regard to the supervision of the largest bank holding companies and other systemically significant financial firms, the establishment of a resolution authority or new resolution procedures to allow FDIC to unwind failing systemically significant financial institutions, the creation of a Consumer Financial Protection Agency (or a Bureau housed under the Fed) and a Financial Services Oversight Council, some modest consolidation (the Office of Thrift Supervision, OTS will disappear), more coordination between SEC (Securities and Exchange Commission) and CFTC (Commodities and Futures Trading Commission) and others.¹¹ To us – and this is a fast evolving target – the final outcome of the legislative reform in the US will be a fragmented and “multi-peaked” system. *Plus ça change?*

United Kingdom. From 1997 to 2010, the United Kingdom presented a unified picture in terms of supervision, with the transfer of supervision away from the Bank of England and the establishment of a single supervisory agency, the Financial Services Authority (FSA), governed by the Financial Services and Markets Act 2000. However, the relationships between the Bank of England (which provides lender of last resort assistance), the FSA (the supervisor) and the Treasury (responsible for the fiscal costs of bail-outs) which had been spelt out in a Memorandum of Understanding in 1997, became the subject of much criticism following the Northern Rock episode in September 2007.¹² The inadequacy of the UK system to confront financial crisis led to the new Banking Act 2009 and to the establishment of a special resolution regime (SRR) to deal with troubled and failing banks in which the Bank of England plays a key role. However, the structure of supervision remained intact under the Labour Government. It took the election of a new Government in May 2010 to change this. In a policy reversal, the new Conservative-Liberal Democrat (Con-Lib) coalition Government has condemned the model of the single regulator, a regulatory model which has inspired reforms in many other jurisdictions, to history. The new Chancellor, George Osborne, announced a radical redrawing of financial regulation on 16 June 2010. The powers of the Bank of England are to be substantially expanded (with the Governor of the Bank of England to

⁹ Hedge funds are not required to register with the SEC as investment companies under the Investment Company Act of 1940. In the past, hedge fund advisers were not required to register under the Investment Advisers Act of 1940. However, in December of 2004, the SEC issued a final rule and rule amendments requiring certain hedge fund managers to register as investment advisers under the Act. See <http://www.sec.gov/rules/final/ia-2333.htm> New rules affecting hedge funds are also expected in the new US financial legislation.

¹⁰ Some academics – such as Howell Jackson – have advocated the need for consolidation of the regulatory agencies, and the establishment of a systemic risk authority. See Howell Jackson, A Pragmatic Approach to the Phased Consolidation of Financial Regulation in the United States, Howell E. Jackson, Harvard Law School, November 12, 2008, Harvard Public Law Working Paper No. 09-19, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1300431. In the words of Jackson, ‘the Obama administration is apparently choosing to retain our existing highly fragmented system of sectoral regulation but simultaneously to super-impose a “twin-peak” approach with the Federal Reserve Board gaining a systemic risk oversight function (sometimes called macro-prudential oversight) and the new Consumer Financial Products Commission’. See Howell Jackson, ‘Regulatory Reform in the New World’, remarks at the Hart Seminar in London on 16 June 2009

¹¹ The final picture will depend upon the legislation that is expected to be adopted on 4 July 2010. Above note 4.

¹² See The Turner Review at <http://www.fsa.gov.uk/pages/Library/Corporate/turner/index.shtml>

chair a new Financial Policy Committee within the Bank and a new Prudential Regulatory Authority to supervise banks and insurers), while the Financial Services Authority will cease to exist in its current form, with its powers divided between the Bank of England, a new Prudential Regulatory Authority, a new Consumer Protection and Markets Authority and an Economic Crime Agency.¹³ This supervisory and regulatory overhaul is expected to be completed in 2012.¹⁴

The Bank of England has a clear mandate with regard to monetary policy, and since the Banking Act 2009, it also has a mandate for financial stability as well as crisis management responsibilities - the Special Resolution Regime - to confront troubled banks. With the new Government proposals, the supervisory powers of the Bank of England will be further expanded both with regard to macro prudential supervision as well as micro prudential supervision.

European Union. The ‘architecture’ of financial supervision in the EU is currently characterized by three principles: decentralization, co-operation and segmentation. These principles which inform the Lamfalussy structure (see Figure 1) also characterize the new structure, based upon the proposals outlined in the De Larosière Report (see Figure 2), further analyzed below. In the EU prudential supervision remains decentralized at the level of the Member States, based upon the principle of home country control, combined with mutual recognition on the basis of prior regulatory harmonization. The fact that some EU Member States have adopted the euro, while others retain their national currencies and national monetary policies has significant implications for the purposes of our paper. In the euro-zone, the abandonment of the coincidence between the area of jurisdiction of monetary policy and the area of jurisdiction of supervision is a major novelty brought about by the advent of European Monetary Union.¹⁵ Since the launch of the euro in January 1999, the European Central Bank is in charge of the monetary policy of the countries which have adopted the single currency, while responsibility for supervision remains decentralized, which means that each EU country (eurozone or non-eurozone) organizes supervision as it wishes. Some rely on the Central Bank to do everything (like the Czech Republic), some others have a single supervisory authority different from the central bank (like Sweden), others have separate authorities for banking, securities and insurance (like Spain) and there are other ‘permutations’, like the Dutch twin peaks approach of having the central bank (De Nederlandsche Bank, DNB) as the institution responsible for prudential supervision in the pursuit of financial stability and a separate Authority for Financial Markets (AFM) as the authority responsible for conduct of business supervision.¹⁶ (Both supervisory authorities cover the full cross-sector width of financial markets, i.e. all institutions in banking, securities, insurance and pensions).

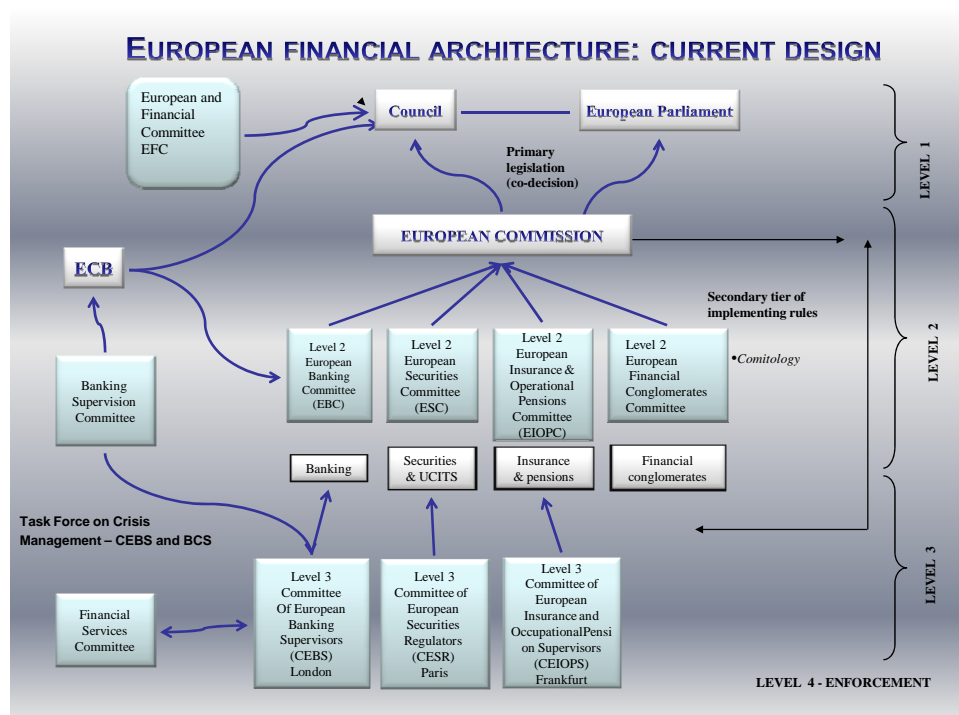
¹³ Above note 3.

