

The impact of the legal and operational structures of euro-area banks on their resolvability

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Executive summary

IN THE AFTERMATH of the financial crisis, the question of how to handle a big bank's collapse has arisen. Large banks perform functions that if disrupted could seriously damage the financial sector and the real economy. The European Union's new resolution regime introduced by the Bank Recovery and Resolution Directive (BRRD)¹ aims at orderly resolution of banks, with creditors – and to greatest the extent possible, not the taxpayer – bearing the cost of bankruptcy, while the banking functions crucial to the financial system and the economy continue to be performed. The Single Resolution Board (SRB) has been set up exactly to carry out this task in the banking union.

THIS POLICY CONTRIBUTION evaluates the obstacles to resolvability that the legal and operational structures of the large euro-area banks could present, assuming that it is possible to liquidate smaller and medium-sized banks through transfer of their relevant activities to other banks. We classify the large euro-area banks according to their number of legal entities, foreign assets and their governance. From this, we identify three groups of banks: 1) domestic banks with a limited number of entities; 2) domestic cooperative banks with more complicated legal and decision-making structures; 3) cross-border banks with complex structures operating in multiple jurisdictions.

WE FOCUS ON specific aspects of the SRB's resolvability assessment process. First, the legal and operational structures of banks should facilitate the separation of critical and non-critical bank operations. Non-critical operations should be liquidated when a bank is in resolution. The SRB should take a strict line on critical functions and, if necessary, overrule national resolution authorities (NRAs).

SECOND, THE SRB should not only simplify complex legal structures but also streamline protracted decision-making procedures within banks. Third, only when effective cooperation arrangements with foreign resolution authorities are in place, should the SRB rely on the efficient single-point-of-entry (SPE) approach. Otherwise, a multiple-point-of-entry (MPE) approach is more realistic. Within the banking union, the SRB should promote the more efficient SPE approach in cooperation with NRAs.

FINALLY, there is currently no clarity on the provision of liquidity to a resolved bank. Liquidity is important if the resolved bank is to re-open for business. We recommend that the European Central Bank should clarify that it is prepared to provide emergency liquidity assistance (ELA) to properly resolved banks.

¹ Bank Recovery and Resolution Directive (2014/59/EU), available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0059&from=NL>

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This Policy Contribution is a version of a paper requested by the European Parliament's Economic and Monetary Affairs Committee for a hearing on the Single Supervisory Mechanism, 5 December 2016. The author would like to thank Konstantinos Efstathiou and Justine Feliu at Bruegel for outstanding research assistance and Thomas Huertas for useful comments.

1. Introduction

Following the financial crisis, the question of how to handle a big bank's collapse has come to the fore. Banks, especially a few large ones, perform functions that are essential to an effectively functioning financial sector and the real economy. Recent experience shows that the disorderly liquidation of such a big bank can have widespread financial sector and real economy impacts. Orderly resolution of such banks is thus necessary, with creditors – and to the greatest extent possible, not the taxpayer – bearing the costs of bankruptcy, while the functions crucial to the financial system and the economy continue to be performed. The Single Resolution Mechanism (SRM) of the European banking union, of which the Single Resolution Board (SRB) is the centrepiece, has been set up exactly to carry out this task in the euro area.

We evaluate the obstacles to resolvability that the legal and operational structures of euro-area banks – and in particular those supervised by the ECB – could pose. A resolvable bank is one that is 'safe to fail', in that it can be readily recapitalised without public support and can continue carrying out essential functions practically without interruption, while not disrupting financial markets and the real economy (Huertas, 2014). In other words, the application of the resolution tools² should be feasible and credible.

Legal and operational structures should be understood as the number of (material) legal entities that make up a banking group or financial conglomerate and the interdependencies between them, meaning the role each entity has within the overall business model, including but not limited to relationships of ownership, funding, services provision and management. On top of that, the cross-jurisdictional presence of banking groups adds an extra layer of complication to the banks' legal and operational structures, as entities operate in different jurisdictions and under different rules. Moreover, the assessment of critical functions can be carried out from the point of view of each jurisdiction separately.

In essence, legal and operational structures matter for resolution. While resolution applies to legal entities, its success depends on the underlying business logic and viability of a bank. To the extent that the activities of the bank cross borders, resolution is an affair for multiple national authorities.

Our analysis starts with an assessment of the different types of banks in the euro area, before moving onto strengths and weaknesses of the banking models with respect to resolvability (section 3), impediments to resolvability assessment (section 4) and recommendations to the SRB (section 5).

2. Typology of banks in the euro area

To establish a basic typology of bank legal and operational structures, we focus on the 30 largest banks that each has assets in excess of €150 billion, are supervised by the ECB and belong to parent companies headquartered in the euro area. This group includes the eight globally systemically important banks (G-SIBs) that the ECB supervises directly. We follow Schoemaker and Véron (2016) in referring to the remaining 22 institutions as 'European systemically important banks' (E-SIBs).

We restrict the analysis to this group of 30 banks because, first, legal and operational complexity is naturally positively correlated with the size of a bank, and, second, euro-area G-SIBs and E-SIBs represent roughly 60 percent of total banking assets in the banking union

² The resolution tools in the BRRD are the sale of business tool, the bridge institution tool, the asset separation tool and the bail-in tool.

