

The Architecture of Supervision¹

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Introduction

The *architecture of supervision* is defined by the allocation of supervisory powers to different policy institutions. This allocation has implications for policy conduct and for the economic and financial environment in which the policies are implemented. This article addresses two main issues related to the architecture of supervision. First, it analyses the implications arising from an integrated model of the functions of central banking and prudential supervision. Afterwards, the consequences of centralized supervision, as opposed to national supervision are also examined. The implications are also broadly discussed in the euro area context and in relation to the design of the Single Supervisory Mechanism (SSM).

1 Central banking and supervision: Integrated or separated functions

This section outlines the pros and cons of having the same institution – a central bank- in charge of both central banking and supervisory functions. Then it explicitly addresses how monetary and prudential policies interact and show the results of some cross-country analysis suggesting that there might be important synergies to leverage on.

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A cost benefit analysis

When analyzing the costs and benefits of having an integrated or separated model for the architecture of supervision, the possible consequences that the setup has on the reputation and the independence of the central bank are central to the debate.

In terms of benefits, in an integrated structure supervisors can benefit from the independence and reputation of the central bank, thus limiting the risks of political pressure and regulatory capture. The proximity of supervisors to national authorities, local stakeholders and special interest groups can influence their decisions and result in them being too lenient. In the euro area the advantages of an integrated model may be significant because of the monetary union setup and the high degree of independency granted to the European Central Bank.

At the same time, an integrated model entails risks to reputation for both functions, which are then more strictly linked. For example, bad reputation of supervisors stemming from a bank failure can transfer to the central banking function, affecting its credibility and effectiveness in implementing monetary policy. However, it is not clear that a separated structure would shield the central bank from this risk, especially when a crisis erupts and the central bank is the lender of last resort (LOLR).³

An integrated structure may foster better coordination of policies aimed at price and financial stability. Indeed consolidated responsibilities can help avoid coordination failure and account for the interdependencies of the two policies. Central bank and supervisory authority residing in different institutions may not fully internalize the spillovers existing between their own policies and objectives (*push-me/pull-you* conduct). The resulting non-cooperative allocation entails a welfare loss.

But coordination may also be difficult since price stability and financial stability may be conflicting objectives. In these cases policy makers may deviate from the optimal path of monetary policy in an attempt to preserve the stability of the financial institutions (*financial dominance*). Central banks in charge of both monetary policy and prudential supervision may have therefore an inflation bias (see for example Di Noia and Di Giorgio (1999); Copelovitch and Singer (2008)). Similarly, supervisors may be more lenient (*excessive forbearance*) in order to reduce possible losses to central banks arising from exposure towards the banking sector for example.

Another important dimension to consider when evaluating different setup for the architecture of supervision is the impact that this may have on the easiness of transferring information. Easier transfer of information is beneficial for supervisors

³ A recent example on this is offered by the UK experience in the context of the failure of the bank Northern Rock. In the UK, after 1997, supervisory powers were assigned to the Financial Service Authority (FSA). However, the Bank of England (BoE) still retained the lender of last resort function. On this basis, the BoE was considered largely responsible for the bankruptcy of Northern Rock, lacking a swift intervention of the central bank in providing emergency liquidity when needed.

and monetary policy makers. Central banks can benefit from supervisory information when assessing the impact of monetary policy decisions. Better knowledge of the banking sector improves information on financial conditions prevailing in the economy. Supervisors benefit from central banking knowledge of the economic and financial environment. LOLR interventions are also more effective and conducive to financial stability if the central bank has better information on the state of the financial sector.