¹⁴ See FSA press release, ‘FSA Chairman welcomes Chancellor's plans for regulatory reform’ of 16 June 2010, at <http://www.fsa.gov.uk/pages/Library/Communication/PR/2010/100.shtml>

¹⁵ Tommaso Padoa-Schioppa, ‘EMU and Banking Supervision’, Lecture at the London School of Economics (24 February 1999), <<http://fmq.lse.ac.uk/events/index.html>>, also published in Charles Goodhart (ed.), *Which Lender of Last Resort For Europe?* Ch 1 (Central Banking Publications: London, 2000).

¹⁶ See ‘Recent Developments in Supervisory Structures in EU and Acceding Countries’, ECB Monthly Bulletin May 2006, http://www.ecb.int/pub/odf/other/report_on_supervisory_structuresen.pdf

Figure 1: Current Financial Architecture in Europe



In Europe, the basis of the reform proposals is the so-called Larosière Report, a Report by a high-level group on financial supervision in the EU, chaired by Jacques de Larosière, presented to the European Commission, on 25 February 2009.¹⁷ The report was endorsed by the European Commission in May 2009 and by the European Council in June 2009. On 23 September 2009 the EU Commission presented legislative proposals to implement its recommendations (see Figure 2). These included proposals for regulations establishing a European Banking Authority (EBA), a European Insurance and Occupational Pensions Authority (EIOPA) and a European Securities and Markets Authority (ESMA), as well as a European Systemic Risk Board (ESRB) and a decision entrusting the ECB with specific tasks concerning the ERSB.¹⁸ In October 2009 the Commission proposed a directive amending a number of directives in respect of the EBA, the EIOPA and the ESMA. ECOFIN reached a broad consensus regarding the main features of the ESRB at its meeting on 20 October 2009 and on 2 December 2009, ECOFIN approved that creation of the new European Supervisory Authorities¹⁹ Subject to approval by the European Parliament, the ESRB should take up its duties at the beginning of 2011. The ESRB will have to identify risks to financial stability and, where appropriate, issue warnings or recommendations of a general or specific nature concerning the Community as a whole, individual Member States or groups of Member States. Although ESRB recommendations will not be legally binding, it is expected that the

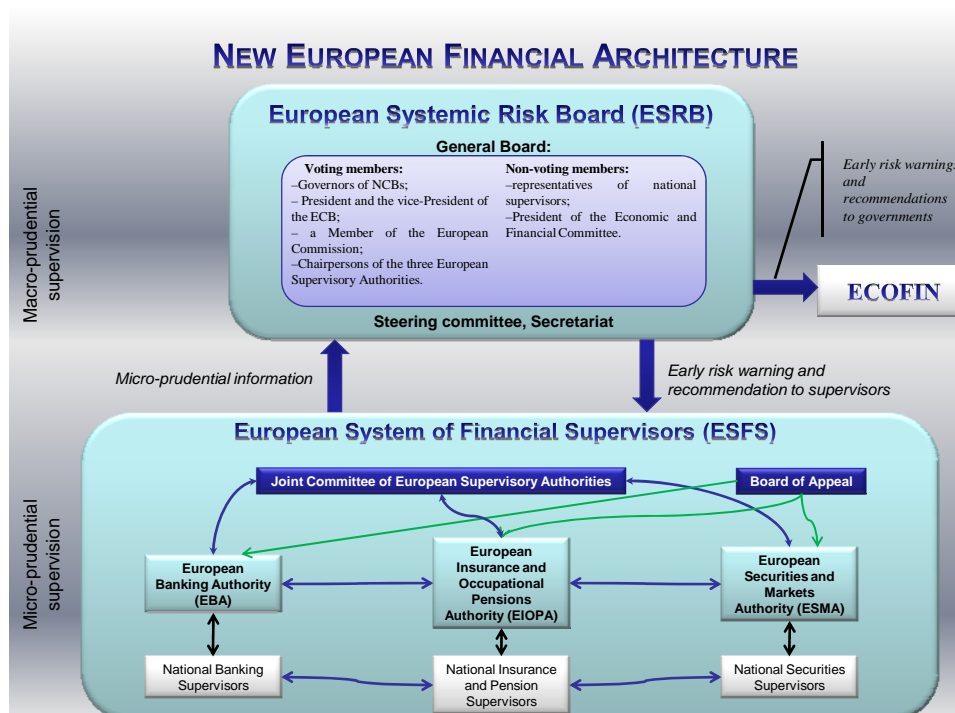
¹⁷ De Larosière report at <http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf>

¹⁸ The legal basis of the regulations is Art. 114 of the Treaty on the Functioning of the European Union (TFEU) which was Article 95 of the EC Treaty and the legal basis of the decision granting certain tasks to the ECB is Article 127(5) TFEU, which was Article 105 (5) EC Treaty.

¹⁹ See <<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1347&type=HTML>> Commission adopts legislative proposals to strengthen financial supervision in Europe (see MEMO/09/404 and MEMO/09/405), 23 September 2009. The Ecofin Council on 2 December 2009 approved the creation of the new three European Supervisory Authorities, which together with the European Systemic Risk Board (for which broad political agreement was reached on 20 October 2009) form the new EU supervisory structure. See <http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/ecofin/111706.pdf>.

addressees of recommendations will not remain passive towards a risk which has been identified and are expected to react in some way. The ESRB might decide on a case by case basis whether warnings or recommendations should be made public.

Figure 2. New Financial Architecture



Having described the existing structures, as well as the issues being discussed in Europe, the US and the UK, we proceed to answer the key questions on the table around a set of principles that, in our view, should govern the reform of the architecture of supervision.

Principle 1. The supervision of banking, securities and insurance should be further integrated

The key argument in favor of separate supervisors for several problems is one of specialization and division of labor. The main source of the gains from specialization is that knowledge costs are fixed costs, and thus the average cost decreases with utilization. Single focused agencies are likely to utilize their knowledge more intensively and thus will be able to acquire deeper expertise in their domain.²⁰ However, coordination costs increase with the proliferation of specialized agencies. Specifically, in the context of financial supervision and regulation there are two main issues to consider. First, the proliferation of specialized agencies may increase the likelihood of a particular firm having multiple supervisors. This may leave unregulated gaps [Llewellyn (1999), Goodhart (2002)]. Moreover, as financial institutions continue to diversify into a broader range of activities, a single regulator will be more efficient at monitoring these activities (e.g. by operating a single database for licensing firms) [Briault (1999), Llewellyn (1999)].

²⁰ The existing literature [Briault (1999), Llewellyn (1999), Abrams and Taylor (2001)] tends to emphasize the economies of scale advantage from the perspective of IT, support etc. of a single supervisory agency. While there are undoubtedly some utilization gains of that kind, those are likely to be small compared to the knowledge gains of having a set of subject specialists dealing repeatedly within their domain.

