Financial Supervision Architectures
Before and After the Crisis

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Background Papers:


Outline

• Motivation
• Facts before the crisis
• Institutional Analysis
• Theoretical Analysis
• Facts after the crisis
• Conclusion: EU and US Proposals
Motivation

• After the 2007-2008 financial crisis politicians in several countries claim that they are carefully reconsidering the features of their supervisory architectures (UK: White Paper; EU: de Larosière Report; US: Obama proposal)
Motivation

• Two (intertwined) key questions: How to design the supervisory architecture?
• How to involve the central bank?
• The paper analyses the state of affairs on the topic.
• We define supervision as the activity that implements and enforces regulation. The focus of this paper is on micro-prudential supervision.
Motivation

• The paper is organized as follows. Section Two and Three describe the landscape of the financial supervision architecture and the corresponding role of the central bank in a cross-country perspective and before the financial crisis, drawing upon a database that includes 102 countries for the period 1998-2008. Section Four discusses the recent proposals for the structure of supervision in the European Union and in the US.
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• Motivation
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The Stylized Facts: 1

• **First phenomenon:** Over the last decade (1998-2008), many countries have seen changes in the architecture of financial supervision, particularly in recent years. ....

• Where architecture of financial supervision means: allocation of responsibilities among authorities
Given a sample of 102 countries, 66 of them (64%) did a reform of the financial supervision architecture (Reform = establishing a new supervisory authority and/or changing the powers of one - at least – of the already existing agencies)

FIGURE 1 REFORMS OF THE SUPERVISORY ARCHITECTURES PER YEAR (1998-2008)
The reforming trend is even more evident when we add a regional and country income perspective: the European, the EU and OECD countries count for of 82%, 77% and 73% of the countries that have undertaken reforms.
The Stylized Facts: 2

• **Second phenomenon**: given the traditional type of supervisory regime:

• The **multi-authorities (silos) model**: separate agencies for banking, securities and insurance supervision

• In the last decade an increasing number of countries shows a trend towards the establishment of a **new model**: the unified supervisor (**SFA**) (Norway 1986, UK 1997)
State of Affairs

- We group the current supervisory regimes taking into account the three main models of supervision that theory so far proposed:
  - the **vertical (silos) model**, which follows the boundaries of the financial system in different sectors of business, and where every sector is supervised by a different agency (monopoly by sector) (TRADITIONAL MODEL);
  - the **horizontal (peaks) model**, which follows the difference among the public goals of regulation, and where every goal is supervised by a different authority (monopoly by function) (INNOVATIVE MODEL);
  - and the **unified (integrated) model**, where a single authority supervises all the financial system in pursuing all the public goals (overall monopoly) (INNOVATIVE MODEL).
- Finally, other countries adopted **hybrid supervisory regimes**, with some supervisors monitoring more than one segment of the market and others only one. We bring them all together in a residual class (TRADITIONAL MODEL).
State of Affairs
State of Affairs
FIGURE 3 MODELS OF FINANCIAL SUPERVISION ARCHITECTURES (102 COUNTRIES)

- Solos Model: 39%
- Unified Model: 35%
- Peaks Model: 24%
- Hybrid Model: 2%
State of Affairs

FIGURE 4 MODEL OF FINANCIAL SUPERVISION REGIMES AFTER THE REFORMS (66 COUNTRIES)
State of Affairs

• Then: 34 percent of the countries which implemented a reform adopted an innovative regime of supervision – unified or peaks regime – while the remaining 66 percent chose a “conservative” approach, i.e. maintaining the more traditional regime (silos or hybrid regime).
The Stylized Facts: 3

- Third phenomenon:
- the “conservative” countries show a common feature, i.e. the central bank is the sole (or the main) banking supervisor in the 80 per cent of the sample (61 on 76).
- At the same time, the adoption of an innovative model of supervision is centred on the role of the central bank in only very few cases (5 on 26 cases, 20 per cent).
- In other words the conservative approach seems to be more likely to occur when the central bank is deeply involved in supervision, while the innovative approach seems to be more likely to occur if the main supervisor is different from the central bank.
State of Affairs

FIGURE 5 CENTRAL BANK AS MAIN SUPERVISOR: CONSERVATIVE VS INNOVATIVE REGIMES (%)

PERCENT

CONSERVATIVE REGIMES

INNOVATIVE REGIMES

COUNTRIES
Key Question in 1,2,3: Supervision
Unification and Central Bank

• Therefore, it is not surprising that the recent literature on the economics of the financial supervision architectures zooms in on this fact: After a wave of reforms, an increasing number of countries seem to show a trend towards a certain degree of unification of powers, which in several cases has resulted in the establishment of unified regulators, that are different from the national central banks.