There is also evidence that monetary policy can benefit from access to *aggregate supervisory information*, including soft information in the form of supervisory assessment. Evidence based on US data shows that an aggregate index calculated using individual supervisory information (including supervisory assessment) improve the forecasting of inflation and unemployment (Peek, Rosengren and Tootell (1999)). Similar information also *significantly improves the fit of a policy rule explaining short term rates* (Peek, Rosengren and Tootell (2016)). A similar indicator constructed for the euro area provides suggestive evidence in the same direction. A Financial Stress Indicator (FSI) constructed aggregating supervisory information on euro area banks helps to improve the statistical and out-of-sample forecast properties of a Taylor rule, compared with an estimated benchmark rule.⁴

Interaction of policies

As already described in the previous section, researchers have suggested that an integrated model of a central bank in charge of both monetary policy and supervision may be more conducive to price and financial instability. An empirical analysis using data from 98 countries worldwide during the period 1999–2012 sheds some light on this topic.⁵ The analysis investigates the link between the institutional structure of supervision and the economic growth and inflation performances across countries. It also looks at the likelihood that a credit boom turns into a full financial crisis. Based on different fixed and random effects models, including control variables such as corruption control index, log(GDP/capita) and time fixed effects, results point to no evidence that an integrated structure is related to a worse growth performance. Similarly, there is no evidence that in countries where the integrated model is prevailing there are higher deviations from the inflation target, therefore providing no support to the notion that an integrated structure is associated to an *inflation bias*.

Turning to the impact on financial stability, the analysis suggests that in countries where bank supervision is outside the central bank there is a higher probability of a credit boom turning into a banking crisis. In countries and years where bank super-

⁴ See Box 1 of the ECB Discussion Paper No. 2287, “The architecture of supervision.”

⁵ For detailed results on this analysis see the Annex of Ampudia et al., ECB Discussion Paper No. 2287, “The Architecture of Supervision.”

vision is in the central bank, there is a higher likelihood that *loan-to-value* ratios are used as macroprudential tools during credit booms and that credit booms are less likely to turn into a crisis. Thus, there seems to be no evidence that an integrated structure is associated with more financial instability or inaction bias.

This suggestive cross-country evidence therefore does not support arguments against unifying responsibilities for monetary and financial stability into one institution. At the same time, the analysis is mostly inconclusive on the optimal structure, but it suggests that monetary policy and supervision integrated in the same structure may result in benefits arising from better information flow and policy coordination, which could result in potential financial stability gains.

The setup in the euro area

The choice whether to separate bank supervision and central banking functions involves a complicated trade-off between different objectives. The design chosen in the euro area represents a compromise between a model of full separation and full integration. The model for the euro area is not fully integrated. Supervisory responsibilities are carried out by the SSM which is part of the ECB. However, to prevent conflicts of interest between the monetary policy and supervisory functions, legislators introduced a *separation principle*, which translates in certain legal and administrative barriers (separation of objectives, decision-making and tasks) and strict separation of the Governing Council's meetings.

In the previous section, it has been argued that in an integrated structure the information may be channeled in a more efficient and transparent way. It is important to stress that in the euro area setting, much of this information can still be collected while respecting the separation principle.

Concerning the supervisory function, there is a unique model of supervision for significant and less significant financial institutions. However, the SSM performs direct centralized supervision only of significant institutions, while the supervision of less significant institutions is a responsibility of the national supervisors based on a common rule book. The following section will address the likely implications of this setup.

2 Centralized and decentralized supervision

The occurrence of the Great Financial Crisis induced important changes in the architecture of supervision around the world. In the euro area in particular, this translated into the implementation of the Banking Union, with the centralization of the supervisory powers to the ECB, which directly supervises the significant banks of the euro area. In the next sections, a conceptual discussion between the difference between local and central supervisors is outlined and the reactions that can be

expected from the financial sector – banks in particular - when changes to the structure occur.

Local and central supervisors

Local and central supervisors are subject to different incentives and possibly conflicts of interest. First, they have different costs in acquiring the important information from the banks that they are supervising. Academic literature has shown that geographical proximity matters for the effectiveness of supervision (Delis and Staikouras,(2011); Quintyn and Taylor (2002); Gopalan, Kalda, and Manela (2017)). One of the main factors explaining this result could be the easiness of information acquisition, coupled with higher specialization and cultural closeness of local supervisors, which improves knowledge of local credit markets and their specificities.

Empirical evidence on the effectiveness of supervision also supports the importance of resources for supervisors (see Rezende (2011)), for example a large budget that allows a higher number of onsite visits but also more staff to supervise large, more complex banks. While local supervisors may have an advantage in onsite inspections, they are often more budget constrained and may have less resources than central supervisors.