This type of coordination costs are non trivial as exemplified by the AIG supervision system. In the words of Fed Chairman Bernanke “AIG built up its concentrated exposure to the subprime mortgage market largely out of the sight of its functional regulators.”²¹ The AIG-Financial Products exposure was mainly handled from London, hidden from its insurance regulators and the Fed, and essentially only supervised by the Office of Thrift Supervision. Thus the OTS, a small regulator in charge of the Savings and Loan industry was tasked with supervising what was a key cog in the global financial system.²² The ability of AIG to conduct a large scale scam makes most clear the risks of multiple competing regulators with overlapping responsibilities: a sophisticated financial institution may engage in a particularly insidious type of regulatory arbitrage, whereby it ‘chooses’ its own regulator, one that is unlikely to have the relevant knowledge and expertise.^{23 24}

Thus the coordination costs derived from having multiple authorities are likely to be large. How large are the gains from specialization? These gains are unlikely to be large in the financial knowledge domain, as the substantive valuation, risk analysis, liquidity and solvency issues are the same in insurance, securities and banking. Thus on grounds of division of labor, the balance is strongly in favor of an integrated authority.

A second possible argument for diversity is to encourage innovation. Having multiple regulators is like having several independent screens, where behaviors are accepted as long as they are accepted by at least one screen. In contrast, a centralized structure is like one with successive (not alternative screens) where only projects or ideas accepted by those successive screens are accepted (Sah and Stiglitz (1986)). If innovation matters, a decentralized structure will be preferred (Kane (1984), Romano (1997, 2001), Kupiec and White (1996)].) Conversely, the centralized system generates too little innovation, and leads to fossilization.²⁵ In our view, recent events show that financial innovation is of limited value relative to the risk engendered. A more centralized and hierarchical system is needed.

A final argument for multiple agencies is adaptation to change. If there are multiple regulators some of them may prove better adapted to a change in the environment. On the other hand, if a coordinated radical change through the system is needed, a single regulator will be better able to implement it.²⁶

²¹ “Second, the AIG situation highlights the need for strong, effective consolidated supervision of all systemically important financial firms. AIG built up its concentrated exposure to the subprime mortgage market largely out of the sight of its functional regulators. More-effective supervision might have identified and blocked the extraordinarily reckless risk-taking at AIG-FP.” Ben Bernanke’s testimony to Committee on Financial Services, US House of Representatives, March 24, 2009.

²² AIG had bought a savings and loan- this was the reason the OTS was the regulator.

²³ According to the former counsel of the Senate Banking Committee , after the 1999 Gramm Leach Biley Act which allowed insurance, banking and securities firms into each others territory "There was a stampede by commercial and financial firms to get a thrift charter so that OTS could be their consolidated supervisor." (Bart Dzivi, a former counsel to the Senate Banking Committee and now a financial-institutions lawyer in Northern California),

²⁴ The literature argues that a single, large supervisory authority is better able to attract, develop, and maintain professional staff expertise. [Briault (1999), Llewellyn (1999), Abrams and Taylor (2001)]. This has not been found to be the case in other domains, where specialized agencies can offer a congenial environment to the experts in that field irrespective of size (consider the CIA and NSA in intelligence, with clearly differentiated domains and different structures), and we do not expect it to be the case here.

²⁵ A variant of this argument would consider learning -- multiple supervisory authorities may adopt different approaches to supervision which can yield valuable information that would not be generated by a single supervisor. [Llewellyn (1999)].

²⁶ The existing literature has also argued a single regulator may be preferred in other grounds such as conflict resolution (a single regulator is better able to resolve conflicts that emerge between different regulatory goals because of lower “frictions” in deciding and implementing resolutions. [Briault (1999), Llewellyn (1999), Wall and Eisenbeis (2000)]), accountability (a single regulator will be more transparent and accountable than multiple regulators, and may find it more difficult to “pass the buck” if it makes a mistake. [Briault (1999), Llewellyn

The empirical evidence on the question is small. Barth, Dopico, Nolle and Wilcox (2002) find that countries with multiple supervisors tend to have lower capital adequacy ratios and hence higher insolvency risk (they take this as evidence of the “competition in laxity”).

Our discussion here suggests that there are some limited pluses to a system with multiple agencies, but these pluses are in this case clearly overwhelmed by the coordination costs we have identified. Both the US and the EU area have a large multiplicity of actors already, particularly given the ‘federal’ structure of both areas. Given that many supervised financial institutions operate in all three of those areas, the argument suggests that insurance, securities and banking supervisors should be further integrated.²⁷

Principle 2. Systemic supervision must be under the purview of the central bank

The role of the central bank is *the* major issue at stake in this organizational structure, in particular, whether supervision should be a responsibility of the central bank. With or without direct supervisory responsibilities, a central bank has a responsibility for financial stability, because of its lender of last resort role.

The debate about the supervisory responsibilities of central banks is linked to the discussion of the goals and history of central banks. The Federal Reserve System was set up in 1913 ‘to establish a more effective supervision of banking’,²⁸ following the banking crises of the 19th and 20th centuries. The Fed conceives of its monetary policy as having been largely grafted onto its supervisory functions, and regards its supervisory and regulatory functions as a prerequisite and complement to its monetary policy responsibilities. These origins, as well as the experience of the Great Depression, help explain the decisiveness and extensiveness with which the Fed has reacted to the financial crisis from the summer of 2007 to date.

The more recent emphasis on stable money as the primary objective of monetary policy - the driving force of central bank independence in many countries around the World in the 1980s and 1990s - was often accompanied in some countries (such as the UK and Australia) by a move away from supervisory functions. While there are important grounds for the creation of a separate agency, we believe that the reasons for combining both functions are more important.

First, and most importantly, the lender of last resort function can only be undertaken by a central bank. The involvement of central banks in financial stability originates in their role as monopolist suppliers of fiat money and in their role as bankers’ bank. Only the ultimate supplier of money can provide the necessary stabilizing function in a nationwide scramble for liquidity, as the financial crisis has amply evidenced, with conventional and non-conventional monetary policy operations (quantitative easing and others). This is a clear lesson of the crisis in the UK, where the problems of Northern Rock caught the Bank of England by surprise: having timely information is particularly crucial during financial crises and the

(1999), Abrams and Taylor (2001)] and transparency (a system with a single regulator is simpler for financial institutions and consumers to understand. [Llewellyn (1999)].); while worrying that a single regulator may have excessive power (Taylor (1995), Kane (1996), Briault (1999), Llewellyn (1999)].).

²⁷ Our recommendations in this regard have found support in recent proposals of the Economic and Monetary Affairs Committee of the European Parliament, suggesting that the European Banking Authority (EBA), the European Insurance Authority (EIOPA) and the European Securities and Markets authority (ESMA) working together through an improved joint coordinating committee should be all located in Frankfurt so as to attain much closer collaboration among them. See http://www.europarl.europa.eu/news/expert/infopress_page/042-74361-130-05-20-907-20100510IPR74360-10-05-2010-2010-false/default_en.htm 10 May 2010.

²⁸ See Introduction to the Federal Reserve Act of 23 December 1913.

best way to ensure access is to have daily supervision by the central bank, as the literature has noted.²⁹

Second, we have learned in this crisis that monetary policy not only affects inflation rates, but the price (and thus the amount) of risk taking. An excessively accommodating Federal Reserve convinced actors that they would be saved from their folly (the famous ‘Green-span put’) and lead to excessive risk taking. Thus, those in charge of monetary policy need to know the amount of risk and instability in the system. Moreover, the absence of stable prices harms the stability of the financial system, while financial fragility in turn, negatively affects monetary stability.

Third, the prestige and independence of central banks enhances their ability to enforce actions (Giddy (1994), Lastra, (1992), Abrams and Taylor (2001)), as well as to recruit and retain the best staff.

