The Europe Institute
An Institute of The University of Auckland

THE UNIVERSITY OF AUCKLAND
NEW ZEALAND
Te Whare Wānanga o Tāmaki Makaurau

THE FUTURE OF MONETARY AND FINANCIAL UNION IN EUROPE

WORKING PAPERS

2015/1

Bank Resolution and Recovery

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This research was assisted by a grant from the EU on the topic "The Future of Monetary and Financial Integration in the EU"

Bank Resolution and Recovery

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Abstract

The purpose of this paper is to consider the problems posed by recovery and resolution plans (living wills) for cross-border financial institutions in the light of three different approaches to implementation applied in the US and the UK, the European Union, and Australia and New Zealand and suggest ways forward, particularly in the EU. It concludes that while these plans will help in facilitating both recovery and resolution that there are many other issues still to be addressed, particularly restructuring. Even with greater legal harmonisation and coordination it is unlikely that it will be possible to resolve many such institutions without some use of taxpayers' money.

> "Unfortunately, based on the material so far submitted, in my view each plan being discussed today is deficient and fails to convincingly demonstrate how, in failure, any one of these firms could overcome obstacles to entering bankruptcy without precipitating a financial crisis. Despite the thousands of pages of material these firms submitted, the plans provide no credible or clear path through bankruptcy that doesn't require unrealistic assumptions and direct or indirect public support." (Thomas M. Hoenig – Vice Chairman of the Federal Deposit Insurance Corporation – August 5, 2014)[2]

After the failure of Lehman Brothers, financial authorities around the world, following the recommendations by the Financial Stability Board (FSB), required their systemically important financial institutions (SIFIs) to draft recovery and resolution plans. The US authorities have provided feedback on those plans drawn up by their SIFIs. As is clear from the quotation above, the Board of Governors of the Federal Reserve System and the Federal Deposit Insurance Corporation (FDIC) are not satisfied with the progress made in this area. Particularly, in their joint release on August 5, 2014, the two agencies reported that there are still significant shortcomings in the living wills submitted by 11 large and complex banking organisations operating in the US which need to be addressed in the 2015 submissions. These

[1] We are grateful to Santiago Carbo-Valverde, Andrew Hewitt and participants at the conference on 'European Banking Union: Prospects and Challenges' at the University of Buckingham and at the IBEFA session at the WEAI International Conference in Wellington in January 2015 for their comments.

[2] https://www.fdic.gov/news/news/speeches/spaug0514a.pdf.

shortcomings relate to resolvability, continuity of functions critical to the financial system, stay of early termination rights of external counterparties, and timely production of reliable information.[3,4]

The process in the EU is not so advanced but one of the key steps to ensuring greater financial stability and the plausible resolution of cross-border financial institutions, namely the proposal for a regulation to place requirements on the structure of these institutions,[5] seems to be encountering major obstacles. Moves to limit contagion of high risk activities to the vital functions of the financial system and moves to ensure that structures of large institutions are not too complex to prevent the speedy resolution of problems without recourse to taxpayers' money are seen essential for the success of the regulatory reform of the financial system.

We therefore explore what the difficulties are and whether the approaches that are being used in the US, UK, EU, Australia and New Zealand offer ways forward particularly in the EU. We begin with an overview of the problem before considering the lessons and the way forward.

Introduction

Theoretically, living wills aim to increase the resilience of banks to adverse idiosyncratic and/or market shocks and, most importantly, solve the too-big-to-fail (TBTF) problem in the sense that functions vital to the stable operation of the financial system can be kept operating without a material break and without the injection of public money (Huertas, 2010).[6]

A *recovery plan* describes ex ante the necessary actions that a large financial institution (FI) in distress is going to undertake in order to recover and regain its viability. Thus, the main objective of a recovery plan is to reduce the likelihood of a failure. The effectiveness of a recovery plan depends on the timeliness and speed of its execution and its credibility to key stakeholders, so confidence in the institution can be maintained. Essentially, the plan involves rapid recapitalising and restructuring of assets and liabilities under conditions when

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[3] https://www.fdic.gov/news/news/press/2014/pr14067.html.