• How to measure it?
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Measuring Institutions

• The institutional Analysis: building up indexes of the features of the financial supervisory architectures

• First, how to measure the unification effect? Before the crisis…
The Financial Supervision Unification (FSU) Index

• An index was proposed (2004) analysing how many authorities in each country examined are empowered to supervise the three traditional sector of financial activity: banking, securities markets and insurance.

• It was assigned a numerical value to each type of regime, considering simply the concept of unification of supervisory powers: the smaller the number of the authorities, the greater the unification, the higher the index value.
The Figure shows the distribution of the FSU Index in 2006 (countries=88). On the one hand there were countries (40) with a low unification level (0 or 1). On the other countries (15) that established a unified supervisor, with the highest level of unification (7).
The Central Bank as Financial Authority Index (CBFA) Index

• Secondly, we need an index to analyse which role the CB plays in the supervisory regime (banking, securities markets and insurance)

• An index was proposed (2004); it was assigned a numerical value to each type of regime, considering simply the concept of CB supervisory powers: the greater the number of sectors where the CB is involved, the greater the involvement, the higher the index value.
The Figure shows the distribution of the CBFA Index in 2006. In the majority of countries (39) the central bank was the main bank supervisor (the Index is equal to 2), while in few countries (2) the central bank was monopolistic in the overall financial supervision (the Index is equal to 4).
FSU & CBFA: cross section

• Finally, considering both indexes ....
Figure 8 brings both indexes together and shows that the two most frequent regimes were polarised: on the one hand, Unified Supervisor regime (13 cases, red ball); on the other, Central Dominated Multiple Supervisors regime (27 cases, white ball). The Figure seems to depict a trade off (CENTRAL BANK FRAGMENTATION effect).
FSU & CBFA: time distribution

- A sequential process: in general the present degree of the central bank involvement has been established in the years before, and then confirmed in subsequent reforms. In fact …
For each country it was compared the year in which the present degree of central bank involvement in supervision was established (i.e. definition of the CBFA Index, blue line), with the year of the most recent reform of the supervisory architecture (i.e. definition of the FSU Index, red line).
FSU & CBFA: time distribution

* When a supervisory setting was reformed, usually the central bank involvement was confirmed (76%)

* Trade off between supervisory consolidation and central bank involvement (econometric tests ok)
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How to explain it: A Political Economy Approach

• The Theoretical Analysis:
• Failure of the traditional approach: the quest for the optimal level of financial supervision consolidation cannot be pursued thorough a classic cost – benefits analysis.
• Different pros for supervision unification can be identified, but there are also several arguments against unification.
• Ex ante the “superior” model of supervision doesn’t exist.
Methodology: A Political Economy Approach

• Political economy approach, The premise common to the two alternative perspectives is that the policymakers are politicians: politicians are held accountable at the elections for how they have pleased the voters. All politicians are “career concerned” agents, motivated by the goal of pleasing the voters in order to win the elections. The main difference between the two perspectives concerns which voters they wish to please in the first place.
Methodology: A Political Economy Approach

• Then it has been claimed that the political costs of implementing an increasing level of supervisory consolidation depends on the existing institutional position of a central bank.

• If a high level of central bank involvement in supervision is the status quo, under specific conditions a unified supervision is more difficult to implement, and this means that the politician’s task is, ceteris paribus, more costly.

• In order to identify these conditions, the literature considers that a policymaker aiming to consolidate supervision faces two alternative paths: to create a monopolist central bank in supervision; or to establish a unique financial authority, different from the central bank.
Methodology: A Political Economy Approach

The creation of a monopolist central bank can be costly for different reasons. First of all, the policymaker may dislike the implementation of a monopolistic central bank if, as a consequence the often-cited moral hazard risks - which can occur when both monetary policy and supervision policy are completely delegated to the central bank - are considered greater than the potential benefits in terms of informative gains.
Secondly, implementing a monopolistic central bank regime can be costly given that the policymaker delegates the conduct of business controls to the central bank, which has traditionally not sought to become involved in matters such as transparency and has more focused on stability.