Of course, extracting synergies never comes without organizational costs. One key problem with combining tasks has to do with the difficulty in providing adequate incentives and measurement on the stability task. The measurement of the success of a bank on its central banking functions is pretty straightforward. There is one goal, price stability, one instrument, monetary policy. There are also a relatively small number of people (the governor/chairman and the members of the executive board/monetary policy committee)³⁰ in charge of that task. In contrast, regulation and supervision try to achieve multiple goals (financial stability, investor/consumer protection, conduct of business and others), with a wide range of instruments: licensing requirements, macro and micro prudential supervision, financial stability reviews, lender of last resort operations and other crisis management procedures, and there are multiple agencies involved the central bank, the ministry of finance or treasury, the supervisory agency or agencies. Moreover, supervision typically relies on a large number of staff to perform examinations and other tasks.

The clarity of the metrics used to measure success by central banks on their inflation fighting mission makes it hard to combine these tasks with the supervisory task. As Holmstrom and Milgrom (1991, 1994) have pointed out, in an environment with multiple tasks that are observable with different difficulty, the setting of clear performance criteria in the tasks that are easily measurable deflects agents’ efforts away from the tasks that may be valuable but are more difficult to measure. That is, we can expect a central bank with a clear inflation target objective to subordinate success on its financial supervision mission to its inflation targeting performance. Conversely, a financial system without a target but with political pressure on stability may pursue monetary policy that is too expansionary in order to minimize the adverse effects on bank earnings and credit quality.³¹ A final negative spillover between both tasks is reputational. If the central bank is responsible for bank supervision and bank failures occur, public perception of its credibility in conducting monetary policy could be adversely affected. A related reputational risk concerns its independence, the wider is the role of the central bank, the more subject it could become to political pressures, thus threatening its independence.³²

²⁹ See Goodhart and Schoenmaker (1993), Goodhart (1995), Haubrich (1996), Briault (1999), Peek, Rosengren, and Tootle (1999), Abrams and Taylor (2001).

³⁰ Though the central bank also needs a team of economists to do the forecasting, to study the transmission mechanisms of monetary policy, etcetera.

³¹ See Goodhart and Schoenmaker (1993, 1995), Haubrich (1996), Briault (1999), Abrams and Taylor (2001).

³² See Haubrich (1996), Briault (1999), Abrams and Taylor (2001). Indeed one of us (Lastra (1996)) has argued that the Bundesbank was not given direct responsibility for prudential banking supervision in order to remove any possible threat to the credibility of its price stability target.

Early empirical research into these questions generally supported the argument that there were important organizational and incentive costs of combining both tasks and suggested that central banks should take a narrow focus and not undertake bank supervision.³³ The recent crisis, however, decisively shifts the argument against the previous consensus. We learnt again, in the Northern Rock debacle which caught the Bank of England completely unprepared, that the Central banks absence from supervision or closer involvement in the pursuit of financial stability has enormous costs. The problem is however that extracting the clear synergies between supervision and monetary policy requires finding solutions that reduce these organizational costs.

The recent consensus points to an intermediate solution, which bundles macro-prudential supervision with monetary policy and segregates micro-prudential supervision. According to the House of Lords Report on the Future of EU Supervision and Regulation,³⁴ ‘macro-prudential supervision is the analysis of trends and imbalances in the financial system and the detection of systemic risks that these trends may pose to financial institutions and the economy. The focus of macro-prudential supervision is the safety of the financial and economic system as a whole, the prevention of systemic risk. Micro-prudential supervision is the day-to-day supervision of individual financial institutions’.

In our view, splitting macro prudential supervision and allocating it to the Central Bank makes it possible to capture the main synergies while avoiding most of the organizational costs.³⁵ The multitasking, informational economies of scope and reputational issues that we discussed above apply typically to micro-prudential supervision.³⁶ On the other hand, the arguments against separation, namely the central bank's lender of last resort role (especially in the case of systemic failure), its oversight function concerning the payment system and the need for consistency between monetary policy and prudential supervision, are more related to macro-prudential supervision. Thus combining only the macro-prudential supervision tasks with Central Banking seems to provide important benefits while avoiding the main costs identified above.

There are two initial difficulties with such combination. First, the critical question is the extent to which this ‘macro’ role would be sufficient to avoid the next financial crisis. This crisis is also a micro-crisis, after all—knowing how AIG and some of the mono-line

³³ For instance, Goodhart and Schoenmaker (1995) and Di Noia and Di Giorgio (1999) use cross-country data to find a positive correlation between the rate of inflation and the central bank having responsibility for both monetary policy and supervision. Goodhart and Schoenmaker (1995) note that independent central banks, which are generally better at fighting inflation, are also more likely to not have responsibility for banking supervision. Ioannidou (2005) focuses solely on the US, where the central bank is one of three federal-level bank supervisors. Using data on formal actions taken by federal bank supervisors against banks, this paper suggests that the Federal Reserve’s monetary policy responsibilities affect its supervisory behaviour. In particular, when the federal funds rate increases, it relaxes its supervisory posture as a form of compensation to the banks. Feldman, Kim, Miller and Schmidt (2002) use data for the US banking system to test the hypothesis that a central bank with direct access to confidential supervisory data can enhance its macroeconomic forecasting ability, and thereby bolster its monetary policy efforts. However, they find little empirical support for the “access to information” argument.

³⁴ See <<http://www.publications.parliament.uk/pa/ld200809/ldselect/ldcom/106/106i.pdf>> . One of us [Lastra] acted as Specialist Adviser to the House of Lords during the inquiry and contributed to the writing of the Report.

³⁵ The distinction between macro-prudential supervision (the supervision of the financial system at large) and micro-prudential supervision (the supervision of individual financial institutions) has been adopted *inter alia* by the Report of the High Level Group on Financial Supervision in the EU, chaired by Jacques de Larosière, published on 25 February 2009 (the De Larosière Report) and by the Report on ‘The Fundamental Principles of Financial Regulation’, Geneva Reports on the World Economy (2009) by Markus Brunnermeier, Andrew Crockett, Charles Goodhart, Avinaush Persaud and Hyun Shin.

³⁶ See Charles Goodhart and Dirk Schoenmaker, ‘Should the Functions of Monetary Policy and Banking Supervision be Separated?’ 47 Oxford University Papers 539 (1995).

insurers were operating required an intimate knowledge of their behavior that could only come from being their (micro-prudential) supervisor. On the other hand, there may be some tools (such as extended monetary type aggregates, the volume of Repurchase agreements outstanding, the amount of short term commercial paper), that could give advanced warning of ‘frothy’ conditions.

Second there is a specific problem in Europe: that of jurisdictional domain. Not all the countries in the EU belong to EMU.³⁷ The purview of the financial supervisor must be Europe wide, but the European Central bank only includes some of the countries in Europe. This is particularly important in the case of the UK, which is Europe’s key financial center.³⁸

Principle 3: Management by Exception should govern the relation between micro and macro supervision

The problem with the ‘vertical specialization’ between macro and micro prudential supervision is articulating this relation. This involves two problems: making sure that the right type of problems go to the right authority. And making sure that the decisions of the macro authority are in fact executed- giving teeth to these proposals.³⁹

On the first issue, the standard solution in the business world (analyzed in Garicano, 2000) is Management by Exception (MBE). Essentially, the idea is that every problem (for example, a bank decision, or a bank portfolio) arrives initially to the micro authority and is dealt with by it unless it is classed as exceptional. If it is an exception, then the problem (a risk or the bearer of the risk) must be passed up to the next authority (the Macro-Prudential supervisor). Of course, the difficulty, both in firms and in this context, is ensuring that the ‘lower level’ agent (or agency, here) is willing to pass ‘upwards’ the problems that are not truly in his domain. Financial incentives may be used for this purpose in firms or even in markets,⁴⁰ but not in this context.