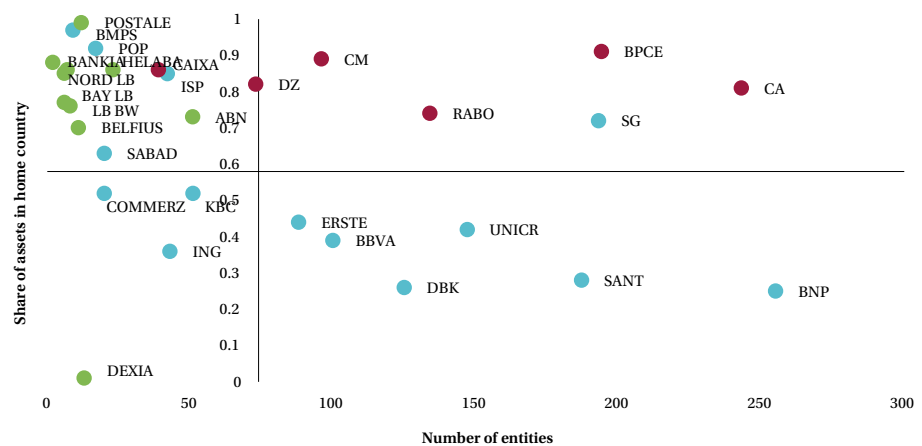
(Table A1 in the Annex). Moreover, G-SIBs typically dominate financial systems, represent the greatest systemic risk and, in several jurisdictions, were the main type of financial institution requiring public support during crisis. Therefore, for these institutions, the potential resolvability challenge is greater both in terms of feasibility and urgency.

As a crude measure of the complexity of its organisational structure we use the number of legal entities associated with the supervised banking group. The lists come from SNL Financial and encompass subsidiaries with cross ownership holdings for which there is data within S&P Global Market Intelligence’s products. It follows that the parent/subsidiary diagram may not represent the company’s complete organisational structure³. Nevertheless, the data indicates that, unsurprisingly, large banking structures involve large numbers of subsidiaries (see Table A1 in the Annex).

We then consider the distribution of banking groups across jurisdictions by examining the assets held by their local entities. Table A1 in the Annex shows the groups’ assets split between the banking union and the rest of the world. The banking union share is broken down into home-country share and the rest of the banking union share, while the rest of the world share is divided between non-euro area EU countries and countries outside the EU.

It should be clear that in terms of resolvability, the difficulties are expected to be more pronounced for banking groups with large numbers of legal entities and dispersed activities beyond the home country. We add a third relevant factor: governance arrangements. A complicated governance structure with multiple decision-makers can make the process of separation of activities and entities very difficult, if not impossible. We classify governance arrangements as government-controlled, commercial and cooperative (see Table A1 in the Annex). ‘Government’ governance applies to banks owned or controlled by national or local governments, ‘commercial’ to banks organised on a joint-stock basis and, finally, ‘cooperative’ refers to all those non-commercial models that are not government controlled.

Figure 1: Complexity of large euro-area banks (cross-border assets/number of legal entities)



Source: SNL Financial, Bruegel calculations. Note: The graph shows the number of legal entities on the x-axis against the percentage of the assets of the group that are located in the home country on the y-axis. The axes are centred on the average values for the 30 G-SIBs/E-SIBs headquartered in the euro area. Colours indicate the governance arrangements: commercial = blue, cooperative = red and government = green; full names of banks are provided in the Annex (Table A1).

Figure 1 brings together all three factors. Starting from the top right of the figure and proceeding clockwise, we distinguish four main categories of bank:

³ Carmassi and Herring (2014) attempted a similar exercise using Bankscope data and report the following numbers of entities: 1985 (406) for Deutsche, 2076 (358) for HSBC and 710 (165) for Santander (the numbers of larger subsidiaries, which report numbers of employees, are given in brackets). While there are discrepancies between the two datasets, they both indicate that large banking structures have a high number of subsidiaries.

- In the second quadrant (top right), we have banks with a greater than average number of associated legal entities but a lower than average share of cross-border assets. In other words, these banks have relatively complex structures but are relatively concentrated in their home countries. It is worth noting that these banking groups tend to have cooperative governance arrangements.
- The banking groups in the third quadrant (bottom right) have greater than average numbers of legal entities and greater than average cross-border activity. These cases could be the most challenging, because organisational complexity is combined with dispersion across jurisdictions. It comes as no surprise that most euro-area G-SIBs fall into this category.
- The groups in the fourth quadrant (bottom left) possess fewer entities than average but have cross-border presences that are greater than average. Despite their strong international natures, these banking groups have a relatively simpler structure. However, their significant cross-border footprints render them relevant for the ensuing discussion.
- Finally, the first quadrant (top left) encompasses the remaining groups, ie those with fewer than average numbers of legal entities and lower cross-border assets. Among the 30 largest ECB-supervised banks with parents based in the euro area, we expect these cases to pose the fewest legal and operational impediments to resolvability.

In Europe, universal banking tends to be the prevailing model, whereby banks provide a broad range of financial services encompassing commercial and investment banking. Moreover, some universal banks form financial conglomerates with insurers. In our 30-bank sample, 19 groups are financial conglomerates according to the Joint Committee of the European Supervisory Authorities⁴. Europe is different in this respect to other jurisdictions, such as the United States, where sharper distinctions apply. Therefore, defining a typology of European banks' business models is not straightforward. However, we follow the literature and disentangle two main standard types of global bank:

- The **integrated (or centralised) global bank**; and
- The **decentralised global bank**.

