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European Deposit Insurance and Resolution in the Banking Union*

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Abstract
Since the European Council of June 2012, 'banking union' is a key item for the EU's policy agenda. This contribution outlines the state of the policy debate – identifying the elements that are missing but important from a theoretical viewpoint. Concrete proposals are made as to how the missing elements could be added in the form of a new European Deposit Insurance and Resolution Authority, which would work alongside the 'single supervisory mechanism' under which the European Central Bank assumes supervisory powers for the largest eurozone banks. The paper also illustrates how a gradual transition could align incentives and mitigate the political resistance to a full banking union. Finally, new estimates are provided for how much would be needed for a European Deposit Insurance and Resolution Fund.

Introduction

In his report entitled 'Towards a Genuine Economic and Monetary Union', Herman Van Rompuy (2012) outlines his vision for a stable economic and monetary union (EMU) based on four pillars: an integrated financial framework; an integrated budgetary framework; an integrated economic policy framework; and democratic legitimacy and accountability of decision-making within EMU. This article examines the first pillar, often also dubbed 'banking union'. The banking union involves a transfer to the European level of the regulatory and institutional framework for safeguarding the robustness and stability of the banking sector.

Banks dominate the financial system in Europe. They provide most of the credit to enterprises and households, and should thus facilitate growth and investment. In principle, the internal market allows banks to offer their services anywhere within it. However, the responsibility for supervising the banking system and ensuring its stability has been left to the national level up to now. The financial crisis has revealed that this is not a stable arrangement.

There are two broad reasons why an integrated banking sector needs a banking union with a common safety net. The first reason is macroeconomic and institutional in nature and relates to systemic risk. National banking authorities only take national interests into account (Schoenmaker, 2013). Experience of the near failure of cross-border banks in Europe (Fortis and Dexia, for example) shows that in times of crisis national authorities focus on preserving the national parts, while the integrated value of a bank is neglected

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(Claessens *et al*., 2010). As Mervyn King aptly put it, 'banks are international in life but national in death'.[1] A banking union would contain the systemic effects of banking failures at the aggregate eurozone level. The second reason for a banking union with a common safety net is that it can break what has been called the 'diabolic loop' between national governments and banks (see European Commission, 2012b). Using daily credit default swaps (CDS) for several eurozone countries for the period 2007–10, Alter and Schüler (2012) provide evidence of interdependence between government and bank credit risk during the crisis. A weak domestic banking system damages the sovereign fiscal position, as observed in the cases of Spain and Ireland. A fully fledged banking union could act as an important shock absorber mechanism (Gros, 2012a)

The banking union covers the preventive stage (regulation and supervision) and the crisis management stage (deposit insurance and resolution). This article deals with the second stage. Our main contribution is to argue for a combined deposit insurance and resolution fund. The policy discussion has focused on resolution, largely neglecting the deposit insurance aspect of banking union (see Micossi *et al*. 2013; Pisani-Ferry *et al*. 2012).[2] The combination of the deposit insurance and resolution functions allows for swift decision-making and avoids multiple agencies and funds. We also show the transition and calculations to get to an integrated European deposit insurance and resolution fund. Other authors who also support this idea have failed to specify the transition path and to calculate the appropriate size.[3] More specifically, we propose to create a European deposit insurance and resolution authority (EDIRA) with financing from a European deposit insurance and resolution fund. The fund would be fed through regular risk-based deposit insurance premiums (see also Acharya *et al*., 2010). The ultimate target size of the fund amounts to about €90 billion. The European stability mechanism (ESM) could act as the necessary fiscal backstop to this fund. That would complete the banking union.

This article is organized as follows. We first describe the state of play of the policy discussion on banking union. We then review the literature on the main elements required for a stable banking union. Based on this, we argue that an EDIRA should complement the European Central Bank (ECB) as new European banking supervisor and that this new authority should be financed via a prospective European deposit insurance and resolution fund. Importantly, we outline how one could structure a gradual transition from the national deposit insurance funds to the new European fund and what size of funding would be required.

I. Towards Banking Union in Europe?

Most discussion about banking union in Europe focuses on the elements that would require European legislation: supervision, resolution and deposit insurance. Progress has been very uneven on these elements. In this section, we discuss the current state of affairs for each element. On supervision, European laws are now in force under the so-called

[1] As quoted in Turner (2009, p. 36). When the American authorities decided to let the investment bank Lehman Brothers fail, they did not take the potential impact on European or global financial markets into account. The problem operates thus at the global scale as well, but within a common currency area the cross-border spillover effects are likely to be much stronger.
[2] Engineer *et al*. (2013) discuss deposit insurance during the European banking crisis in depth, but from a positive point of view.
[3] See, for example, IMF (2013), and the contributions in Beck (2012) – in particular Ioannidou (2012).

'single supervisory mechanism' (SSM) that will put the ECB directly in charge as the supervisor for over 100 of the largest eurozone banking groups, plus around 15 subsidiaries of non-eurozone banking groups, from November 2014 onwards.[4] The banks directly under the supervision of the newly created supervisory board of the ECB have consolidated assets worth about €27 trillion (2.9 x eurozone GDP) and they account for about 85 per cent of total consolidated assets of all eurozone banks (see Appendix Table 1). This implies that the dominant part of the eurozone's banking system will soon be supervised directly by a common institution. Moreover, the ECB has also been given the right to inspect even those (typically smaller) eurozone banks that it does not supervise directly. This could be the case if it has reason to believe that many small banks are in a similar situation; and that, together, they could constitute a menace to the stability of the system.