Thirdly, the policymaker has to take into account the risks of increasing the powers of the central bank; either because he/she fears the bureaucratic overpower (bureaucracy effect), or because he/she wishes to please one or more constituencies in designing the supervisory setting and a non accommodative central bank - this is the key hypothesis - can represent an obstacle.
Methodology: A Political Economy Approach

• But the alternative – establishing a unified supervisor outside the central bank - can also run into difficulties caused by the central bank position. In fact the policymaker may face costs in establishing a single financial authority, when reducing the central bank’s involvement in supervision, if the central bank’s reputation is high.

• Likewise, if the reputation of the central bank is low, or decreasing, the establishment of a single financial authority outside the central bank is more likely to occur (reputation effect). The reputation effect can work in both directions.

• Therefore in implementing a supervisory reform the CBFE can occur. The central bank involvement in supervision can increase the costs in implementing a financial regulation unification.
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• But is the CBFE still valid?
• Which are the shortcomings of the indexes which we described in the previous section? They have been designed to be consistent with the aim – measuring the degree of consolidation of the supervisory powers – but using subjective weights in differentiating some cases – for example in giving more relevance to the supervision on both banking and securities industries – or in evaluating other situations – for example the degree of consolidation when there are at least two supervisors in one sector, or when a supervisor is in charge in more than one sector.
• So one type of improvement could be to reduce the role of the subjective weights.
• Therefore we introduce two new indicators
The New Indicators

We propose the Financial Supervision Herfindahl Hirschman (FSHH) Index. The FSHH is a measure of the level of consolidation of the supervisory powers that we derive by applying in a novel field the classical index proposed by Herfindahl and Hirschman.
The New Indicators

The robustness of the application of the FSHH to analyse the degree of concentration of power in financial supervision depends on the following three crucial hypotheses.

1) it is possible to define both the geographical and institutional dimension of each supervisory market: therefore in each country (geographical dimension) we can define different sectors to be supervised (institutional dimension).

2) we consider the supervision power as a whole, i.e. given different types of supervisory activity (banking supervision, securities markets supervision, insurance supervision) we assume perfect substitutability among them in terms of supervisory skills. The supervisory power is a feature of each authority as an agency, irrespective of where this supervisory power is exercised (agency dimension).
The New Indicators

In each country and for each authority, we can sum the share of the supervisory power it enjoys in one sector with the share it owns in another one (if any). For each authority the degree of supervisory power increases, the greater the number of sectors over which that agency exercises monitoring responsibility.
The Figure shows the distribution of the FSHH Index in 2009 (countries=102). On the one hand there were countries with a low unification level (0 or 1). On the other countries that established regime with high level of consolidation.
The New Indicators

Furthermore, using the same methodology, it is easy to measure the degree of involvement of the central bank in the supervisory setting, by introducing the Central Bank Share in Supervision (CBSS) Index.
The Figure shows the distribution of the CBSS Index in 2009. On the one hand there were countries with a low cb involvement. On the other countries with regimes with high level of cb involvement. In few countries (8) the central bank was monopolistic in the overall financial supervision.
The Stylized Facts: 1

• So is the CBFE still valid? Looking at the data for 102 countries the answer seems to be “yes”, although it needs to be a cautious one.

• In fact, while it seems to be true that the more common supervisory regimes are the two polarized ones, we also need to recognize that the number of outliers – i.e. regimes where both the consolidation and the central bank involvement increase – is greater compared with the previous studies on the issue.
The Stylized Facts: 1

To perform a closer inspection of the data, we compare the features of the supervisory regimes across time, maintaining the country sample constant.

We consider that the existence of the CBFE has been confirmed using a sample of 88 countries, with information updated during 2006.

Using the same country sample, from that time to today other reforms were implemented, producing changes both in the supervision consolidation and in the central bank involvement, and consequently in the overall shape of the regimes. Figure 9 shows the average levels of the FSU index and of the CBFA index in 2006 and in 2009: the level of consolidation is greater - from 2.88 to 3.34 - but the same is true for the degree of central bank involvement in supervision - from 1.76 to 1.84
The Stylized Facts: 1

Furthermore, we compared how many countries adopted each supervisory regimes in 2006 and in 2009, disentangling the two situations.