Figure 2 shows the structure of the integrated or centralised global bank, in which top management makes key decisions for the group as a whole. Capital, liquidity and services like IT, risk management and treasury operations are integrated. Integrated global banks mainly use branches for cross-border expansion and if any, subsidiaries are managed as part of the whole. ING and Deutsche Bank are typical examples of such banks. Commonly cited strengths of the centralised model are that raising funds on the top tier rather than the local level reduces the cost of funding and allows for greater flexibility in managing it. Moreover, centralised management of technology and operational resources permits the group to achieve economies of scale (Carmassi and Herring, 2014).

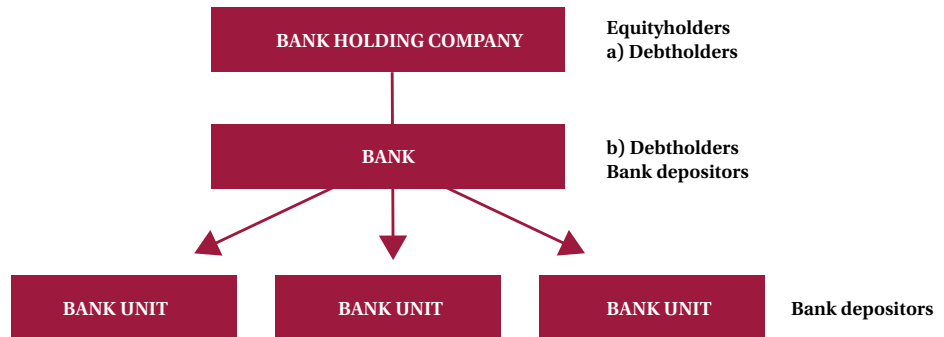
Figure 2 also shows the structure of the decentralised global bank, which operates through a network of subsidiaries carrying the same brand; the boards of the subsidiaries have a certain degree of autonomy in taking decisions. BBVA and Santander are examples of banking groups organised in this fashion. Reliance on the parent for funding is low and, therefore, cross-border exposure is also limited. In crisis times, funding autonomy limits contagion between units of the group, but funding diversification at the group level can also be a source of strength for the group as a whole (Carmassi and Herring, 2014). These two business models are at the extreme of the spectrum: in reality most banks lie somewhere in between.

⁴ As of 2015, the Joint Committee list included the 17 largest banks as per Table A1 in the Annex, except for Commerzbank.

Figure 2: Integrated vs. decentralised global banks

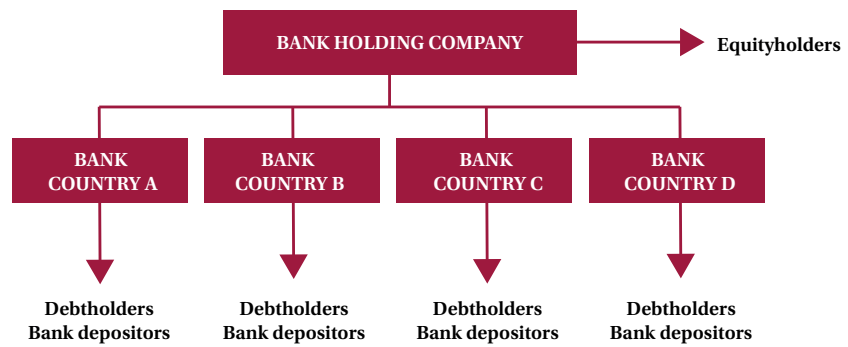
The integrated global bank

Decision-making and external funding are predominantly at the top level (holding or bank just under the holding). Equity is raised at the holding level, while debt is also raised at the top level: either at the holding (a), or the top bank (b). Bank depositors (and other bank creditors) are at the top bank as well as the bank units further down in the group (the arrows down).



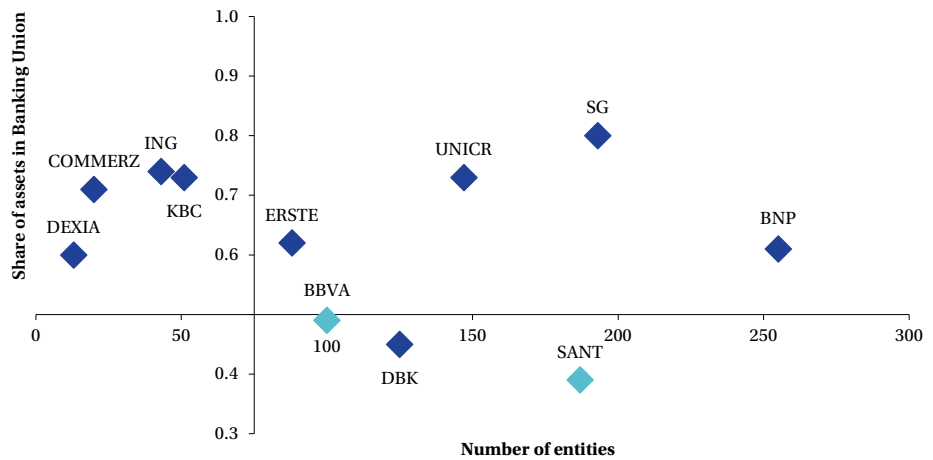
The decentralised global bank.