The start of the SSM does not mean that national supervisors will disappear within the eurozone. National supervisors will continue to be responsible for the thousands of banks not under the direct remit of the ECB, and even for the about 130 'European' banks they will still exercise certain functions related to consumer protection and some national legal requirements. The details of the division of labour between the ECB and national supervisors within the SSM will only emerge over time.

The relationship between those countries, like the United Kingdom, and a few other non-eurozone member countries that have elected to remain outside the SSM remains a delicate political issue. Only a few years ago, the European Banking Authority (EBA) was created to co-ordinate the operations of all national supervisors within the EU to ensure that the internal market in banking is not distorted by differences in the application of the common legal rules. The creation of the SSM will formally not change the remit of the EBA and thus will not change its mission and formal structure. But the SSM will upset the balance of power within the EBA as the ECB will take the place of all the national supervisors of the countries that participate in the SSM. This implies that in many cases the ECB alone could push through decisions on the board of the EBA. This was not acceptable to the other countries – notably the United Kingdom, whose influence would have been much diminished. For this reason, it was decided to change the voting structure within the EBA by giving the non-SSM countries a blocking minority.

Eurozone banks account for about 70 per cent of all EU bank assets, the United Kingdom accounts for about 22 per cent and the other ten non-eurozone countries for the remaining 8 per cent (based on the ECB's monetary statistics). Most of the latter are likely to join the euro over time, and some have already indicated that they would like to participate in the SSM. Given that the banks under the direct supervision of the ECB account for about 85 per cent of eurozone bank assets, it follows that the ECB will be directly responsible for about 60 per cent of the EU's banking system.

It is therefore quite an elaborate structure that embodies the direct responsibility of the ECB for the largest 130 eurozone banks and special measures to ensure that the balance of power in decision-making on internal market rules affecting all 28 Member States remains balanced. However, the state of the policy discussion is far less advanced on resolution and even less so on deposit insurance. The Commission's proposal on the latter

[4] The ECB will directly supervise banks having assets of more than €30 billion or at least 20 per cent of their home country's gross domestic product (GDP) and assets of more than €5 billion, and the largest three banks in each participating country (European Council, 2013a).

was tabled before the European Council took its historic position on (what is now called) 'banking union' and concentrates on harmonizing existing national deposit guarantee schemes without any common funding element (European Commission, 2010). Little progress has been achieved on even these modest aims. The revision of the Deposit Guarantee Schemes Directive is entirely blocked, partially on the issue of funding. However, it is widely expected that a compromise will soon be found on the basis that 1.5 per cent of covered deposits would be needed to deal with both resolution and deposit insurance, given that the European Council and the European Parliament have agreed on funding of 1.0 per cent of covered deposits for resolution funding (see Council, 2013c).

The Commission's proposal on resolution is much more recent (see European Commission, 2013) and contains the idea to set up a European resolution board backed up by a common resolution fund. This is important since the endgame of resolution is driving incentives for supervision (Claessens *et al*., 2010). However, this proposal for a European resolution board and for funding has been criticized by the representatives of important Member States – most notably Germany, where it has been argued that it would not be possible to transfer the power over fiscal resources and the power to impose measures that affect directly private property rights to the European level without a change in the EU Treaty. It is widely assumed that this point of view is actually based on the desire by the German authorities to preserve the power of decision over bank resolution in Germany.[5] Moreover, in Germany, the popular objection to any common funding, be it for resolution or deposit insurance, is that 'German taxpayers would underwrite thousands of billions of GIIPS' deposits which are backed up only by doubtful assets' (see Sinn, 2012).[6] This fear should be overcome by the 'asset quality review', which the ECB is scheduled to undertake in the course of 2014 in order to ensure that only healthy banks come under the SSM.

II. Economic Criteria, Incentives and Governance Principles

Before presenting our proposal, we first discuss some key economic issues and incentive problems that have to be addressed within any banking union with a common safety net. Two economic issues are how to protect against systemic risk and how to protect against large local shocks (to break the so-called 'diabolic loop'). The first problem is that national authorities ignore the cross-border externalities of bank failures. Freixas (2003) provides a model to formalize the systemic effects of bank failure. In a multi-country setting, he shows that co-operation between national authorities is likely to break down during a crisis, which is modelled as a non-repeated game. To address systemic risk in an integrated market, such as the European banking market, a federal solution is needed. Authorities at the European or eurozone level will incorporate the systemic effects of bank failures within the greater geographic area.

The Fortis case illustrates the problem of co-ordination failure between national authorities. Belgian and Dutch authorities have had a long tradition of co-operation, and Fortis was systemically important in both Belgium and the Netherlands. When the crisis erupted in late 2008, the Belgian authorities wanted to rescue Fortis as a whole, keeping the home base in Brussels, while the Dutch authorities wanted to split the bank to return

[5] See Howarth and Quaglia (2013) for a full discussion of the policy positions of Member States towards banking union.
[6] This is the popular argument. Reality seems to be different: the covered deposits in all GIIPS countries (Greece, Ireland, Italy, Portugal and Spain) together amount 'only' to about €1,700 billion backed up by about €9,700 billion in bank assets.

control over the parts of ABN AMRO that had just been acquired by Fortis. Furthermore, both the Belgian and Dutch authorities were well aware that they were accountable to their respective domestic parliaments. National interests took precedence over the common (European) interest on both sides.