Authority is also needed in the case of the enforcement of the actions of these supervisors. In the particular context of the European Architecture, it is necessary that the European Financial Supervisory authority or authorities be endowed with authority to overrule and direct the National Supervisors, as well as to determine the allocation of problems to each level. This is how the Antitrust system currently works, with (1) independent agencies in each country as well as (2) a central agency for cases that reach across borders, the DG Competition, and a (3) clear hierarchical system of allocation of cases as well as a clear (4) direct enforcement authority of the EU institution that directly applies in each member state.

Beyond the allocation of decision making, it is necessary to ensure good communication between micro and macro supervision. But there are two main obstacles to information sharing among agencies - bounded rationality, resulting in misunderstandings due to the use of different languages or ‘codes’ by the different agencies, and conflicting incentives.⁴¹ First, organizations choose (evolve) different languages or codes as a result of the specific issues they deal with (see Cremer et al. 2007)—evolving specialized codes allows them to improve

³⁷ See De Larosière report (2009) and House of Lords Report (2009).

³⁸ The De Larosière Report suggested that all EU central banks (the composition of the General Council of the ECB, the one organ that includes the membership of all EU central banks, not just those of the euro-area) should be part of the European System Risk Council.

³⁹ Both of these issues are avoided in the De Larosière (2009 report).

⁴⁰ Referral payments are used in the law with this purpose, see Garicano and Santos (2002)

⁴¹ Information flows also present the challenge of the jurisdictional domain, since supervisors must exchange information across national boundaries. They failed to do this with regard to the size and riskiness of the securitized market and the credit derivatives market, to cite two glaring examples.

communication within the organization but tends to isolate it from other organizations. Consider the AIG fiasco. As Ben Bernanke has put it “There was no regulatory oversight because there was a gap in the system.” Insurance activities were subject to regulation from state insurance regulators, and the way such activities are ‘coded’ is as insurance. As a result, the form of the earnings and financial statements reported by AIG was just inadequate for non-insurance regulators to understand its exposure; since the provision of financial products was one of its main activities, this miscommunication proved extremely important.

Second, there are usually strong disincentives to information sharing across organizations. A turf war is an extreme instance of this. In a turf war, agencies shift resources from productive activities to influence activities. This may enable the less productive agency to obtain more resources in the future (Skaperdas, 1992).

We propose three ways to facilitate information sharing. First, the communication advantages of single organizations can be obtained through the use of centralized and common databases (common codes) together with horizontal (rather than hierarchical) communication.⁴² Second, organizations, even if separate, should be housed in close proximity to facilitate the creation of bonds that facilitate informal sharing. This should be complemented with fomenting a ‘sprit de corps’ and identification with the ultimate aim. Third, while explicit monetary incentives are unlikely to be used, agents should be rewarded as a function of the ‘impact’ that their recommendations have on final decisions.

Principle 4: The supervisor must build a strong culture and rely on subjective performance, rather than quantitative incentives, to motivate its agents

How should jobs, decision rights, incentives and accountabilities be established for employees in a supervisory agency? The key issue is that performance in these tasks is hard to measure. Moreover, these tasks have a lot of downside, and little upside- so that little credit is received if things go well, and a great deal of scrutiny and criticism received if things go bad.⁴³ That means the biases of employees are to take actions that look good and that can be easily explained. The job is made particularly difficult by the pro-cyclical nature of some of the rules supervisors must enforce. In a falling market, capital rules and market value accounting rules may bring to their knees institutions that would otherwise be considered sound, and may force the supervisor to take unnecessarily tough decisions.

Thus using explicit performance objectives is hard, and likely to distort that performance towards easy to measure but meaningless tasks (Baker, 1992). Instead, agents must be rewarded through low powered incentives and little ‘objective’ performance measurement, using instead the employees’ career to provide long term incentives, and their performance evaluated through subjectively, by their hierarchical superiors.

This of course also creates distortions, since distinguishing the part of the performance that is due to random errors or noise from the part that is due to good or bad decisions by the agent may be difficult, and this in turn results in a wedge between self-interest and agency interest. First, career concerns can provide a spur to herding behavior. As Sharfstein and Stein (1990) have argued, an agent who discovers that his opinion does not coincide with that of his colleagues may infer that his information is bad, and prefer to copy what others say rather than offer his own view. Also, public employees typically compete against each other

⁴² See Crémer, Garicano and Prat (2007) for a study of the cost and benefits of horizontal communication through common codes.

⁴³ That supervision is a thankless task is a point made by Charles Goodhart, ‘The Organizational Structure of Banking Supervision’, (London: LSE Financial Markets Group Special Paper 127, 2000) 30-31.

for pay and promotion and they may try to sabotage each other (Lazear, 1989) by concealing information or providing false information. Or they may squander resources on “influence activities” that seek to manipulate the perception of their performance by superiors or otherwise gain the favor of those superiors (Milgrom and Roberts, 1988, 1990).

Avoiding this kind of careerist behavior is important to have a well functioning supervisory agency. Creating a sense of identification in employees with the agency can help to align individual and organizational incentives and thus reduce this type of principal-agent conflict (Akerlof and Kranton, 2005). Military organizations for example endeavor to create an esprit de corps that substitutes for financial incentives to good performance.

Principle 5. The macro supervisor should be less independent than central banks are now in their monetary policy responsibilities

Over the last two decades, the establishment around the world of independent regulatory agencies has ignited a debate on how to reconcile technocratic independent institutions with the demands of democratic legitimacy. How can giving freedom (i.e., independence) to unelected officials be reconciled with a society remaining democratic? The answer is: through accountability.

Performance accountability requires that there are objectives or standards (criteria of assessment) according to which an action or decision might be assessed. The extent to which type of accountability may be preferred can be a function of the type of supervision that is at stake (see Prendergast (2002)) In the case of supervision, input or process monitoring should be preferred, because as we discussed above, performance or outputs on the supervisory activity are hard to measure. The fact that inputs, rather than output monitoring should be chosen also suggests that providing a monetary authority (with a clear performance objective) with independence is not the same as providing independence to a supervisor: if delegation and output measurement cannot be used, then independence must be more restricted with regard to financial supervision than with regard to monetary policy.

Transparency is a complement of accountability- information needs to be observed for the agent to be made accountable. However, the provision of information is hardly ever a neutral account of what happened or of what is happening, as the agent is likely to provide it in a self-serving way. Essentially, as Prat (2004) has argued, if the action is transparently observable, the risk is that agents will behave in a conformist way by doing what is expected of them.⁴⁴ A related theoretical argument has been made by Amato, Morris, and Shin (2003) who argue that too much transparency can actually reduce policy effectiveness. If the central bank signal is noisy relative to private signals, they show, attaching too much weight to the noisier signal may distort the quality of the market’s treatment of information. While this argument is of unclear validity for monetary policy where most relevant information is public (Blinder and Wyplosz, 2005), it may be very relevant to supervision, where private information is important.

A second downside of transparency concerns panics. While the macroeconomics literature (Blinder, 2002, 2004) argues that transparency in the decision making of central banks is useful, the need for covert assistance in the case of lender of last resort operations (which is recognized in the new Banking Act 2009 in the UK) is of crucial to a crisis, since the belief in a panic is self-fulfilling . These considerations put transparency for supervisory decisions in a

⁴⁴ This is arguably the case also for monetary policy tasks: if minutes of the meetings were published, then board members would be more likely to take the actions that are expected of them, such as acting in their national interest rather than the common interest.

different category from transparency for monetary policy decisions, where the arguments are overwhelmingly in favor of disclosure.