Decision-making and external funding are predominantly at the country level. While equity is raised at the holding level, debt is raised at the banks incorporated in the various countries. Bank depositors (and other bank creditors) are also at country bank level as well as the bank units further down in the countries.



Source: Schoemaker, 2013.

Figure 3: Global reach of international euro-area banks (banking union vs global assets) and centralised vs. decentralised structure



Source: SNL Financial, Bruegel calculations. Note: Full names of banks are provided in the Annex (Table A1). Dark blue = centralised, Light blue = decentralised.

To refine our analysis, we split the 10 cross-border banks in the bottom half of Figure 1 and Société Générale (the only other ‘large’ commercial bank in our sample) into banks with their business mainly in the banking union and banks with substantial business outside the banking union. In addition, we distinguished banks that tend to have a decentralised structure from those that resemble relatively closely the centralised model. This segmentation, shown in Figure 3, serves as background to the discussion of strengths and weaknesses of operational models in terms of resolvability. Figure 3 shows that Commerzbank, ING, KBC, Société Générale and UniCredit have 70 percent of their business within the banking union. Dexia, Erste Group, BNP Paribas conduct about 60 percent of their business in the banking union. By contrast, BBVA, Deutsche Bank and Santander conduct more than 50 percent of their business outside the banking union, either in non-euro area EU member states or outside the EU. The latter banks have substantial global operations. Finally, the majority of these banks are organised in a relatively centralised manner, with BBVA and Santander emerging as the two groups that have adopted a decentralised structure for their global operations.

3. Strengths and weaknesses of banking models in terms of resolvability

Are particular banking group structures more conducive to resolution? It is impossible to ignore the question of how resolution is practically implemented in a world in which there is no supra-national resolution authority, only national regulators responsible for banks operating in their own jurisdictions. There are two fundamentally opposite approaches to resolution of cross-border banking institutions:

- The single point of entry (SPE) approach: this relates to the exercise of resolution powers by a single resolution authority at the level of a single parent company or a single institution subject to consolidated supervision.
- The multiple points of entry (MPE) approach; this entails the exercise of resolution powers by two or more resolution authorities to regional sub-groups or entities of a bank (SRB, 2016).

The operational structure of the group and the overall approach to resolution cannot be dealt with in isolation, as the former largely determines the chance of success of the latter. Bolton and Oehmke (2016) underline that whether an SPE or MPE approach is appropriate depends on the spillover risks and the operational structure of each bank. SPE resolution is more efficient if a bank’s operations in different jurisdictions are complementary (ie the one depends on the other). Another factor is direct spillovers between entities in different jurisdictions. These factors are commonly present in a centralised structure. MPE resolution is more likely to be efficient for a more decentralised global financial institution (Bolton and Oehmke, 2016).

Therefore, SPE resolution is broadly suitable for banks with centralised structures and MPE resolution broadly suitable for banks that use a decentralised model. However, both resolution approaches have strengths and weaknesses based on: i) a trade-off between subsidiary autonomy, which is key for separability, and overall group efficiency (or flexibility); and ii) the degree of certainty that the planned resolution strategy will actually be implemented by different national authorities. Organising funding and services provision at the local, subsidiary level facilitates resolution but prevents the group as a whole from operating at a lower cost, owing to economies of scale. Organisational complexity creates interdependencies between the legal entities of the group, which makes the business model of the individual

legal entities non-viable if separated from the whole. Separability is a central assumption when the resolution strategy includes the transfer or sale tools. Interdependencies form, therefore, a potential roadblock to resolution.

In terms of our operational models of banks (section 2), banks with integrated/centralised structures are mainly cooperative banks, which often are part of a financial conglomerate (top right quadrant in Figure 1). The existence of multiple legal entities together with a complicated conglomerate structure makes resolution of these banks very difficult. Moreover, decision-making within cooperatives, within which managers are accountable to the members/clients, can be time consuming.

Meanwhile, decentralised global banks span multiple jurisdictions both within the banking union and beyond it (bottom half of Figure 1). For these banks, the combination of multiple legal entities with multiple national resolution authorities hinders swift resolution. Whether these global banks are more or less difficult to resolve needs to be viewed from the perspective of the banking union, in addition to the home country point of view. Figure 3 shows that BBVA, Deutsche and Santander have global operations, which makes coordination and cooperation with regulators of other jurisdictions a central issue. Finally, the degree of autonomy from the top-tier company that these extra banking union legal entities enjoy is a crucial variable, when combined with such a wide cross-jurisdictional dispersion of activities.

As already mentioned, a centralised bank could be resolved using an **SPE** approach. The literature emphasises that SPE resolution is more **efficient** than MPE, on the basis that it allows cross-jurisdictional transfers and, thus, requires less loss-absorbing capital to achieve the same result (Bolton and Oehmke, 2016). More generally, centralised banks can be efficient through economies of scale achieved by centralising funding and the provision of services. Moreover, if agreed and implemented properly, SPE minimises the number of parties that are involved in resolution, thus reducing coordination costs. SPE is therefore an appealing alternative to restructuring for groups that are too complex and costly to restructure. The US, UK and Swiss authorities have expressed a preference for the SPE approach (Carmassi and Herring, 2014; Huertas, 2014).