[4] The text of living wills is confidential so it is not possible for the outside observer to form a judgement. There is a public version available for each bank as part of the Dodd-Frank Act requirements but these are not very informative and hence unlikely to enhance either public confidence or market discipline (Carmassi and Herring, 2013).

[5] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52014PC0043.

[6] The full speech of can be read at http://www.fsa.gov.uk/pages/Library/Communication/Speeches/2010/0212_th.shtml.

everybody knows the bank has a problem and hence will be reluctant to lend to it. Hence, guaranteed forms of funding, such as contingent convertibles (CoCos), which do not require discretionary decisions at the time, will be the most plausible.[7] Senior management is responsible for evaluating, updating, and promulgating recovery plans, which ideally would improve the understanding of the structure and interconnectedness of the bank the management runs. However, it will be for the authorities to decide whether these are adequate.[8]

If the application of a recovery plan fails to return a distressed FI to soundness then resolution authorities will apply a *resolution plan*, which they develop in advance with the FI. The purpose of a resolution plan is to resolve a SIFI in an orderly manner that will promote financial stability and minimize the cost to the taxpayer, with the authorities and not the bank's management running the process.

It is highly debatable, whether, even in theory, the large cross-border banks could produce recovery and resolution plans that are credible and might not require public support, as they relate to periods of great stress that have not been adequately predicted. A serious problem with a large bank is not likely to be an idiosyncratic event but a part of a wider malaise. It is more realistic to ask how far the plans can ease the process of adjustment by putting in place much more contingent preparation so that it is possible to put together a less costly and more rapid recovery or resolution. Public money might be required, first, to act as a guarantee against future loss so the central bank can provide liquidity against adequate collateral if the market is reluctant and, second, to bolster confidence in the rest of the financial system. Furthermore, public money might be required because it is not possible to undertake adequate due diligence for a private sector solution in the time available and because, for such large institutions, it is difficult to put together the necessary capital in a period of distressed markets that does not bring with it unacceptable structural problems, such as overconcentration and the fear of knock on problems for the acquirers.

During the recent Global Financial Crisis (GFC) mergers and acquisitions (M&A) were popular options for the authorities to solve FIs failures and avoid the financial system's

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[7] Calomiris and Herring (2011) set out how CoCos can be designed to encourage the existing shareholders to recapitalise the bank without triggering the bail in.

[8] In the case of the EU the assessment process is complex (Bank Resolution and Recovery Directive (BRRD), Articles 6-9) as it involves agreement not just among the supervisory authorities in each relevant country but with the resolution authorities as well. The BRRD is available at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.173.01.0190.01.ENG.

collapse (for example, the acquisition of Merrill Lynch by Bank of America in the US and that of HBOS by Lloyds in the UK). This has led to more consolidated markets in the post-GFC period exacerbating the TBTF problem. Hence, the problems for the future are enhanced. Not only are banks now larger but the chance of being able to use M&A to sort out problems in SIFIs is smaller. So the main private sector route for recovery may not be available. In so far as cross-border mergers have been a solution to previous problems they have created institutions that are now a bigger cross-border problem.

Norway, Finland and Sweden all successfully resolved the separate banks, which later merged to become Nordea, in the financial crises at the beginning of the 1990s, each applying different methods, while the Danish part of Nordea, Unibank, was itself formed from the merger of three Danish banks in 1990. Next time round all four countries will have to cooperate as it is now a single banking group. They each have their own currency. Finland alone is part of the euro area while Norway is not part of the EU but the European Economic Area (EEA). The Swedish government was a part owner until 2013 and the group is headquartered in Sweden. The list of possible contradictions and potential conflicts of interest is long. Where would Nordea look for merger partners in a crisis? Merging with Danske Bank would result in a market share of over 40% and the top two groups would cover over 75% of the market. Merging with DnB NOR would involve the Norwegian government which owns a third of the bank. Living wills for cross-border FIs have been proposed to deal mostly with the inconsistencies among national legal frameworks, which would be impediments to their resolution.[9] Identifying these impediments in advance via living wills could facilitate their orderly resolution.