Cross-border banking is facilitated by the internal market, which would suggest that a financial stability approach at the EU level is the most appropriate. A prime example of a systemic bank covering both the eurozone and non-eurozone is Nordea (on the euro side: Finland, Estonia and Latvia; and on the non-euro side: Sweden, Denmark and Lithuania). For that reason, some of the 'outs' may make use of their option to opt in to banking union. That leaves the United Kingdom – which is politically determined to stay out – in a difficult position. Most major European banks have a large presence in London. Banks like BNP Paribas, Société Générale and ING Bank have typically 5 to 10 per cent of their assets in London.

Next to systemic risk, Europe, and in particular the eurozone, faces an additional problem – namely the question of what happens when the entire banking sector of a Member State is stressed. The cases of Ireland and Spain (and that of Latvia still outside the eurozone at the time) have shown that a national boom-bust cycle in local real estate can lead to losses that are so large that the capacity of the national sovereign to provide a backstop to the national deposit guarantee system (DGS) is called into question. A DGS funded at the EU – or eurozone – level can in this case make a material difference because it would provide an external loss absorption mechanism that is independent of the solvency of the sovereign. Such a mechanism is important, especially during a financial crisis, which usually goes hand-in-hand with a deep recession and thus large deficits and increasing public debt levels.

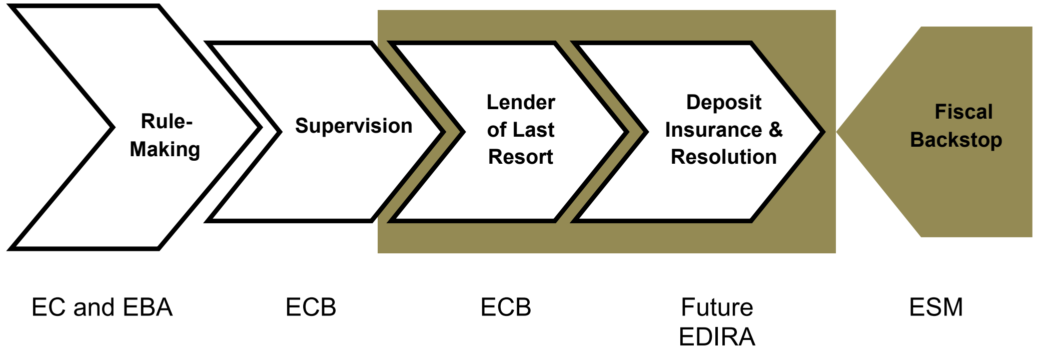
Gros (2012a) provides an illustration of the quantitative importance of this aspect by comparing Ireland to Nevada. These two entities share several important characteristics. They both have similar populations and GDP and they both experienced an exceptionally strong housing boom. However, when the boom turned to bust the local financial crisis did not collapse and the finances of the state government were not stressed by the need to bail out local banks. Nevada and Ireland had such different experiences because in the American banking system problems are managed at the federal level, whereas in the eurozone responsibility for banking losses remains national. In other words, the United States is an effective banking union – but the eurozone is not (yet). The impact of a common safety net can be observed most clearly in a financial crisis like the one of 2008. Most banks in Nevada experienced large losses and many of them became insolvent, but this did not lead to any disruption of the local banking system as the failing banks were seized by the Federal Deposit Insurance Corporation (FDIC), which covered the losses and transferred the operations (including written-down assets) to other stronger banks. Over the two-year period 2008–9 the FDIC thus closed 11 banks headquartered in the state with assets of over US$40 billion or about 30 per cent of the state's GDP. The losses for the FDIC in these rescue/restructuring operations amounted to about US$4 billion (3 per cent of the GDP of Nevada). If a similar system had existed in Europe, the fate of Ireland (and that of Spain) might have been different. The 'diabolic loop' between banking debt and sovereign debt would not have been set in motion. At first sight it might appear that the *ex post* loss absorption through the banking union leads to moral hazard problems, but during the long periods of tranquil times, and especially the boom that preceded the crisis, the local banks in Nevada paid an explicit insurance premium to the FDIC. The insurance provided by the FDIC thus did not come for free.

Unified Approach to Governance

The governance of the banking system comprises several functions from rule-making, supervision, lender of last resort, resolution and deposit insurance to the fiscal backstop (see Figure 1). The academic literature argues that these functions cannot be analyzed in isolation as each element interacts with the others (Carmassi *et al*., 2012; Pisani-Ferry *et al*., 2012; Schoenmaker, 2013). In the current set-up, the European Commission is the rule-maker and the key policy-maker initiating new policies and rules for the financial system. In parallel, the EBA drafts technical standards and develops the single rule book for the EU internal market. It is important to note that this rule-making has an EU-wide reach, while the banking union only refers to the eurozone (and opting-in countries). That is why the rule-making function has a larger arrow in Figure 1 than the remainder. The second function, supervision, has now been delegated to the ECB (under the SSM).The shaded areas then deal with crisis management, whose first leg the lender of last resort to illiquid, but solvent, banks will also become the responsibility of the ECB. The end game of any crisis is reached when banks are insolvent and have to restructured or dissolved, which requires deposit insurance and/or resolution.