However, attractive though the SPE option appears in theory, it is likely to prove difficult to implement on a practical level. What renders SPE problematic is that national regulators may find it to be against their interests, *ex ante* (at the stage of resolution planning) or *ex post* (when SPE resolution has to be executed), because of the size of the cross-jurisdictional cash flow transfer (Bolton and Oehmke, 2016). In the case of *ex-post* collapse of SPE, host country authorities adopt a territorial approach and ringfence the local bank, whether a branch or a subsidiary, contrary to planning in what effectively amounts to liquidation (Huertas, 2014; Schoenmaker, 2016). Past instances show that ‘mutual fragmentation’ tends to be the rule rather than the exception in times of actual crisis, regardless of the planning in the run up to it.

Beyond the issue of cross-jurisdictional cooperation, successful SPE resolution requires additional conditions. The key condition⁵ is that the parent (holding) company should hold sufficient equity and debt issued by the subsidiaries, which are subordinated to claims on the subsidiary by third parties. This debt is written down and converted in order to recapitalise the subsidiary should the need arise. Over and above liability reconstruction, in a – presumably centralised – bank, the top tier company should ensure liquidity provision, as well as access to vital services and financial market infrastructures, to its subsidiaries (Huertas, 2014).

MPE can overcome the sub-optimal outcome of the territorial approach under SPE. Essentially, under MPE, the top tier company is allowed to walk away from its subsidiaries. The approach is territorial in theory as well as in practice: the autonomy of different legal entities operating in different jurisdictions renders separability possible along national lines. The downside, as already mentioned, is that a whole host of limits on intra-group interdependencies imply inefficient/costly outcomes. Freedom to draw funding from a broader array of markets can reduce its cost, and services may be simply too expensive to set up at the

5 As articulated by many authors: Carmassi and Herring (2014), Gordon and Ringe (2015), Huertas (2014).

individual unit level (Carmassi and Herring, 2014).

There are also conditions for MPE to be effective⁶:

- That there are sufficient loss-absorbing liabilities at the subsidiary level;
- That loss of market confidence does not spread to the other units of the group;
- That resolution does not trigger intervention by national authorities in other jurisdictions where the group is active.

4. Issues specific to the resolvability process

In general, the SRB plans for possible resolutions by gaining a comprehensive overview of each bank, defining the impediments to resolution and enabling the quick launch of a resolution procedure. The planning process follows six pre-defined steps: the strategic business analysis, the determination of the preferred resolution strategy, the assessment of the financial and operational continuity in resolution, the preparation of the information and communication plan, the conclusion of the resolvability assessment and finally the feedback from the bank in relation to the resolution plan. The resolution process starts internally with the determination of a bank's critical functions, which are necessary for the well-being of the real economy.

When establishing resolution plans, it is important to define what core business lines and critical functions are. Financial institutions tend sometimes to mix those two concepts as they consider core business lines as critical for the well-being of the institution itself. As defined by the SRB, business lines are *“structured sets of activities, processes or operations that are developed by the bank for third parties to achieve the bank's goals”* (SRB, 2016). Core business lines are the most profitable entities/activities of an institution – or those that are expected to be most profitable. This is usually why banks tend to consider them to be critical (internal approach).

Critical functions are activities needed for the good functioning of the real economy. Functions are structured sets of activities, services and operations that are delivered by the bank to third parties (SRB, 2016). They are defined as critical if the discontinuance in their provision would affect third parties and the whole economy. Therefore, when trying to assess whether a function is critical or not, one should first look at the impact of a disruption to the provision of the analysed function. This is what the Financial Stability Board (FSB) defined as *“the impact assessment”*. One should take into account the direct effects of a collapse for the provision of the analysed function, namely the impact on counterparties that directly rely on the function, but also the indirect effects of its loss, such as contagion effects or the loss of general market confidence.

After assessing the impact of a failure in providing one function, it is necessary to determine the degree of its substitutability. In other words, the collapse of a specific function might have a strong impact on third parties but if the market adapts quickly, it will be easier to find a potential substitute for that function. One should then analyse the structure of the market: this is what the FSB defined as the *“supply-side analysis”*. Hence, a critical function is defined by the high degree of reliance of third parties on its continuing provision and its low level of substitutability.

⁶ As Carmassi and Herring (2014) emphasise. On the second of the bullet-pointed conditions, Anginer *et al* (2014) found that although the correlation between default risk of parents and subsidiaries is statistically significant, the correlation is lower for subsidiaries that have higher capital, deposit funding and profitability ratios and that are managed more independently from the parent.

The last step mentioned by the FSB is the “*firm-specific test*”. This aims to determine whether a function is critical at the firm-level. In other words, it is a test of the importance of a firm in providing a specific function and therefore the impact of its potential collapse on the real economy and/or financial markets. Note that one function can be defined as critical for one firm but might not be critical for other firms.

Finally, critical functions are provided by specific services within the financial institution. In the FSB’s ‘Guidance on Identification of Critical Functions and Critical Shared Services’, a critical shared service is defined as an activity or a set of activities “*performed within the firm or outsourced to third parties where failure would lead to the inability to perform critical functions and, therefore, to the disruption of functions vital for the functioning of the real economy or for financial stability*”.

A shared service is performed either by an internal unit, a separate legal entity within the group or an external provider, for one or more business units or legal entities of the group, and its malfunction would lead to the collapse of, or serious impediments to, the performance of critical functions. Table 1 provides an overview of banks’ functions and shared services.