However, as soon as it becomes public knowledge that a SIFI is in trouble there will be a much wider impact on confidence in the financial system. The recovery plan therefore has to address these systemic concerns as well. This, therefore, goes beyond what steps the bank itself can set out in advance to make recapitalisation plausible. Even in terms of just recapitalisation, the plan has to offer more than a replenishment of the capital that has been lost and convince people that the revitalised institution has a profitable future. The new capital buffer would need to be clearly above the regulatory minimum. Often in the past, even if the refinancing came from the private sector, some form of government guarantee was

[9] http://www.rbnz.govt.nz/regulation_and_supervision/banks/oia-obr/5229392.pdf.

required against future loss for this to be successful and for the wider confidence in the system to be restored.[10]

In the case when a resolution plan kicks in, the requirement is even more demanding as it starts from the premise that an 'unassisted' private sector solution has not been found.[11] Such a solution therefore has to be imposed. In the past, getting such an outcome normally required funding, at least in the short run, from somewhere beyond the creditors, such as deposit insurance, even if the funds were repaid eventually through an insolvency process. Now, it is hoped that by augmenting the funds available and by bailing in creditors compulsorily at the time of failure it will be possible to avoid the direct use of public funds.[12] In the case of the US, the Orderly Liquidation Authority may be available for the largest banks and, in the EU, there will be the resolution funds accumulated in advance by levies on the banking system. The discussion has been rather muted over whether such funds might not be needed more broadly in solving the crisis, say by making capital injections available to the whole of the banking system (Gordon and Ringe, 2014). Furthermore, bailing in has not yet been used for any large bank and the examples of Armagerbanken and Fjordbank Mors in Denmark in 2011, as described below, illustrate that the method has problems.

So, current reality stands rather far away from theory. The purpose of this paper is to explore the problems with the various approaches being used and draw conclusions for the role of recovery and resolution plans in the future. We focus particularly on the progress made in a cross-border context because, as the recent financial crisis has shown, failure of FIs that operate across borders is more likely to lead to contagion and financial instability in a broader region and even be transmitted across continents.

Overall, we conclude that crises with SIFIs are likely to be a system-wide problem, thus, focusing on the resolution of each FI individually cannot guarantee the solution of the problem, as contagion is to be expected. Consequently, it is crucial that there is the ability to access funds in a crisis management framework, as those who are exposed to one FI may simultaneously be exposed to another.

[10] See Mayes (2014b) for an analysis of this in the case of the Nordic experience over the last 25 years.
[11] Unassisted in the sense that no resolution tools have been used. The bank will have been subject to close surveillance, possibly some restrictions on actions and solutions will have been 'encouraged' with prospective investors and partners.
[12] This bail in would be in addition to any 'voluntary' bail in of CoCos and other convertible liabilities as part of the unsuccessful recovery procedure.

Furthermore, breaking up banking groups or making the vital functions readily separable may well help but Lehman Brothers was not a retail bank yet its failure was a disaster. So the definition of what is vital may extend so far that it becomes questionable how much dividing up the bank makes sense.

For cross-border banks, the key difficulty is the coordination of recovery and resolution across the different jurisdictions, where such coordination can only be encouraged but not compelled. Hence, the US and UK focus on resolving a bank at the holding company or parent level (single point of entry) provides a way out as long as adequate resources are available. Where banks are large relative to the home country's ability to borrow (either because the banks are large or the country is heavily indebted already) this will not work as some banks will be too-big-to-save (TBTS). The EU is trying to get round this by establishing a 'banking union', where following the centralisation of supervision – the Single Supervisory Mechanism (SSM) – under the European Central Bank (ECB), there will be a mutualisation of the funds raised from the private sector to assist a bail-in of creditors. However, this leaves many questions unanswered, especially where cross-border banks are not entirely within the centralisation of resolution – the Single Resolution Mechanism (SRM).

It is therefore not surprising if it appears to be very difficult to get something believable in the form of living wills at present.