The final stage in the governance framework is the fiscal backstop. Crises affecting banks are often macro-economic and general in nature following asset market collapses and economic downturns (Allen *et al*., 2011). The existing national deposit insurance and resolution funds can thus quickly run out of funds and need the ultimate backup of government support, but a widespread asset market collapse coupled with an economic downturn can push even the sovereign into difficulties, as the cases of Ireland and Spain have shown. The sovereign itself will then either need a backstop or the backstop has to come from a different source. The ESM has been created to provide the fiscal backstop for member countries and possibly also the banking systems of member countries in financial

Figure 1: European Institutions for Financial Supervision and Stability in a Banking Union



Source: Schoenmaker (2013).
Note: The framework illustrates the five stages from rule-making to the fiscal backstop. The bottom line shows the agency for each function.

distress. The stability of banking systems can be assured only if investors know that such a backstop exists (Obstfeld, 2013). The arrow for the fiscal backstop is thus backward in Figure 1, illustrating the backward-solving approach towards governance. The ESM, like its international counterpart the IMF, provides a lending capacity to countries and banks (and possibly EDIRA in the future) in need. Based on the principle of solidarity (instead of insurance), potential losses are shared by the participating countries. Figure 1 summarizes the new European governance framework. While the European Commission (EC), the EBA, the ECB and the ESM are existing institutions, the EDIRA (see next section) would be a new institution.

Moving to potential incentive effects in the banking union, the starting point is that the purpose of good supervision is not to prevent banks from taking any risks and thus make sure that no bank ever fails. The purpose of good supervision is rather to balance the relationship between risk and reward for the private sector, especially for bank managers and the owners of banks. Growth and innovation would be stifled if banks were not allowed to take risks. With good supervision, bankers and their investors would, however, be forced to accept the consequences if any risky investment goes awry – possibly up to the point that the bank has to be closed or restructured. This implies that there would still be bank failures even if the ECB were to do the best possible job as the prospective supervisor of the eurozone's banking system.

Dewatripont and Tirole (1994) stress the point that as depositors are guaranteed they will no longer have an incentive to monitor the bank. Normally the supervisor then takes over the monitoring role representing the depositors. This is the case naturally at the national level where both the supervisor and the deposit insurance system are part of the same government. This would not be so in Europe if only supervision is centralized and national authorities remain responsible for deposit insurance and restructuring. The ECB would have an incentive to offload the fiscal cost of any problem to these national authorities if it thinks that any given bank needs to be restructured or closed down. The ECB would do this on the basis of its assessment of the viability of the bank and any danger it might represent to systemic stability at the eurozone level. By contrast, the national DGSs and more generally the national authority responsible for bank restructuring (that is, in practice today's supervisors and finance ministries) would have a tendency to minimize their own costs by keeping the bank alive through support from the ECB. National authorities would have a natural tendency to blame an 'unfair' ECB for not recognizing the strength of 'their' bank which should not be closed but saved. This type of conflict is likely to be especially prevalent at the start of the new system when the ECB performs its asset quality review and might discover all the 'skeletons in the cupboard' hidden so far by national supervisors.

Over time other conflicts will arise – for example, if the ECB has made a mistake and let a bank take too much risk. National authorities would then have a point in complaining if they had to pay up for the cost of this mistake. The best way to avoid these potential conflicts and provide the new eurozone supervisor with proper incentives is to gradually move deposit insurance and resolution to the eurozone level as well, thus ensuring the necessary alignment of responsibilities. A gradual introduction would ensure that during the transition both national- and EU-level authorities have 'a skin in the game'. In order to analyze these incentive effects, Claessens *et al*. (2010) adopt a game-theory approach. The endgame of resolution of failing banks sets the incentives for *ex ante* supervision to prevent bank failures. Given this interaction, supervision and resolution should be moved in tandem from the national to the European level.

Safety Net Principles

Moving to the design of the safety net, it is important to have a common understanding of the underlying principles. The focus of this article is on the resolution and deposit insurance functions of the safety net. As argued above, the entire safety net (lender of last resort, resolution, deposit insurance and the fiscal backstop) should be European, when supervision moves to the European level. The three basic resolution methods for failing banks are liquidation with a deposit pay-off, a take-over with public support and direct public support. There are several principles for the design of an appropriate safety net:

- *S1 Private sector solutions first*: When banks run into difficulties, private sector solutions (for example, recapitalization by shareholders and bondholders (bail-in) or a take-over by another bank without public support) should be tried first. Private sector solutions are preferable to contain moral hazard (Rogoff, 1999).
- *S2 Supervision and resolution have same geographic reach*: Supervision and resolution should have the same geographic reach to address incentive effects, as argued above.
- *S3 Least cost principle*: The least cost procedures require the resolution authority to choose the resolution method in which the total amount of the expenditures and (contingent) liabilities incurred has the lowest cost to the deposit insurance and resolution fund. The only exception is if there are systemic risks affecting the financial system.
- *S4 Private funds*: The deposit insurance and resolution fund should be funded with *ex ante* levies on the insured banks. In that way private funds are available for resolution (see *S1*). Moreover, these levies should be risk-based to counter moral hazard (Acharya *et al*., 2010).
- *S5 Fiscal backstop*: The ultimate backup of government support (fiscal backstop) is needed to give a deposit insurance and resolution fund credibility (Obstfeld, 2013). The fund can run out of money in the case of large systemic events (as argued above).
- *S6 Appropriate governance*: An appropriate system of governance should ensure that the deposit insurance and resolution authority is acting within its mandate (Masciandaro *et al*., 2008). The authority should be held accountable to the parliament and the executive. Democratic legitimacy and accountability form the fourth pillar of Van Rompuy's roadmap for a genuine economic and monetary union.
- *S7 Build on current funds*: A new European deposit insurance and resolution fund should build on the current EU framework for deposit insurance and resolution funds to ensure a smooth transition.

III. A Concrete Proposal for a European Deposit Insurance and Resolution Fund

We propose to create a European deposit insurance and resolution authority (EDIRA). As a resolution authority, EDIRA should try private sector solutions first (satisfying *S1* above). The EDIRA would be financed by a fund fed through regular risk-based deposit insurance premiums from the banks, whose customers benefit from its protection – that is, the European banks. The fund would thus ensure that private sector funds are available for resolution (and deposit protection) in crisis management (*S4*). Importantly, the fund is based on the principle of (self-)insurance by the banking sector.

The current policy discussion in Europe takes resolution and deposit insurance as two completely separate functions. However, as Engineer *et al*. (2013) indicate, these functions are in practice related. Resolutions during the European banking crisis of 2008, financed by government, were often *de facto* provisions of deposit insurance. Their model shows how individual nations ratcheted up their deposit insurance levels in the banking crisis. Allen *et al*. (2011) also suggest combining the two functions within some kind of European equivalent of the FDIC. The combination allows for swift decision-making. Moreover, the least-cost principle (*S3*) can then be applied internally in one institution, allowing swift crisis management. By contrast, a myriad of national funds is difficult to activate during a crisis and may give rise to conflicts. Two separate European funds for deposit insurance and resolution may lead to inter-agency conflicts. Recognizing the interconnectedness, the functions of resolution and deposit insurance should be combined in Europe, as is done in the United States. The Dodd-Frank Act assigned resolution powers for large banks to the FDIC, in addition to the existing FDIC powers for smaller banks. Similarly, the Deposit Insurance Corporation of Japan has resolution powers.

Although it is tempting to place the new resolution authority at the ECB, the functions of supervision/lender of last resort and resolution should remain separate. As supervisors have responsibility for the licensing and ongoing supervision of banks, they may be slow to recognize (and admit to) problems at these banks and be more subject to regulatory capture. Supervisors may fear that inducing liquidation before a bank becomes insolvent could in some cases cause panic in the market. A separate resolution authority can judge the situation with a fresh pair of eyes and take appropriate action with much-needed detachment (Beck *et al*., 2012). Next, Repullo (2000) applies an incomplete contract approach to conclude that deposit insurance should be separate from lender of last resort, while lender of last resort and supervision may be combined. Following this analysis, we suggest that the EDIRA should be independent from the ECB. Given the need for a fiscal backstop, the new EDIRA could operate in close co-operation with the ESM. It is nevertheless important to guard the political independence of the resolution authority.

Several Member States have groups of banks that have a mutual guarantee scheme whereby all members of the group provide a joint and several guarantee for each other. These groups (the Genossenschaftsbanken in German and Austria; the Sparkassen at the regional level in Germany) should anyway be treated as one entity in terms of the risk they pose for EDIRA. They could thus be supervised as one group.

The coverage of EDIRA should not be limited to the eurozone. Subject to rigorous financial stability analysis, other member countries could simply opt in. This would make sense, especially for smaller member countries that could thus diversify their risk. The euro-outs can choose to participate (opt in) in the envisaged supervision by the ECB (Hertig *et al*., 2010). To keep incentives compatible, the geographic reach for the supervisory (SSM) and resolution (EDIRA) functions should be the same (*S2*).

National deposit insurance funds have an implicit or explicit fiscal backstop of the national government. With the ESM up and running, a fiscal backstop can be easily implemented for a eurozone-based EDIRA (*S5*).[7]

[7] Article 15 of the ESM Treaty explicitly allows for financial assistance for the re-capitalization of financial institutions of an ESM member. If a non-eurozone country joins the package SSM plus EDIRA, a burden-sharing mechanism between the ESM and the other member countries (Goodhart and Schoenmaker, 2009) would become necessary. In the case of the rescue package for Ireland in 2010, the euro-outs (United Kingdom, Denmark and Sweden) joined in the burden-sharing following

A prospective EDIRA could be established by an EU regulation akin to the establishment of the European supervisory authorities and the European systemic risk board. Such a regulation has now been proposed by the Commission, but only for resolution (European Commission, 2013).

The management of EDIRA should be accountable to the European Parliament (*S6*). To play its role, EDIRA would need to have full access to information on the financial condition of the European banks. A proper arrangement for the exchange of information would need to be concluded with the ECB. This could be organized similarly to the American FDIC, which can collect information for resolution and deposit insurance purposes. In that way, the EDIRA would not be fully dependent on the ECB for receiving information. Ultimately, the preferred route is that the ECB as supervisor would share information with the EDIRA, as resolution agency, to reduce reporting burdens on banks.