Thus our review of the organizational economics and macro literature in independence and accountability leads us to three conclusions. First, that the difficulty in making supervisory performance measurable means independence of supervisors should be limited with regard to certain supervisory decisions. Second, that input (or process) monitoring rather than output monitoring should be preferred. In other words accountability cannot just rely on whether crisis are or not taking place; instead, mechanisms must be put in place that ensure that supervisors have to explain the actual decisions and the process leading to them. Third, transparency, itself a complement of accountability, must be minimized with regard to certain crisis-sensitive decisions in a supervisory agency to avoid career based decisions of experts, informational distortions by the market and bank panics.

Principle 6. The macro supervisor must limit its reliance on self-regulation

Market supervision and regulation, i.e., self-regulation, exercised by market institutions, has played a role in the financial system.⁴⁵ The idea is that financial firms are subject to continuous monitoring by their competitors, institutional investors, customers, counter-parties, rating agencies and other private agents. In fact, there is some evidence to support this view: Barth, Caprio and Levine (2004) find evidence (pre-crisis!) that countries with government policies that promote the private monitoring of banks tend to have better bank performance and more stability.⁴⁶

This was, however, not the case during this crisis. As Alan Greenspan stated in Congress⁴⁷ “Those of us who have looked to the self-interest of lending institutions to protect shareholders’ equity, myself included, are in a state of shocked disbelief... Yes, I’ve found a flaw. I don’t know how significant or permanent it is. But I’ve been very distressed by that fact”

Why would self-interested agents not self regulate adequately? The problem is moral hazard: that banks are not the ones determining these self-regulatory decisions, it is their agents, the human being who work at banks. It is by now transparently clear that the bonus system combining short run horizons for executives at the banks (bonuses decisions are awarded annually) together with the enormous sums at stake mean that executives do not have an incentive to self-regulate, but rather to take on excessive risk . It is an asymmetric system in which heads I win, tails you lose. This system puts the managers’ own interests ahead of the long term interests of the institution (including its very survival as a viable entity). Moreover, even taking into account the institution’s interest would not be sufficient, as, given the LOLR protection given by the state, a manager *acting in the interest of the institution* could still act in ways contrary to the financial system as a whole. Essentially, the state insurance against losses is an incentive not just for the manager, but for the institution itself to gamble. *Better corporate governance is thus not a solution to these problems.* There is little reason a priori to expect self-interested managers to have any incentive to worry about the long term consequences of their actions for their own institution and no reason to expect them to worry about the financial system as a whole.

⁴⁵ Lastra (2006), chapter 3.

⁴⁶ Also Ferguson (2000) suggests that market information (contained in either bond ratings or equity performance) tends to be a better predictor of future banking performance than supervisory information, indicating that there is an important role for market self-regulation.

⁴⁷ “Greenspan Concedes Error on Regulation”, *The New York Times*, October 23, 2008.

Principle 7. International supervision must move from a loose network to a hierarchical structure

The international dimension of supervision adds another layer of complexity to the reform of the supervisory structures, which require a new ‘international architecture’. This suggests that the issues of jurisdictional domain are likely to dominate the debate of the future of the architecture of financial stability. Calls for the creation of an international financial authority (whose powers, relationships with national authorities, legitimacy, and accountability would need to be debated carefully *ex ante*) have been made in response to the current plethora of informal bodies, standard –setters (of soft-law) and inadequate institutional structure. Colleges of supervisors address some problems of co-ordination and co-operation, but they are not enough to respond to the challenges of global institutions and markets governed by national regulation and supervision.

The current actors in the international financial architecture are organized as a loose network of ‘formal’ international financial institutions (IMF, BIS, WTO to the extent that it is engaged in trade in financial services), regional financial institutions (notably the ECB) , international *fora* meeting under the auspices of a formal international organisation (such as the Financial Stability Forum – renamed Financial Stability Board following the G-20 meeting in London in April 2009 - and the Basel Committee on Banking Supervision), other international *fora* (such as the International Organisation of Securities Commissions), ‘informal’ international groupings where international financial issues are discussed (such as the Group of Seven, G-7 Group of Ten, G-10 countries, Group of 20, G-20 countries), national central banks and ministries of finance or treasuries (which can play a role individually or collectively meeting in an international forum of a formal or informal character), and private financial institutions acting on a global scale. This multiplicity of actors and the mushrooming of international fora create a very complex network structure.

In our view, given the rise in systemic risks noted by all the reports on the current system and the interconnectedness of the global financial system the way forward must involve the substitution of this loose network for a hierarchical structure more akin to the one used in the WTO. That is, in the same way as the governance of trade has required a new multilateral organism with a clear, hierarchical structure that has substituted the previous morass of bilateral relationships, the evolution of the financial system requires the creation of a new multilateral financial body with authority to settle disputes and to impose its decision.⁴⁸

A move from a loose network to a hierarchical structure is not without costs. Networks structures are generally based on informal relationships, enforced by reciprocity, by relational contracts where each agent takes his actions in the knowledge that the relation will continue.⁴⁹ These networks tend to support very thick exchanges of information, as agents develop trust; the absence of hierarchical relationships limits the downside of honesty and truthful reporting and the scope for ‘yes-men’ type behavior. On the other hand, networks have limited ability to enforce decisions. Precisely this absence of hierarchical authority limits the extent to which agents can compel each other to comply with decisions not strictly in their own interest. True, relational contracting (the expectation of future cooperation) can do a lot; but the more agents involved in the relational contract, and the more complex the structure, the less likely such a structure will compel this behavior.

A hierarchy is preferable in this financial context for precisely this reason. Loose coordination works only in imposing decisions that are win-win, but will never succeed at

⁴⁸ See the paper by Michael Gadbow in this issue.

⁴⁹ On this comparison between networks and hierarchies, see Powell (1991).

imposing decisions that are better for all but leave one party worse off. A hierarchical authority, one that, like the WTO, is perceived as representative, may be able to do this. The International Monetary Fund, for reasons discussed elsewhere,⁵⁰ is the institution best placed to adopt the role of ‘global sheriff’ with regard to international financial stability.

Conclusions: a New EU Architecture

We are mindful that any reform proposal for the EU must contend with what is an inevitable tension in the current EU structure: a national mandate in prudential supervision, combined with a single European currency (which affects all eurozone Member States) and a European mandate in the completion of the single market in financial services, which affects all EU Member States. Moreover, reformers have to contend with the different jurisdictional areas of the EU (27 Member States) and the euro-zone on the other hand (16 Member States). None of those issues fall within the purview of our analysis.

The system until now is quite clear: only monetary policy has been centralized (and only for those Member States that have adopted the euro); supervision and crisis management have remained for the most part a national competence (the ECB does provide market emergency liquidity assistance, but assistance to individual institutions whether via collateralized lines of credit, recapitalization or other forms of support is a national competence).⁵¹ Regulation is both national and European, with a large amount of Directives and Regulations providing a unifying picture with regard to banking and financial regulation in the EU (although some rules notably with regard to insolvency proceedings are yet to be harmonized). Padoa-Schioppa has referred to the current approach as one based on ‘European regulation with national supervision’.⁵²

Such a system gets has the advantages of specialization, creativity and innovation, but the lack of synergies and coordination may prove costly, especially in a crisis. In this paper we have suggested a set of seven principles that must govern the redesign of the system. We state them below.

1. The supervision of insurance, banking and securities must be further integrated
2. Systemic supervision must be under the purview of the central bank
3. Management by Exception should govern the relation between micro and macro supervision
4. The supervisor must build a strong culture and rely on subjective performance, rather than quantifiable incentives, to motivate agents
5. The macro supervisor should be less independent than central banks are now in their monetary policy responsibilities
6. The macro supervisor must limit self-regulation to ensure managers act in the interest of stakeholders
7. International supervision must move from a loose network to a hierarchical structure

⁵⁰ See Rosa Lastra, ‘The role of the IMF as a global financial authority’ *European Yearbook of International Economic Law (EYIEL)* Vol 2 (2011). See also the paper by Gadbow in this issue.