Table 1: Functions and shared services of banks

Type	Sub-sets	Examples
<i>Functions</i>	Deposit taking	Retail, commercial or institutional
	Lending and loans servicing	Credit card lending, SME lending
	Payments, clearing, custody and settlement	Cash services, wire transfers, merchant/credit card services
	Wholesale funding market activities	Inter-bank lending
	Capital markets and investments activities	Equity, government debt and asset management
<i>Shared services</i>	Finance-related shared services	Treasury, asset management
	And operational shared services	IT and transaction processing

Source: FSB [2013]. Note: The determination of a function or a shared service as critical has to rely on all the criteria (ie unavoidable effect on third parties and very difficult to find substitute). If any of them is absent, the function or shared service cannot be considered as critical.

The European Banking Authority (EBA) has published ‘Technical Advice on the delegated acts on critical functions and core business lines’⁷. This considers the strategic analysis carried out by the financial institution as the first step in a more global procedure to identify critical functions. The EBA defines the first step as the “*bottom-up approach*”. The financial institution identifies what it considers as a critical function. The regulatory authorities then check whether the financial group’s results are in line with the external definitions of a critical function and a critical shared service. That second step is defined as the “*top-down approach*” or mapping. The EBA emphasises that financial institutions usually have a different view “*in terms of which of the activities performed are critical to the economy and financial markets*”. It is worth recalling that core business lines are not considered as critical functions. It is not because an activity has a high degree of return on investment that it should be viewed as critical for the real economy or/and the level of confidence of market participants. In order to perform the mapping of critical functions, the resolution authorities need to be aware of the institutions’ business models and structures – usually detailed in the first part of the strategic analysis. The regulatory authorities will then be able to match what they consider as critical

⁷ Available at <https://www.eba.europa.eu/documents/10180/983359/EBA-Op-2015-05+Technical+Advice+on+critical+functions+and+core+business++++.pdf>

functions with the institutions' primary results. The objective is to end up with a ranking of the functions provided by the group to third parties (spectrum of criticality) that will help in being efficient during a crisis.

In addition to a complex legal structure (see sections 2 and 3), we identify two further challenges for resolvability:

4.1 Assessment of resolvability by the SRB

First, in consultation with the competent authorities, the SRB identifies the serious impediments to resolvability in a report addressed to the entity or group concerned. Within four months of receipt of the report, the bank must propose measures to address or remove those serious impediments. The measures proposed are then examined by the SRB, again with competent authorities being consulted, and in case they are found to not effectively reduce or remove the impediments, the SRB may finally instruct the relevant NRAs to implement appropriate measures.

The legal basis for such measures is a specific instruction in Article 6 of the SRB Decision SRB/PS/2016.07. The time limit for the implementation of a measure is specified in the instruction and is determined on a case-by-case basis, but importantly cannot be less than five business days. The Decision gives the SRB the right to reduce the timeframe below that limit if "*earlier adoption of the measure by the NRA is necessary due to urgency in the circumstances of the case*". To ensure the implementation of such a decision, in case NRAs do not comply with the instruction, the SRB may order the institution in question to adopt the measures it has ordered. In doing so, the SRB must notify in advance the NRAs concerned and the European Commission. Moreover, the NRAs must explain in a reasoned statement to the SRB their reasons for not following the instruction.

In the assessment of resolution challenges, the SRB is dependent for information on the NRA and the bank itself. Herring (2007) indicates that a national authority and/or bank does not have an incentive to reveal negative information early, because other national authorities or the SRB might take precautionary measures in reaction to the information. This problem is compounded in a cross-border setting with multiple NRAs. We distinguish between cross-border cooperation with NRAs within the banking union and with NRAs in non-euro area jurisdictions, which is even more challenging. Gordon and Ringe (2015) also show that financial distress may have an uneven impact in different countries, which will lead to national ringfencing *ex ante* and *ex post*.

4.2 Funding and liquidity provision

Another impediment to the resolution of a large bank is lack of funding and liquidity provision. Huertas (2014) argues that recapitalisation is not sufficient to maintain critical shared services and to ensure the provision of critical functions to third parties. Recapitalisation usually occurs when a financial institution in resolution cannot maintain access to liquidity to refinance its liabilities. The bank-in-resolution needs to own a minimum pool of unencumbered assets that would potentially be used as collateral with the liquidity provider.

As mentioned in the consultative document published by the FSB (2015), a shortage in liquidity could arise from the G-SIB's inability to roll-over short-term borrowing or loss of access to alternative sources of credit. Even a recapitalised G-SIB can still face problems in finding sources of liquidity and funding. The financial institution usually still suffers from a lack of trust of market participants and might have difficulties in finding sources of funding.

To avoid a shortage in liquidity provision and a potential discontinuity of critical functions, the bank in resolution should first try to find the best internal allocation of funding and target its primary needs. This requires a proper ranking of critical functions and internal agreements on how to keep on providing necessary amounts of liquidity to the pre-defined critical services ahead of a potential resolution process. Huertas (2014) also mentions the need to create and maintain a 'collateral budget' – this requires banks to track their unencumbered assets. This will make it easier and quicker to use those assets as collateral to prevent any liquidity needs.