Finally, the chair would need a working relationship with the EC and the European Council for general banking policies, including the arrangements for the fiscal backstop, but the EDIRA would be fully independent in individual cases.

Transition

The transition to a new system of deposit insurance is difficult enough during normal times when 'the veil of ignorance' could ensure that there are no clear winners or losers. However, at the present juncture of the euro crisis, some banking systems or groups of banks clearly represent a higher risk than others. This makes the transition even more difficult. The ECB has recognized the problem that some of today's weak banks may need to be resolved (partly winding down and/or recapitalizing) before they enter the new European supervisory system to avoid shifting risks to the European level. National governments would then have to deal with any legacy problems of weak banks (if needed, with support from the ESM). Only well-capitalized banks, whose assets have been carefully reviewed and balance sheets have been stress-tested by the ECB, should enter the SSM and thus fall under the protection of the EDIRA. Moreover, we propose a gradual phasing in of both premiums and protection, which should take care of any problems that remain after the asset quality review the ECB will undertake in the course of 2014.

As discussed above, the expected target is 1.5 per cent (of covered deposits) to cover both deposit insurance and resolution.[8] The real challenge during the transition is to allocate responsibilities between the national funds and the European one, which will not be large enough at the start to become operative (*S7*). Moreover, one needs to avoid double payment of premiums by banks (national plus EU) to ensure a neutral transition.

Immediate full coverage of all deposits by the European level is not feasible, but the end point should also be clear: a European deposit insurance and resolution fund run by the EDIRA, which should become the authority that makes decisions on resolution and provides the payments to depositors when required. We propose that the protection offered

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the ECB capital key, as British banks were exposed to Ireland and would thus also benefit from enhanced financial stability in Ireland. That shows that burden-sharing can be widened if and when needed.

[8] The EC has already proposed a gradual build-up of a fund for resolution only to reach 1.0 per cent of covered deposits over ten years (European Commission, 2013).

by the EDIRA should be phased in at the same speed at which the fund is being built up. In concrete terms, this would mean that during the first year, the EDIRA guarantees only €10,000 per depositor. This amount could then be increased each year by the same amount until after ten years the European protection scheme insures the full €100,000 per depositor.[9]

In order to avoid any 'double insurance', it is clear that during the transition period the coverage of the national DGSs should be reduced by the amounts guaranteed at the European level. That would keep the total coverage at €100,000. The risk for the national guarantee schemes would, of course, go down as the European guarantee increases in size. The national schemes would diminish in size gradually. Bank contributions to the fund should, of course, be phased in as well. With a target fund of 1.5 per cent of deposits to be reached in ten years, it would be natural to start with one-tenth of 1.5 per cent – that is, 15 basis points – during the first year. The share would increase to 10/10th at the end of the ten-year transition period. This would also correspond to the fraction of the maximum amount covered under the phasing in of the responsibilities of the EDIRA.[10] Accumulated contributions left in the national funds after the transition period will be transferred to the EDIRA. Once their contributions to the fund are above a certain level the eurozone banks may find strong ECB supervision useful to reduce their potential liabilities. If that were to happen, the new EDIRA would truly act as a source of strength for the banking system.

Target Size of the Fund

The guiding principle in this article is that supervision and resolution cum deposit insurance should be at the same level. However, the appropriate reach for the fund is not clear. The Commission proposal on resolution (European Commission, 2013) and the preliminary Council agreement (European Council, 2013b) argue for all eurozone banks, as the SSM is responsible for the authorization of all eurozone banks. Authorization and withdrawal of authorization go together. It is true that the SSM supervises directly only the 130 largest eurozone banks, but it also has the power to supervise smaller banks if necessary.

The choice of all eurozone banks would avoid difficult borderline problems: What if banks pass the threshold and jump from one fund to the other? More importantly, the remaining national funds would by definition be small and not viable because they cover only the smaller banks. Smaller banks (as smaller companies in general) have a higher probability of failure. A DGS thus works on the principle of cross-subsidization, which can be partly offset by risk-based premia. The history in the United States of deposit insurance is revealing. Before the introduction of the FDIC as part of the New Deal legislation in the 1930s by Franklin Roosevelt, many of the state-level DGSs went bankrupt because of a lack of geographic diversification and size (Golembe, 1960). The diabolic loop between the national governments and banks is a reflection of the same problem in Europe today. A final argument for a broad fund is that it keeps up the notion of an integrated banking market – at least in the eurozone (and the participating member countries).

[9] At the time of writing, the preliminary Council agreement on the resolution fund seems to follow our proposal starting with 100 per cent national coverage in the first year reduced in annual steps to 10 per cent in the tenth year and European coverage moving from 10 to 100 per cent over ten years (European Council, 2013b).

[10] As the European Fund replaces national schemes, countries with a fully funded national scheme may decide to pay the contributions to the European Fund from the national scheme. See also European Commission (2013).