⁵¹ In accordance with [strict] Treaty provisions, the Commission is advancing the need for European solutions both with regard to supervision and crisis management. See e.g., Commission Communication COM(2009)561 on an EU Framework for Cross-Border Crisis Management in the Banking Sector of 20 October 2009 at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0561:FIN:EN:PDF>

⁵² See Tommaso Padoa-Schioppa, *Regulating Finance* (Oxford: Oxford University Press, 2004), Ch. 8 on ‘Central Banks and Financial Stability’, 121.

Though the new European financial architecture (outlined in Figure 2 above) is a step forward in the project of European integration it falls short of the needs of a single market in financial services. What Europe needs in banking, is what Europe has in football: national rules and supervision for national teams and players and European rules and supervision for pan-European players. In short, what we need is a Champions League for Europe's pan-European financial institutions, governed by the principles that we have presented in this paper, in particular consolidated and integrated supervision, management by exception and a hierarchical structure.

References

- Abrams, Richard K and Michael W Taylor. 2002. "Assessing the Case for Unified Sector Supervision", *London School of Economics Financial Markets Group Special Papers*, 134, London: UK.
- Akerlof, George A and Rachel E Kranton. 2005. "Identity and the Economics of Organizations." *Journal of Economic Perspectives*. 19:1, pp. 9-32.
- Arrow, Kenneth. 1974. *The Limits of Organization*. New York: Norton.
- Ashcraft, Adam B and Schuermann, Til. 2008. "Understanding the Securitization of Subprime Mortgage Credit", *New York Fed Staff Report*, 318. Federal Reserve Bank of New York.
- Baker, George., Robert Gibbons and Kevin J Murphy. 1994. "Subjective Performance Measures in Optimal Incentive Contracts." 109:4, pp. 1125-1156.
- Barth, James R., Gerard Caprio and Ross Levine. 2004. "Bank Regulation and Supervision: What Works Best", *Journal of Financial Intermediation*, 13, pp 205-248.
- Barth, James R., Gerard Caprio and Ross Levine. 2008. "Bank Regulations are Changing: for Better or Worse?", *World Bank Policy Research Working Papers*, 4646.
- Barth, L., G Dopico, D E Nolle and J A Wilcox. 2002. "An International Comparison and Assessment of the Structure of Bank Supervision".
- Blinder, Alan and Charles Wyplosz. 2005. "Central Bank Talk: Committee Structure and Communication Policy", Mimeo AEA Annual Meeting in Philadelphia.
- Briault, Clive B. 1999. "The Rationale for a Single National Financial Services Regulator", *Financial Services Authority Occasional Papers*, 2, London, UK.
- Brunnermeier, Marcus., Andrew Crocket, Charles Goodhart, Avinaush Persaud and Hyun Shin. 2009. "The Fundamental Principles of Financial Regulation", *Geneva Report on the World Economy*, February.
- Crémer, Jacques., Luis Garicano and Andrea Prat. 2007. "Codes in Organizations." *Quarterly Journal of Economics*.
- Davies, H and D Green. 2008. *Global Financial Regulation: The Essential Guide*, Polity Press, London: UK.
- De Larosière Report, Report of the High Level Group on Financial Supervision in the EU, chaired by Jacques de Larosière, published on 25 February 2009 (De Larosière Report) http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf
- Dessein, Wouter., Luis Garicano and Robert Gertner. 2010. "Organizing for Synergies." Forthcoming, *American Economic Journal-Micro*.

- Di Noia, Carmine and Giorgio Di Giorgio. 1999. "Should Banking Supervision and Monetary Policy Tasks be Given to Different Agencies?", *Universitat Pompeu Fabra Department of Economics and Business Working Papers*, 411, October.
- ECB Monthly Bulletin. 2006. "Recent Developments in Supervisory Structures in EU and Acceding Countries", May, http://www.ecb.int/pub/odf/other/report_on_supervisory_structuresen.pdf
- Feldman, Ron J., Jan Kim, Preston J. Miller, and Jason E. Schmidt. 2003. "Are Banking Supervisory Data Useful for Macroeconomic Forecasts?", *Contributions to Macroeconomics*, 3(1).
- Ferguson, Richard. 1999. "Alternative Approaches to Financial Supervision and Regulation", *Journal of Financial Services Research*, 16(2), pp 297-303.
- Financial Services Authority, 2008. "Internal Audit Review of its Supervision of Northern Rock", London, April 28.
- Garicano, Luis. 2000. "Hierarchies and the Organization of Knowledge in Production." *Journal of Political Economy*, October, 108:5, pp. 874-904.
- Giddy, I H. 1994. "Who Should be the Banking Supervisors", paper presented at the seminar on current legal issues affecting central banks, International Monetary Fund, May 10.
- Goodhart, Charles A E and Dirk Schoenmaker. 1993. "Institutional Separation between Supervisory and Monetary Agencies," in Charles A E Goodhart (Ed.), *The Central Bank and the Financial System*, MacMillan Press.
- Goodhart, Charles A E and Dirk Schoenmaker. 1995. "Should the Functions of Monetary Policy and Banking Supervision be Separated?," *Oxford Economic Papers*, 47, pp 539-560.
- Goodhart, Charles A E. 1995. "Price Stability and Financial Fragility", in Charles A E Goodhart (Ed.), *The Central Bank and the Financial System*, MacMillan Press.
- Goodhart, Charles A E. 2002. "The Organisational Structure of Banking Supervision", *Financial Stability Institute Occasional Papers*, Bank for International Settlements, 1, pp 10-25.
- Haubrich, Joseph G. 1996. "Combining Bank Supervision and Monetary Policy", *Federal Reserve Bank of Cleveland Economic Commentary*, November.
- Holmstrom, Bengt and Paul Milgrom. 1991. "Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design", *Journal of Law, Economics, & Organization*. 7: Special Issue, pp. 24-52.
- Holmstrom, Bengt and Paul Milgrom. 1994. "The Firm as an Incentive System." *American Economic Review*, November, 84:4, pp. 972-991.
- House of Lords, European Union Committee, Sub-Committee A. 2009. 'The Future of EU Financial Regulation and Supervision', 17 June, <http://www.publications.parliament.uk/pa/ld200809/ldselect/ldeucom/106/106i.pdf>