The cross-border problem

Lessons, recommendations and current approaches

Failures of cross-border FIs have vividly illustrated the problems that need to be addressed for the future. Not that these problems are new or not addressed before the crisis (Evanoff and Kaufman, 2005; Mayes, 2006). The case of Fortis, for example, illustrated that the cross-border crisis management framework needs to be developed to be compatible with the cross-border nature of the operations of those FIs. Secondly, there need to be mechanisms in place to ensure the continuity of business across all the jurisdictions where a cross-border FI operates. Thirdly, there should be arrangements for information sharing to ensure that critical information is assessed and interpreted in the same way. And lastly, financial authorities need to have powers that allow them to override shareholders' rights if financial stability is threatened (Basel Committee on Banking Supervision (BCBS), 2010). The case of Dexia

illustrated how important cooperation was between the central banks of the jurisdictions where the FI operated as well as the joint support to the group by both home and host authorities.[13]

Furthermore, the Lehman Brothers collapse showed that structural reforms, which aim to simplify FIs' structure, might be required to align FIs' operations with their legal entities. Also, it made clear that parties involved in provision of short-term funds will require a guarantee in the interim in order to continue to transact with the firm in trouble until the transaction is completed, implying that government resources might be needed. The Lehman Brothers bankruptcy illustrated clearly that differences in national insolvency regimes impeded the cooperation and coordination among national insolvency officials due to conflicts with the duties of the officials to the creditors of an entity under their jurisdictions. The Icelandic banking crisis shows a further facet of these difficulties, with a clear example of the too-big-to-save problem,[14] which also needs to be resolved in the future structure (BCBS, 2010).

The initial road map for addressing the cross-border problem is now clear. Drawing up a living will is a first step to facilitating such coordinated resolution of a G-SIFI or R-SIFI (regional SIFI) accompanied by the convergence of national resolution tools as well as mutual recognition of crisis management resolution proceedings across borders, where the resolution regimes should extend from a solo legal entity basis to the consolidated group (BCBS, 2011).

Moreover, the FSB has set out Key Attributes (KAs) directed at the resolution of global G-SIFIs, which are complementing the recovery and resolution planning that is in progress. These include the formation of crisis management groups (CMGs), institution-specific cross-border cooperation agreements (COAGs), and resolvability assessments (FSB, 2011; FSB 2014). All the KAs are interconnected and the successful implementation of one is a precondition for the success of another. Consequently, living wills for cross-border FIs set the steps for cooperation and coordination among the related parties in a crisis that are developed through the CMGs. Furthermore, living wills are developed based on the institution-specific

[13] http://www.bis.org/publ/bcbs169.pdf.

[14] Where large banks are headquartered in small countries it may be impossible to raise adequate financing in that country alone to resolve a troubled bank – even more so if it is the entire banking system that is in trouble as in Iceland.

cross-border cooperation agreements assisted by the information provided by the resolvability assessments. This represents a huge task since it is all case specific.

What the GFC re-emphasised was that in a crisis it is more likely that national authorities are going to protect the interests of the local investors and depositors at the expense of the investors and depositors overseas, which might not be the least cost solution as in the case of Fortis and Icelandic banks. Setting up a crisis management group is one thing. Being confident that it will work well in a crisis when major losses have to be allocated is another. Actions which might restore confidence in one jurisdiction might amplify perceptions of risk in another. Individual authorities may very well feel that in a serious crisis they can renege on previous agreements, which are usually of a soft law character.

Thus, for such a cooperative approach to work there needs to be a fundamental agreement among the participating countries about how such resolutions should proceed. It is already clear that even the Nordic countries, which form one of the most integrated groups internationally, have clear differences of opinion over the tools that should be applied in a crisis, such as government guarantees and the use of asset management companies (Mayes, 2014b). Hüpkes (2013) argues that "If authorities do not perceive cooperation to be in their interest, they are less likely to act in a cooperative manner, irrespective of the existence of a binding treaty or non-binding memorandum of understanding to this effect."