A narrow fund for the 130 banks under direct supervision of the ECB would preserve the national identity for smaller banks. This is an important political issue in Germany and Austria, and is also the reason for the split between direct supervision of large banks and only very indirect powers towards the smaller banks by the ECB. The existing smaller national schemes (in many cases funds do not exist yet) oppose any system, which would mean the end for their business. There are also valid reasons for their opposition: it will be impossible to develop objective numerical criteria for risk-based premiums, which are valid in all member countries. The business models of small banks vary from country to country and similar instruments (a mortgage or a loan to a small or medium enterprise) can imply very different risks depending on local payments habits and the way the national legal system works *de facto*. As long as these differences persist, it might be more efficient to keep national DGSs for the smaller banks with the EC exercising only broad oversight to ensure proper pricing of risk.

Finally, one could argue that any individual bank among the thousands of small local banks should not represent a threat to systemic stability at the national level. A political compromise might thus be to restrict the reach of the fund to only the banks under direct ECB supervision. However, such a narrow fund would have to be complemented by measures to ensure that local financial shocks do not endanger the stability of the local banking system. The remaining ‘small-bank’ national DGSs should thus be required to take out re-insurance against large risks (Gros, 2012b).

A precise estimate of the covered deposits held at the banks that should come under EDIRA is not possible as banks publish very little information on their deposits. For a precise estimate one would need to distinguish between retail and wholesale deposits, know how many deposits there are per depositor, and finally the proportion of these deposits under €100,000 per depositor. Moreover, one would have to take only the deposits of the subsidiaries of the European banks within the eurozone (or rather the SSM area) into account as only these deposits will be insured by EDIRA. However, the impact assessment for the draft Recovery and Resolution Directive (European Commission, 2012a) allows us to make a rough estimation of covered deposits as a ratio of total assets, which is estimated at 18.4 per cent. Total eurozone assets, taken for December 2011 from the ECB’s monetary statistics, amount to €32,500 billion. This leads to an estimate of covered deposits of about €5,980 billion for all eurozone banks (see Table 1).

As mentioned in the first section, the European Commission (2010) proposes to build an *ex ante* deposit insurance fund of 1.5 per cent of covered deposits over a period of ten years. A total of 1.5 per cent of the €5,980 billion in covered deposits would yield a fund

Table 1: Target Size of Deposit Insurance and Resolution Fund

	European assets (in € billion)	*Covered deposits (in € billion)*	*Target size of fund (in € billion)*
All eurozone banks	32,503	5,980	90
SSM banks	22,727	4,951	74

Source: Authors’ own calculations, based on ECB’s monetary statistics, Bankscope and CEPS database.
Note: European assets of all eurozone banks are based on ECB figures and are for 2011. Covered deposits of eurozone residents (as a percentage of European assets) are based on the EC’s proposal for a single resolution mechanism. The target size of the deposit insurance and resolution fund is set at 1.5 per cent of covered deposits. European assets and covered deposits of the 126 SSM banks are provided in Appendix Table 1.

Table 2: Market Share of the Largest Eurozone Banks

Bank	*Tier 1 capital (in € billion)*	*Assets (in € billion)*			*Market share (in %)*	
		Total	*Domestic*	*European*	*Domestic*	*Eurozone*
BNP Paribas (France)	71	1,965	971	1,641	12	5
Crédit Agricole (France)	62	1,880	1,530	1,739	19	5
Banco Santander (Spain)	62	1,251	338	851	9	3
Deutsche Bank (Germany)	49	2,164	742	1,448	9	4
UniCredit (Italy)	43	927	386	911	10	3
Groupe BPCE (France)	41	1,138	808	971	10	3
ING Bank (Netherlands)	39	961	384	750	16	2
Rabobank Group (Netherlands)	38	732	541	607	22	2
Société Générale (France)	37	1,181	931	1,072	12	3
Intesa Sanpaolo (Italy)	37	639	520	612	13	2
BBVA (Spain)	34	598	333	390	9	1
Credit Mutuel (France)	28	605	521	583	6	2
Commerzbank (Germany)	26	662	336	546	4	2

Source: Authors' own calculations, based on banks' annual reports and the ECB's monetary statistics.
Note: Tier 1 capital and total assets of the largest eurozone banks are for 2011. The geographic segmentation of assets is taken from the annual reports. To calculate the market share, total assets for each country and for the eurozone are taken from the ECB.

of about €90 billion. To this should be added the 0.5 per cent of covered deposits that the fund could call up additionally *ex post*. EDIRA would thus in reality have about €120 billion at its disposal once the fund has been fully built up. During the build-up period, the required contributions under the gradual phasing would be 10 per cent of the 1.5 per cent, resulting in 15 basis points. Once the fund has been built, further contributions would be needed, only to the extent that losses have materialized in the meantime.

We also calculate the size of the fund for the about 130 eurozone banking groups and subsidiaries of non-eurozone banking groups under direct ECB supervision. Appendix Table 1 measures the European assets for the SSM banks. Using the impact assessment of the draft Recovery and Resolution Directive (European Commission, 2012a), we can calculate the covered deposits per country. Total covered deposits amount to €4,951 billion, yielding a fund of about €74 billion, or about €99 billion in financing available if one adds the additional 0.5 per cent that could be called up.

To put the numbers in perspective, the fund would amount to €90 billion of private funds accumulated from contributions by all eurozone banks as a first line of defence for deposit insurance and resolution, while the ESM, which started in July 2013, amounts to €500 billion of public funds underwritten by the eurozone members as fiscal backstop for sovereign countries as well as financial institutions.