As a last resort, a public authority would temporarily provide liquidity and behave as a public backstop. There are currently two main public liquidity providers: the Single Resolution Fund (SRF)⁸ and the central bank, which can grant emergency liquidity assistance. The latter role is still performed at the national level by the national central banks (NCBs).

5. Recommendations

First, for complex structures, we recommend that the legal structure should clearly separate the banking and insurance parts of financial conglomerates. If that is not the case, the SRB should impose measures in the resolution plan to ensure effective separation. In cases of overly complex legal structures or cumbersome decision-making procedures, the SRB should also demand simplification of structures and procedures to enhance the resolution process⁹. Next, for the banking part, the literature suggests that the SPE procedure has many advantages: clarity, credibility, transparency of the process, works much better in cross-border situations, ensures that the operating subsidiaries can carry on their business. As a minimum, we recommend that the SRB should request financial groups to move toward a structure headed by a holding company for their operations throughout the banking union area, which would then effectively be treated as a single jurisdiction.

The next question is what structure should be employed for global banking groups. The US and the UK have already said they favour the SPE resolution procedure. However, some European financial groups also mentioned a preference for the MPE procedure. The appropriate procedure depends on the intensity of cooperation with other countries¹⁰. If cooperation cannot be relied on ('uncooperative SPE'), the MPE procedure is more realistic (Schoenmaker, 2016). A combination of SPE within the banking union area and MPE in other jurisdictions is then possible.

Second on the assessment of resolvability, it is important that the SRB gives clear guidelines and uses a narrow definition of critical functions. Otherwise, the disciplinary effect of the new resolution regime remains limited. It follows that non-critical functions should be liquidated or sold to other banks. This approach can be helpful in reducing the current overcapacity in European banking (Advisory Scientific Committee, 2014).

We thus recommend that the SRB employs a strict definition of critical functions from a banking union-wide perspective and keeps to this strict definition. First, a strict definition implies that when customers can easily get a particular type of banking service from another bank, these services should not be considered as a critical function. Many wholesale banking or capital market services are, for example, not critical under this criterion. Second, the SRB needs to look at the availability of alternative banks at the national level¹¹ and the transferability of the banking function. While larger corporates might be able to get banking services from other

8 The SRF has been created to "ensure the efficient application of resolution tools and the exercise of the resolution powers conferred to the SRB by the SRM Regulation". Credit institutions and investment firms in the 19 banking union member countries contribute to the fund. For more information: <https://srb.europa.eu/en/content/single-resolution-fund>.

9 An interesting example of streamlining decision-making procedures in a cooperative banking group is Rabobank, the large Dutch cooperative. For internal efficiency reasons and for supervisory purposes, Rabobank moved to a single, more centralised, legal structure for the parent bank and the local cooperative entities in 2015 (Schoenmaker and Véron, 2016).

10 The host country applies both capital and bail-in requirements to national subsidiaries (but not branches). The FSB proposes that each material sub-group maintains an internal Total Loss-Absorbing Capacity (TLAC) of 75 to 90 percent of the external TLAC requirement that would apply to the material sub-group if it were a resolution group. In that way, the contribution of the host country to a potential bail-in is already prepositioned aiding the smooth cooperation between host and home countries.

11 For smaller countries, the availability at the level of a group of countries (for example, the Baltic states or Belgium and Luxembourg) can be assessed instead of at the national level.

universal banks, SMEs are typically more dependent on their bank and their loans are not easily transferable because of asymmetric information about the quality of the borrower. Next, the transfer of substantial amounts of retail deposits and related payment services depends on the availability of other banks in the country (or in the group of small countries) and the capacity of these banks to absorb these deposits and payment services (eg printing new cards).

If and when NRAs employ more expansive definitions of critical functions, the SRB should use its power to impose its rules on the NRAs and banks. The ‘top-down’ approach has to be at the core of the resolution plan – the review of the resolution plans by the SRB is a crucial step to both make sure that banks come out with a proper ranking of critical functions and modify it if needed. There should not be distortions and different definitions of what critical functions are. This requires cooperation between the SRB, NRAs and banks.

If it appears that NRAs or banks are withholding relevant information from the SRB, we recommend that the SRB should be given more staff with direct access to banks, like the US Federal Deposit Insurance Corporation (FDIC). In the United States, the FDIC has independent supervisory and resolution powers (in addition to the banking supervisors) and is appropriately staffed with slightly more than 6,000 full-time equivalent staff in 2015 (FDIC Annual Report, 2015). By comparison, the SRB had 107 staff end-2015 (SRB Annual Report, 2015).

Third on liquidity, the day after the execution of the resolution of a bank is also important. We recommend clarity over possible bridge- and liquidity financing. However, in case a bank reaches the point of non-viability, it should first be put into resolution, without any forbearance (Huertas, 2016). NRAs and NCBs should avoid firstly providing emergency liquidity assistance (ELA) to the bank and then deciding to put it into resolution. By refinancing itself with the central bank, the distressed bank not only maintains its liquidity, but also benefits from the viability test that a central bank conducts prior to granting ELA.

As supervision by the ECB and resolution by the SRB for the large euro-area banks are done at the supranational level in the banking union, ELA for a resolved bank should also be provided by the ECB and not the NCB (Goodhart and Schoenmaker, 2014). The functions would then be aligned at the same level. We thus recommend that the ECB should be the authority responsible for providing ELA to resolved banks within the euro area (see also Huertas, 2016).