- Ioannidou, Vasso. 2005. "Does Monetary Policy Affect the Central Bank's Role in Bank Supervision", *Journal of Financial Intermediation*, 14(1), pp 58-85.
- Jackson, Howell E and Edward L Symons. 1999. *Regulation of Financial Institutions*, St. Paul, Minn.: West Group.
- Jackson, Howell E. 2009. "Regulatory Reform in the New World", remarks at the Hart Seminar, London, 16 June.
- Kane, Edward J. 1984. "Regulatory Structure in Futures Markets: Jurisdictional Competition between the SEC, the CFTC and Other Agencies", *Journal of Futures Markets*, 5, pp 367-384.
- Kane, Edward J. 1996. "De Jure Interstate Banking: Why Only Now?", *Journal of Money, Credit and Banking*, 28 (2), pp. 141-161.
- Kupiec, Paul H and Patricia White. 1996. "Regulatory Competition and the Efficiency of Alternative Derivative Product Margining Systems", *Journal of Futures Markets*, 16, pp. 943-969.
- Lastra, Rosa and Heba Shams. 2001. "Public Accountability in the Financial Sector", Chapter 12 in Eilis Ferrán and Charles A E Goodhart (Eds.), *Regulating Financial Services and Markets in the XXIst Century*, Hart Publishing, pp. 165-188.
- Lastra, Rosa. 1992. "The Independence of the European System of Central Banks", *Harvard International Law Journal*, Vol. 33, No. 2, Spring, pp. 475-519.
- Lastra, Rosa. 1996. *Central Banking and Banking Regulation*, Financial Markets Group, London School of Economics, September.
- Lastra, Rosa. 2006. *Legal Foundations of International Monetary Stability*, Oxford University Press.
- Lastra, Rosa. 2011. "The Role of the IMF as a Global Financial Authority", forthcoming, *European Yearbook of International Economic Law* (EYIEL), Vol 2.
- Lazear, Edward P. 1989. "Pay Equality and Industrial Politics", *Journal of Political Economy*. June, 97:3, pp. 561-580.
- Lazear, Edward P and Sherwin Rosen. 1981. "Rank-Order Tournaments as Optimum Labor Contracts", *Journal of Political Economy*. October, 89:5, pp. 841-864.
- Macey, Jonathan., Geoffrey P Miller and Richard S Carnell. 2001. *Banking Law and Regulation*, New York: Aspen Law & Business.
- Milgrom, Paul and John Roberts. 1988. "An Economic Approach to Influence Activities and Organizational Responses", *American Journal of Sociology* 94: Supplement, pp. S154-S179.
- Milgrom, Paul and John Roberts. 1990. "Bargaining Costs, Influence Costs and the Organization of Economic Activity," in *Perspectives on Positive Political Economy*,

- James E. Alt and Kenneth A. Shepsle (Eds.), Cambridge: Cambridge University Press, pp. 57-89.
- Padoa-Schioppa, Tommaso. 2004. *Regulating Finance*, Oxford: Oxford University Press.
- Peek, J., E S Rosengren and G M B Tootle. 1999. "Is Bank Supervision Central to Central Banking?", *Quarterly Journal of Economics*, 114(2), pp 629-653.
- Powell, Walter W. 1990. "Neither Markets nor Hierarchies: Networks forms of Organization", *Research in Organizational Behavior*, Vol. 12, pp. 295-336.
- Prendergast, Canice. 2002. "The Tenuous Trade-Off between Risk and Incentives", *Journal of Political Economy*, 110:5, pp. 1071-1102.
- Romano, Roberta. 1997. "The Political Dynamics of Derivative Securities Regulation", *Yale Journal of Regulation*, 14.
- Romano, Roberta. 2001. "The Need for Competition in International Securities Regulation", *Mimeo*, Yale International Centre for Finance, June.
- Sah, Raaj Kumar and Joseph E. Stiglitz. 1986. "The Architecture of Economic Systems: Hierarchies and Polyarchies", *American Economic Review*, September, 76:4, pp. 716-727.
- Scharfstein, David S and Jeremy C Stein. 1990. "Herd Behavior and Investment", *American Economic Review*, June, 80:3, pp. 465-479.
- Skaperdas, Stergios. 1992. "Cooperation, Conflict, and Power in the Absence of Property Rights", *American Economic Review*. September, 82:4, pp. 720-739.
- Taylor, Michael. 1995. "Twin Peaks: A Regulatory Structure for the New Century", Centre for Financial Innovation, London: UK.
- UK Treasury. 2009. "Reforming Financial Markets", July, <http://www.hm-treasury.gov.uk/d/reforming_financial_markets080709.pdf>
- US Treasury. 2009. "Financial Regulatory Reform, a New Foundation", June, <http://www.financialstability.gov/docs/regs/FinalReport_web.pdf>
- Wall, L and R Eisenbeis. 1999. "Financial Regulatory Structure and the Resolution of Conflicting Goals", *Journal of Financial Services Research*, 16(2), pp 223-245.

CENTRE FOR ECONOMIC PERFORMANCE
Recent Discussion Papers

- | | | |
|-----|---|--|
| 989 | David Marsden | The Growth of Extended 'Entry Tournaments' and the Decline of Institutionalised Occupational Labour Markets in Britain |
| 988 | Zack Cooper
Stephen Gibbons
Simon Jones
Alistair McGuire | Does Hospital Competition Improve Efficiency? An Analysis of the Recent Market-Based Reforms to the English NHS |
| 987 | Guy Michaels
Ashwini Natraj
John Van Reenen | Has ICT Polarized Skill Demand? Evidence from Eleven Countries Over 25 Years |
| 986 | J. M. C. Santos Silva
Silvana Tenreyro | Currency Unions in Prospect and Retrospect |
| 985 | Fabian Waldinger | Quality Matters – The Expulsion of Professors and Ph.D. Student Outcomes in Nazi Germany |
| 984 | Brian Bell
Stephen Machin
Francesco Fasani | Crime and Immigration: Evidence from Large Immigrant Waves |
| 983 | Nicholas Bloom
Carol Propper
Stephan Seiler
John Van Reenen | The Impact of Competition on Management Quality: Evidence from Public Hospitals |
| 982 | Nicholas Bloom
John Van Reenen | Human Resource Management and Productivity |
| 981 | Alan Manning | Imperfect Competition in the Labour Market |
| 980 | Ana Fernandes
Heiwai Tang | The Determinants of Vertical Integration in Export Processing: Theory and Evidence from China |
| 979 | Stephen Machin
Olivier Marie
Sunčica Vujić | The Crime Reducing Effect of Education |
| 978 | Andrew B. Bernard
J. Bradford Jensen
Stephen Redding
Peter K. Schott | Intra-Firm Trade and Product Contractibility (Long Version) |
| 977 | Albrecht Ritschl
Samad Sarferaz | Crisis? What Crisis? Currency vs Banking in the Financial Crisis of 1931 |

- 976 Joshua D. Angrist
Jörn-Steffen Pischke The Credibility Revolution in Empirical Economics: How Better Research Design is taking the Con out of Econometrics
- 975 Holger Breinlich
Alejandro Cuñat Trade Liberalization and Heterogeneous Firm Models: An Evaluation Using the Canada – US Free Trade Agreement
- 974 Facundo Alborno
Hector Calvo-Pardo
Gregory Corcos
Emanuel Ornelas Sequential Exporting
- 973 Marco Fugazza
Frédéric Robert-Nicoud The ‘Emulator Effect’ of the Uruguay Round on US Regionalism
- 972 Andreas Georgiadis
Christos N. Pitelis The Interrelationship between HR, Strategy and Profitability in Service SMEs: Empirical Evidence from the UK Tourism Hospitality and Leisure Sector
- 971 John T. Addison
Alex Bryson
Paulino Teixeira
André Pahnke Slip Sliding Away: Further Union Decline in Germany and Britain
- 970 Nicholas Bloom
Raffaella Sadun
John Van Reenen Recent Advances in the Empirics of Organizational Economics
- 969 Nicholas Bloom
John Van Reenen New Approaches to Measuring Management and Firm Organization
- 968 Andrew B. Bernard
J. Bradford Jensen
Stephen J. Redding
Peter K. Schott Wholesalers and Retailers in U.S. Trade (Long Version)
- 967 Pooyan Amir Ahmadi
Albrecht Ritschl Depression Econometrics: A FAVAR Model of Monetary Policy During the Great Depression
- 966 Nicholas Bloom
Raffaella Sadun
John Van Reenen Does Product Market Competition Lead Firms to Decentralize?
- 965 Ralf Martin Why is the US so Energy Intensive? Evidence from Multinationals in the UK
- 964 Christian A. L. Hilber
Frédéric Robert-Nicoud Origins of Land Use Regulations: Theory and Evidence from US Metro Areas