The FSB (2011) has proposed two main resolution strategies that might work in all circumstances.[15] The first resolution strategy is labelled Single Point of Entry (SPE). According to this approach, the banking group is resolved at a parent or holding company level by a single resolution authority – so no conflicts occur. At the other extreme, in a Multiple Point of Entry (MPE) approach, where the banking group is separable in each jurisdiction, multiple authorities act independently at a national level.[16] There is no implication here that either outcome is optimal, simply that they are workable, and could avoid the use of public funds. The critical argument here is that for MPE to work, most banks would have to change their structure, separating operations at least on national lines if not along functional lines as well. If one believes that most economies of scale in banking are realised at levels well below the largest banks today then this may not be a disadvantage (see for example, Schmid and Walter (2009), Davies and Tracey (2014) and Annex 9 of the

[15] Very much along the lines suggested in Mayes (2006).
[16] http://www.financialstabilityboard.org/publications/r_121031aa.pdf.

Commission's impact assessment for the prosed regulation on structural measures improving the resilience of EU credit institutions[17]). Clearly, one would not want the restructuring to reduce the advantages of international risk diversification in reducing the chance of a failure. Although it has been suggested that the more banks that diversify similarly in this way the more the systemic risk (Allen et al., 2011).

To date, the US authorities have entered into bilateral agreements with the UK, EU, Switzerland, and Japan to coordinate the resolution of cross-border SIFIs. The most significant bilateral agreement is that between the US and the UK since four G-SIFIs, as designated by the FSB, are headquartered in the UK and eight in the US. Furthermore, nearly 70 percent of the foreign activities of the eight US G-SIFIs take place in the UK.[18]

However, for this to work, it is important that the US and the UK parent or holding company has sufficient funds to absorb losses without causing disruption and contagion in the financial markets. In particular, there may not be enough bailinable debt at the group level. Bailing in has two aspects. The first is that external parties have their claims converted into equity. But the more complex idea is that bailing in can be internal within the group as a whole. Thus, a subsidiary in trouble can be resolved by the parent providing extra capital, even though it has to raise that by bailing in some of its own creditors. Similarly, if the parent is in trouble, healthy subsidiaries can provide it with resources. In order to achieve that, the parent and subsidiaries have to be structured appropriately so that they provide the correct form of liabilities for the group. Without restructuring, if debt at the subsidiary level had to be bailed in then one would be back to an MPE approach. In that case, issues might arise if some creditors in the same category are being bailed in while others are not. Similarly, if the group's problems stem from specific subsidiaries, which are systemic in other countries, the problems may only be resolvable through intervention in those subsidiaries and that will have to be done by the authorities in those jurisdictions.

One reason why SPE makes more sense in resolving a cross-border bank than MPE is due to the different insolvency processes and regimes across borders, which comprise an obstacle to an orderly resolution of that cross-border bank (Lastra, 2011). In order to achieve a successful resolution of a cross-border SIFI, it is important that either there is a harmonised or compatible insolvency regime in the countries where the SIFI operates or there is an ex-ante

[17] Available at http://www.cdep.ro/afaceri_europene/CE/2014/SWD_2014_30_EN_DOCUMENTDETRAVAIL_f.pdf.
[18] https://www.fdic.gov/news/news/speeches/archives/2013/spmay1513_2.html.

arrangement between various national authorities to recognise the actions of one authority (home and/or host) where insolvency proceedings are initiated in the jurisdiction of the others. This is even without the conflict between 'territorial' and 'universalist' approaches (Baxter et al., 2004).

The Australian and New Zealand example

Australia and New Zealand offer potentially the most straight-forward opportunity to sort out the resolution of R-SIFIs. They have the same four banks, headquartered in Australia, that form the large majority of the banking system and hence of systemically important institutions. These same institutions are not normally of systemic importance to other jurisdictions outside some of the Pacific Islands. While the two countries have undertaken some steps to cooperate and coordinate to manage problems in cross-border banks through the Trans-Tasman Council on Banking Supervision,[19] they have not been able to agree either a single point of entry approach or a cooperative multiple (two) point of entry approach, instead opting for separability so each can handle their own problems. Some very simple aspects of their very different approaches to resolution and the safety net explain it. Yet their vigorous solution may represent a realism that others are yet to face.