In general, there are important economies of scale to be reaped in banking supervision, including a better sense of macroeconomic conditions and how these affect the banking sector as a whole, which support the move towards centralized supervision. Central supervisors have more resources, have a better macro view on the state of the financial sector and can use more peer comparisons. Related to resource constraints, supervisory institutions entirely financed with fees may induce distorted incentives. Centralization of supervision limits this incentives distortion.

Apart from resource constraints and differences in cost of information acquisitions, local and central supervisors are also facing different incentives, stemming from different responsibilities and objectives. Generally, centralized supervisors face lower costs in taking an intervention and liquidation decision (Repullo (2018)). However, removing decision power from the local supervisors may lead to worse information collection and possibly more leniency (Carletti et al. (2016)).

Bringing supervision at the supranational level aligns incentives of supervisors vis-à-vis domestic and foreign shareholders and creditors, overall resulting in tougher supervision (remove bias against foreign creditors).

Moving towards centralized supervision

Changing the ways in which supervision is organized and performed in a region will also change the way in which the supervised institutions behave.

Academic literature suggests that banks expect central supervisors to be generally tougher compared to local supervisors. For example, in the US, where there is a system of supervision in which banks change their supervisors between federal and state, it has been shown that federal supervisors tend to be stricter (Agarwal, Lucca, Seru and Trebbi (2014)).

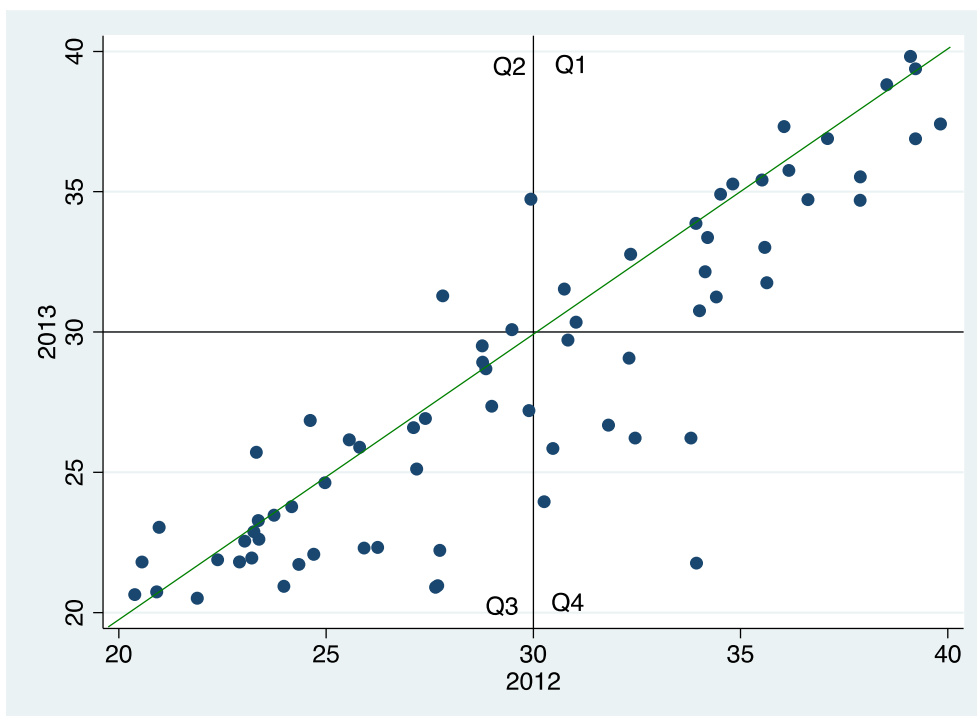
The move towards the implementation of the SSM in the euro area provides some evidence pointing in the same direction. Banks expected the SSM's supervision to be tougher than national competent authorities. In the run-up to the SSM the most significant banks reduced their lending (Fiordelisi, Ricci and Lopes (2016)). SSM banks also reduced their asset size and reliance on wholesale debt (Eber and Minoiu (2016)).