The number of countries which adopted the unified regime outside the central bank increased – from 13 to 18 – while the number of countries with central bank dominated regime went down – from 27 to 25 – but also the number of outliers – unified regimes inside the central bank – is larger – it went from 2 to 4.
The Stylized Facts: 1

All the figures seem to indicate that only the consolidation process continued for sure, irrespective of the location of the unified powers. In fact...
Europe

FSHH & CBSS: EUROPE

[Graph showing a scatter plot with data points and a trend line correlating FSHH and CBSS values across Europe]
The CBFE can be weaker at least for two quite different reasons.

In some (developing) countries the central bank, which manages monetary policy, is deeply involved in supervision because the financial deepening is still at its early stages.

In other (developed) countries the central bankers can be more involved in supervision because the monetary responsibilities are not completely in their hands.

In both cases the policymakers evaluated that the benefits of having a central banker acting as supervisor are relatively greater than the costs.

In any case there is a need to devote greater attention to the evolution of the CBFE effect as new reforms will be implemented.
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The EU and US Proposals

Starting from the European Union, following years of debate and slow action on this front, European supervisory reform got the centre stage since the middle of 2008.

During that year, the financial crisis hit the EU financial system (the UK was severely hit in 2007) in all its layers and lay bare the weaknesses in the regulatory and supervisory coordination framework.

In response to these events, the EU Commission mandated in late 2008 a group of experts under the chairmanship of Jacques de Larosière to present an analysis of the causes of the financial crisis as well as recommendations for supervisory reform on Europe.
The EU and US Proposals

We focus on the European System of Financial Supervision (ESFS), the micro prudential framework. The framework, consisting of three sectoral authorities at the supranational level, belongs to the category of the silo approach to supervision.

The European policymakers chose a conservative approach instead of an innovative one. The European project is neutral with respect to the incentives towards consolidation both at the supranational and national levels.
The EU and US Proposals

Regarding the position of the central bank, on the one hand the European Central Bank (ECB) is formally outside the ESFS. But on the other hand the Commission invited the European Council to create the European Systemic Risks Council (ESRC), chaired by the ECB President. The ECB will provide the Secretariat to the ESRC as well as analytical, administrative and logistic support.

If we consider the ESFS – ESRC framework as an integrated EU supervisory structure, we can say that the European Commission model is a new and original case of central bank fragmentation effect: a multiple authorities regime with a powerful central bank.
The EU and US Proposals

• Regarding the US, in mid–June 2009 President Barack Obama issued a White Paper, covering a wide swathe of financial regulation issues as well as a blueprint for a new architecture for financial supervision.

The EU and US Proposals

- Furthermore, also the US government plans to establish a body with responsibility for macro prudential supervision.
- The White Paper proposed to establish a Financial Oversight Council to identify systemic risks and improve the cooperation among the US regulators. Its membership will comprise the US Treasury, the heads of the Fed, the National Bank Supervisor, the Federal Deposit Insurance Corporation, the Securities and Exchange Commission (SEC), the Commodity Futures Trading Commission, the Consumer Protection Agency and the Federal Housing Finance Agency. Regarding the central bank, the White Paper proposed to increase the powers of the Federal Reserve. The Federal Reserve is given new responsibilities to supervise all institutions that could represent a threat to financial stability, even those that do not own banks.
The EU and US Proposals

• The Obama proposal confirmed the hybrid regime with many authorities, which has traditionally characterized the US system, with some supervisors monitoring more than one segment of the market (such as the FED or the new Consumer Protection Agency) and others only one.

• The proposal does not follow the trend toward supervision consolidation, notwithstanding the strong impression during the crisis that the fragmented supervisory setting was in fact incapable of monitoring the integrated, interconnected and complex reality of US financial markets. The proposal preferred to promote interagency cooperation, instead of agency consolidation.
Evaluation

What does this evaluation of the new proposals to reform the supervisory setting in the EU and the US add to our analysis? We highlighted that before the crisis the trend in the changes in supervisory structures seemed to be characterized by two intertwined features: consolidation of supervision goes hand in hand with the specialization of the central bank in pursuing its monetary policy mandate, and vice versa: where several authorities are present, the central bank is likely to be deeply involved in supervision.