If a problem originates in the New Zealand banking system, since roughly 15 percent of operations of Australian banks are conducted in New Zealand, it might be expected that the Australian authorities would solve the problem through the SPE, or that the parent would do so for a lesser problem, for reputational reasons. If the problem originates in Australia, then again it is very likely that the Australian authorities would apply the SPE. However, Australia has domestic depositor preference in insolvency. Thus, not surprisingly, New Zealand has required the banks to be structured in a way that facilitates MPE to protect its depositors, who would otherwise be junior creditors and heavily exposed to losses. Not only would this be patently unfair but it would have substantial systemic implications in New Zealand, where there is no deposit insurance/guarantee scheme.

Since the Australian banks are the owners of the New Zealand subsidiaries, the New Zealand resolution imposes the first losses on the Australian banks thereby increasing the problem in Australia and freezing some of the potential cash flow.[20] A joint resolution or even a

[19] http://www.rba.gov.au/publications/fsr/2012/mar/pdf/dev-fin-sys-arch.pdf.
[20] See Mayes (2014a) for an exposition of the New Zealand 'Open Bank Resolution' scheme and its implications for other jurisdictions with cross-border banks.

resolution applied to the banking group as a whole could be a less costly outcome. This is what the EU tries to achieve through colleges as a joint resolution at a parent level of a cross-border FI. Closer cooperation and coordination is expected to speed up the resolution process and increase the likelihood of success of the actions taken. Nevertheless, if coordination among different authorities across borders does not succeed, the opposite result is expected. Thus, the New Zealand authorities have cut through the problems of coordination among the various countries' authorities of a cross-border bank by making sure they can isolate and control their own systemic problems irrespective of what the home country i.e., Australia decides to do.

The case of the EU

The EU has attempted to address the problems of cross-border banks through a 'banking union', which has two parts,[21] the creation of the SSM under the leadership of the ECB and the creation of a resolution authority and all the necessary tools for resolution through the Bank Recovery and Resolution Directive (BRRD) (Directive 2014/59/EU). While the BRRD applies to the whole EU/EEA, the SSM only applies to the euro area and those countries that choose to join and are admitted.[22] Associated with the BRRD is a regulation setting up a Single Resolution Mechanism (SRM) with a Single Resolution Fund (SRF) to facilitate resolution for the SSM countries (Regulation (EU) No 806/2014). Resolutions for the SRM will be the responsibility of a new Single Resolution Board (SRB), based in Brussels. The SSM is also backed up by a substantially increased harmonization of banking regulation under the leadership of the European Banking Authority (EBA), which also applies to the whole EU/EEA. The EU had already created colleges for each SIFI that operates in the EU/EEA, both at the supervisory and resolution levels.

With the BRRD and SRM the EU is trying to get a hybrid to work, where resolution may well take place at the national level in an unrestructured and highly interdependent cross-border banking group. It hopes that a coordinated MPE may work. Within the SRM this might eventually be possible as the ECB is responsible for reorganising the structures of financial institutions while the SRB is to put together resolution plans for each SIFI but

[21] In the original design there was to be a third part in the form of an EU-wide deposit guarantee scheme but this has proven too difficult to agree. The EU system thus looks very different from the US as there is no FDIC equivalent.

[22] Sweden and the UK, for example, have made it clear that they do not propose to join the SSM. To be literal, non-euro countries cannot 'join' the SSM, per se. They can enter a 'close cooperation agreement' with the ECB, which will have much the same effect but, as discussed below, they cannot enter fully into the governance of the system as they do not have a seat on the ECB's Governing Council.

outside the SRM the degree of compulsion required may not be present. The major problem however is that not all measures apply to all EU/EEA Member States. The full set of measures applies to the euro area. Non-euro area countries may join both the SSM and the SRM, although this will generate some problems of governance. Only euro area central bank governors are members of the Governing Council so without revision the ECB could not only be taking measures that affected non-euro countries without their being represented but it would be treating euro and non-euro area members differentially which contradicts the fundamental tenets of how the EU should behave. In the case of the SSM this is being addressed by having a Supervisory Board on which a representative of all the supervisory authorities in the participating countries sits. It will have a Chairman and Vice chairman appointed by the Governing Council and four representatives from the ECB itself. However, except where delegated, formal decisions will be taken by the Governing Council of the ECB, which does not include the non-euro area countries.[23]