Banks under SSM surveillance reported higher risk weights, higher probability of default and lower collateral to loan ratios for exposures to the same firm as compared to banks under national supervision (Haselmann et al. (2019)).

During the period preceding the implementation of the SSM, 30% of the banks around the threshold strategically reduced size to avoid SSM supervision (see Chart 1): Compared to peers, banks with strategic behavior had worse asset quality and liquidity position.

Centralized supervision is likely to have an impact also on financial integration. The central supervisor is less nationally oriented. Centralized supervision removes the bias against foreign creditors and therefore may allow banks to borrow more easily and at lower rates internationally. Banks that are supervised by a central supervisor may enjoy a positive signaling effect which overall lower their cost of funding. Indeed, banks supervised by the SSM pay lower deposit rates to their customers – both households and non-financial corporations (Barbiero, Colliard and Popov (2017)). They also have partly changed the composition of their liabilities, reducing reliance on deposits and increasing securities issuance, which is consistent with positive market signaling effect arising from the SSM “certification” (Barbiero, Colliard and Popov (2017)).

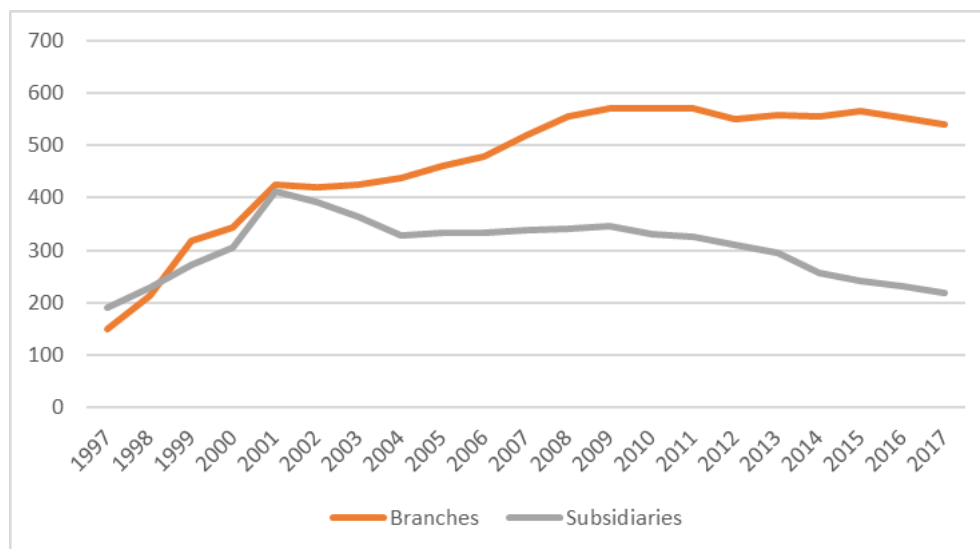
Chart 1: Change in banks' size during the implementation of the SSM



Source: Ben-David et al. (2018).

Note: Dots in this Chart depict euro area banks with the total assets ranging from 20 to 40 billion EUR. For each bank, the Y axis shows its total assets in 2013 while the X axis represents its total assets in 2012.

Central supervision can have additional effects on financial integration through the structure of multinational banks (MNBs), which have subsidiaries and branches in different countries. A supranational supervisor would optimally exert more monitoring than a local supervisor to the foreign unit (subsidiaries) of a bank (monitoring externality). Centralization of supervision may create incentives to expand abroad through cross-border branches. In turn, the shift from subsidiaries to branches would increase the burden on the deposit insurance fund of countries that host more headquarters. Recent developments in the euro area suggest that changes in the structure of big banking groups are limited (see Chart 2).

Chart 2: Cross-border branches and subsidiaries in the euro area

Source: ECB, *Banking Structural Financial Indicators*

3 Concluding remarks

The introduction of the SSM is the largest change in recent years in supervisory architecture in developed countries. The current setup reflects, at least to some extent, the economics of supervisory architecture and the many trade-offs that have to be taken into account. It reflects a compromise between models of integration versus separation of bank supervision and monetary policy functions. It also reflects a middle ground in the choice between local versus central supervision and centralization versus delegation of information collection versus decision-making and rule-setting.

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