The new proposals seem to follow the same pattern, although in a original shape: in both cases settings with multiple authorities are proposed, with an increasing involvement of the central banks – the ECB and the FED - using the “new” territory of the macro prudential supervision.
Evaluation

• Let us qualify our assessment.
• First of all, the experience of recent months has stressed the importance of overseeing systemic risks in the system. In other words it is crucial to monitor and assess the threats to financial stability that can arise from macro developments within the economic as well as the financial system as a whole (macro prudential supervision).
• The growing emphasis on macro prudential supervision motivates the policymakers to identify specific bodies responsible for this domain. The current turmoil has stressed the role of the central banks in the prevention, management and resolution of financial crisis.
The EU and US Proposals

• Therefore, from the policymakers’ point of view the involvement of the central bank in the macro supervision area means potential benefits in terms of information.

• At the same time they can postulate that the potential costs of the involvement are smaller with respect to the case of micro supervision (moral hazard risk, conflict of interest risk, powerful bureaucracy risk). In other words, the separation between micro and macro supervision can be used to reduce the arguments against the central bank involvement.
The EU and US Proposals

The separation between macro and micro supervision can have one more effect: it is possible to have consolidation in micro supervision without any reduction of the central bank involvement in macro supervision.

But this was not the case in both the EU and US proposals. The policymakers chose to maintain supervisory regimes where the authorities are multiple: the silo regime in the EU and the hybrid regime in the US.
The EU and US Proposals

We have suggested a possible political economy explanation of the conservative behaviour of the politicians: notwithstanding the crisis, in both cases they evaluated the expected benefits in reducing the fragmentation to be smaller than the expected gains of political and bureaucratic consensus in maintaining the status quo.

In any case, at the end of the story we observe again that a greater involvement of the central bank in the supervision goes hand in hand with a multiple authorities regime, confirming the CBFE.
Following steps…

Is an effective financial supervisory architecture sufficient to prevent a financial crisis? Probably not…

With data on 11 rescue programmes…
RESCUE PROGRAMMES AND FSHH

% OF GDP vs. FSHH

The graph shows the relationship between FSHH (X-axis) and % of GDP (Y-axis). The data points are scattered across the graph, with a trend line indicating a positive correlation between the two variables. The X-axis ranges from 0 to 1.2, and the Y-axis ranges from -5 to 50.

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RESCUE PROGRAMMES AND CBSS

% OF GDP vs. CBSS

Data points and a trend line are shown on the graph.
Three intertwined research fields:
1) Financial supervision architecture
2) Supervisory governance (independence and accountability, at least)
3) Coordination policies
THE SUPERVISORY NEXUS

SUPERVISORY ARCHITECTURE CONSOLIDATION

SUPERVISORS’ INDEPENDENCE AND ACCOUNTABILITY

COORDINATION OF SUPERVISORY POLICIES

INTEGRATED AND CREDIBLE EUROPEAN FINANCIAL SYSTEM
INDEPENDENCE AND ACCOUNTABILITY

LATVIA
AUSTRIA
BELGIUM
BULGARIA
CYPRUS
CZECH REP
DENMARK
ESTONIA
FINLAND
FRANCE
GERMANY
GREECE
HUNGARY
IRELAND
ITALY
LITHUANIA
IRELAND
NETHERLANDS
UK
PORTUGAL
IRELAND
POLAND
LUXEMBOURG
DENMARK
SLOVENIA
CYPRUS
AUSTRIA
SLOVAKIA
SLOVENIA
SPAIN
SWEDEN
GERMANY
MALTA
FINLAND
FRANCE
INDEPENDENCE
ACCOUNTABILITY

Source: Masciandaro (Bocconi University, Nieto (Banco de Espana), Quintyn (IMF), 2009
N.B. Effects

- The emerging literature on the financial supervision architecture has also tried to shed some light on the impact of the supervisory structure on the performance of the banking and financial industry.
- Two main questions have been addressed: is a single supervisor to be preferred to over multiple authorities? Should the central bank be involved in supervision?
- Unfortunately, despite the debate on the features of the supervisory regimes and their drivers, the empirical evidence is still very limited, probably given the fact the wave of reforms is recent.