The bridge financing should come from the Single Resolution Fund (SRF). To enable the SRF to provide bridge financing to resolved banks, it should have a common backstop from the European Stability Mechanism (Schoenmaker, 2016). As crisis management arrangements should be clear, we recommend publishing the arrangements for liquidity (ECB) and bridge (SRB) financing. Lingering uncertainty about these arrangements adds to falling confidence in times of crisis.

A recapitalised bank should also be able to fund itself through the ordinary facilities of the Eurosystem. Keeping recapitalised banks away from such a backstop will not help market confidence to recover. By granting such financial institutions access to the ordinary facilities, it would send a healthy signal to the market counterparties.

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Annex 1

Table A1: 30 euro area G-SIBs and E-SIBs

Banking groups	Abbreviation	Total assets in € billions	Banking union market share	Banking union			Rest of world			Governance	No. of legal entities	
				Home	Other euro area	Total	EU Non-EA	Non-EU	Total			
1	BNP Paribas (FR)	BNP	€1,994	5.30%	25%	36%	61%	15%	25%	40%	Commercial	255
2	Crédit Agricole (FR)	CA	€1,699	6.70%	81%	8%	89%	2%	8%	10%	Cooperative	243
3	Deutsche Bank (DE)	DBK	€1,629	3.20%	26%	19%	45%	9%	46%	55%	Commercial	125
4	Santander (ES)	SANT	€1,340	2.30%	28%	11%	39%	31%	29%	60%	Commercial	187
5	Société Générale (FR)	SG	€1,334	4.70%	72%	8%	80%	11%	9%	20%	Commercial	193
6	BPCE (FR)	BPCE	€1,167	4.80%	91%	2%	93%	1%	6%	7%	Cooperative	194
7	UniCredit (IT)	UNICR	€860	2.80%	42%	31%	73%	24%	2%	26%	Commercial	147
8	ING (NL)	ING	€842	2.70%	36%	38%	74%	11%	15%	26%	Commercial	43
9	BBVA (ES)	BBVA	€750	1.60%	39%	10%	49%	15%	36%	51%	Commercial	100
10	Crédit Mutuel (FR)	CM	€707	3.00%	89%	8%	97%	1%	3%	4%	Cooperative	96
11	Intesa Sanpaolo (IT)	ISP	€676	2.70%	85%	5%	90%	6%	4%	10%	Commercial	42
12	Rabobank (NL)	RABO	€670	2.30%	74%	5%	79%	2%	20%	22%	Cooperative	134
13	Commerzbank (DE)	COMMERZ	€533	1.70%	52%	19%	71%	16%	13%	29%	Commercial	20
14	DZ Bank (DE)	DZ	€408	1.60%	82%	7%	89%	5%	5%	10%	Cooperative	73
15	ABN AMRO (NL)	ABN	€390	1.50%	73%	12%	85%	3%	11%	14%	Government	51
16	CaixaBank (ES)	CAIXA	€344	1.40%	86%	8%	94%	5%	2%	7%	Cooperative	39
17	KBC Group (BE)	KBC	€252	0.80%	52%	21%	73%	23%	5%	28%	Commercial	51
18	LBBW. (DE)	LB BW	€234	0.90%	76%	9%	85%	7%	8%	15%	Government	8
19	Dexia (BE)	DEXIA	€230	0.60%	1%	59%	60%	16%	23%	39%	Government	13
20	La Banque Postale (FR)	POSTALE	€219	1.00%	99%	1%	100%	0%	0%	0%	Government	12
21	Bayerische Landesbank (DE)	BAY LB	€216	0.80%	77%	10%	87%	6%	7%	13%	Government	6
22	Banco Sabadell (ES)	SABAD	€209	0.80%	63%	21%	84%	8%	7%	15%	Commercial	20
23	Bankia (ES)	BANKIA	€207	0.90%	86%	10%	96%	4%	1%	5%	Government	7
24	Erste Group (AT)	ERSTE	€200	0.60%	44%	18%	62%	36%	1%	37%	Commercial	88
25	NORD/LB (DE)	NORD LB	€181	0.70%	85%	8%	93%	3%	4%	7%	Government	6
26	Belfius (BE)	BELFIUS	€177	0.70%	70%	20%	90%	8%	2%	10%	Government	11
27	Helaba (DE)	HELABA	€172	0.70%	86%	5%	91%	3%	6%	9%	Government	23
28	Monte d. Paschi di Siena (IT)	BMPS	€169	0.70%	97%	2%	99%	0%	1%	1%	Commercial	9
29	Banco Popular Español (ES)	POP	€159	0.70%	92%	6%	98%	0%	2%	2%	Commercial	17
30	BNG Bank (NL)	BNG	€150	0.60%	88%	8%	96%	3%	0%	3%	Government	2
Total G-/E-SIBs			€18,119	58.70%	58%	16%	74%	10%	16%	26%		

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Source: Bruegel calculations based on SNL Financial, annual reports and ECB SDW. Notes: The market share in the banking union is defined as the share of total assets in the banking union of the respective banking group over total banking assets in the banking union. The geographical breakdown refers to the share of assets in the home market, the banking union, the rest of Europe and the rest of the world over the total assets of the respective banking group. The home and banking union shares add up to the total banking union share. The bottom line is calculated as average weighted by assets. The data are for end 2015, except for Crédit Mutuel which is end 2014.

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