An interesting question is whether the EDIRA could cope with the failure of one or more European banks. Dermine (2000) takes the book value of equity as a yardstick for the potential costs of a rescue package. The total tangible equity capital of the 126 SSM banks is about €1,040 billion, or about €8 billion, on average, for each of these banks (see Appendix Table 1). This implies that the EDIRA should be able to deal with several 'average' banks at the same time.

Table 2 reports the Tier 1 capital of some of the largest European banks (with assets over €500 billion). Capital ranges from about €25–€70 billion. Once fully up and running, the EDIRA could thus resolve even one of the largest European banks. This shows the benefits of risk-pooling. The current national deposit insurance schemes (often not even pre-funded) are generally not capable of dealing with any of their own largest banks failing because their capacity would be severely impaired if the dominant national 'champion' has difficulties. Within any one country the largest bank often has a significant share of the overall market, but even the largest European banks have only a small share of the overall eurozone banking market (at most 5 per cent). Table 2 indicates, for example, that the two largest French and Dutch banks have up to 20 per cent of their local market and assets larger than the country's GDP.

Using American experience, the total losses of the FDIC during this crisis (that is, effectively 2008 and 2009) were 'only' US$70 billion or 0.5 per cent of United States GDP (though a separate troubled asset relief programme (TARP) fund was available to recapitalize financial institutions during the crisis), whereas a European fund of €90 billion would amount to close to 1 per cent of eurozone GDP.

A key condition for success will, of course, be a proper risk adjustment for the insurance fees (again, like in the United States). More risky institutions should pay higher fees, and *vice versa* for more prudently run banks. The insurance premiums could thus be much lower for some banks, and higher for others.[11] This implies that sound banks should not fear that they would have to subsidize reckless behaviour by others. Once EDIRA becomes a label of solidity, other Member States may increasingly elect to participate in both the SSM and EDIRA (as they realize the economics of scale provided by a pan-European insurance scheme relative to a national one). As we explain above, countries opting in have to sign up for the full package: supervision, resolution and deposit insurance.

Conclusions

If European policy-makers are to maintain cross-border banking and the stability of the system, they must provide a higher and better-co-ordinated level of fiscal support than at present (Obstfeld, 2013). Any safety net comprising deposit insurance and resolution implies a credit risk that ultimately must be lodged somewhere. In the eurozone it has so far remained at the national level. However, this is clearly not a stable set-up.

Europe is officially on the way towards a 'banking union', but so far only the functions of the ECB have been clarified, which has become the direct supervisor of the large cross-border banks (as well as the lender of last resort for the entire eurozone banking system). But the ECB is only supposed to lend to solvent banks. This implies that the mechanisms for dealing with insolvent banks – namely resolution and deposit insurance – must also be reformed and transferred to the European (or eurozone) level. We argue therefore for the establishment of an EDIRA to deal with these two aspects with financing from a European deposit insurance and resolution fund, which would be fed through regular risk-based deposit insurance premiums. Finally, the ESM could then act as the fiscal backstop to this fund. Such a set-up would create a stable banking union.

[11] Groups of banks that already have their own insurance system (like the Sparkassen in Germany) would of course not have to pay twice. Instead, their insurance systems should be required to take out a re-insurance with EDIRA so that they are covered against catastrophic risks hitting their groups.

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Appendix Table 1: European Banks in the Single Supervisory Mechanism

Country	*Threshold 2012 (total assets in € billion)*	*Identified banks*			*Consolidated assets (in € billion)*	*European assets (in € billion)*	*Covered deposits (in € billion)*	*Total tangible equity (in € billion)*
		Total	*Of which, subs of non-eurozone banks*	*Of which, excluded from capital rules*				
Austria	30	5	0	1	468	394	60	30
Belgium	30	6	2	0	944	795	144	26
Cyprus	5	4	0	0	115	97	32	5
Germany	30	31	1	1	6,540	5,505	1,566	210
Estonia	5	3	3	0	14	11	3	3
Spain	30	17	0	1	3,502	2,948	642	134
Finland	30	3	2	0	474	399	94	17
France	30	11	1	2	7,612	6,408	1,352	284
Greece	30	4	0	0	301	254	78	–7
Ireland	30	5	2	0	724	610	89	37
Italy	30	14	0	2	2,814	2,369	302	149
Luxembourg	9	6	1	0	301	253	39	6
Malta	5	3	2	0	14	12	2	1
Netherlands	30	8	1	0	2,818	2,372	477	121
Portugal	30	4	0	0	339	285	64	21
Slovenia	7	2	0	0	20	17	6	1
Slovakia	14	0	0	0	0	0	0	0
Total		126	15	7	26,999	22,727	4,951	1,039

Source: Authors' own calculations, based on Bankscope and CEPS database.
Note: Banks that fall directly under the ECB supervision in the SSM are selected. Consolidated assets and tangible equity (equity minus intangible assets) of these banks are taken from Bankscope and CEPS database. The European assets (as sub-part of consolidated assets) are based on the geographic segmentation of European banks in annual reports. Covered deposits are based on the respective country ratios for covered deposits as percentage of total assets, derived from the impact assessment of the draft Recovery and Resolution Directive (European Commission, 2012a).

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