Consequently, if the problem occurs in the SSM area, it is more likely that it will be solved more swiftly as supervision and decision-making processes will be centralized compared to EU banks outside the SSM/SRM. Resolution of a cross-border FI is expected to be more complicated and conflicted if its operations are expanded to the EU member states that do not participate in the SRM, as it would involve many authorities in the resolution process. Lastly, if the operations of a cross-border FI expand to regions outside the EU then successful resolution of that FI would require a successful coordination and cooperation among authorities in the EU and the third countries where the cross-border SIFI operates and indeed may be headquartered.[24]

Resolvability

The key to a successful cross-border bank resolution is clearly that ex-ante the bank appears 'resolvable' to the authorities. If they cannot work out how they might do the job even in theory then hope for anything other than a bail out in practice must be slim. (Of course

[23] The Supervisory Board is to be distinguished from the Board of Supervisors in the EBA and the SRB, which are both different organisations.

[24] It is not as yet clear how the ECB and the SRB will work together. The assessment of whether a financial institution subject to SSM is failing or is likely to fail is made by the ECB while the assessment of whether there is no alternative private sector measures that would prevent a financial institution's failure within a reasonable timeframe is made by the SRB. The SRB can also make an assessment on whether a FI is failing or is likely to fail but 'only after informing the ECB of its intention and only if the ECB, within three calendar days of receipt of that information, does not make such an assessment' (Regulation (EU) No 806/2014, Art.18(1)). In practice, one would expect that the ECB will recommend the implementation of a resolution scheme as it is the main supervisor and regulator but that it will be the SRB that determines what the form of resolution will be.

achieving resolvability in this sense does not ensure success either as there may be unexpected difficulties at the time.)

Resolvability may imply the separation of systemically critical functions of a SIFI from its non-systemically important operations in a crisis. Indeed this has already been partly mandated by incorporating a version of the Volcker Rule in the Dodd-Frank Act and the Vickers Commission in the UK into the Banking Reform Act of 2013 – the EU proposal to require such structural changes, made in January 2014, is currently stalled. Nevertheless, the non-systemic parts of the group may be a source of strength not the cause of the problem. In this case, the division is counterproductive. Ideally, the continuity of the systemically important parts for the economy will reduce the likelihood of financial instability. One prerequisite for achieving resolvability is, firstly, to define clearly which functions are considered to be systemically important and, secondly, to have a clear mapping of legal entities in a SIFI to their operations.

One useful aspect of drawing up living wills lies in the fact that they provide a map of the interconnectedness and complexity of a SIFI, which assists the authorities in identifying the functions that are critical for the stability of the financial system as well as the degree these functions can be carved out and protected to be kept going.

The US example

The US has had a considerable head start in this area because it has already required Prompt Corrective Action (PCA) since the 1990s with the passing of Federal Deposit Insurance Corporation Improvement Act (FDICIA) in 1991 and hence structured intervention in banks before they reach the point of irrecoverable collapse. However, the experience of the application of this approach has been mixed and many cases were missed in the GFC despite the PCA requirement (see, for example, Garcia (2012)).

According to the Wall Street Reform and Consumer Protection Act (to give the Dodd-Frank Act its proper title) in the US, which passed into law in 2010, large bank holding companies and non-bank financial companies, with total consolidated assets of $50 billion or more, are subject to living wills in which they demonstrate how they will be resolved in an orderly manner under the Bankruptcy Code in the event of distress or failure (Title I). However, if undergoing ordinary bankruptcy procedure jeopardizes financial stability, the FDIC is given

power by the Orderly Liquidation Authority to resolve the failing FI under special resolution regime (Title II).

In particular, section 166 of Title I on Financial Stability of the Dodd-Frank Act covers recovery plans, which are named as early redemption plans. The purpose of these plans is to minimize the possibility of insolvency of bank holding companies and non-bank financial companies that have total consolidated assets worth $50 billion or above, which are deemed by the authorities as systemically important. At initial stages of financial decline, authorities might require SIFIs covered by the Dodd-Frank Act to limit their capital distributions, acquisitions and asset growth. While at later stages, SIFIs might be asked to sell assets, change their management, hold more capital and limit transactions with affiliates (Dodd-Frank Act, SEC. 166, 2010).

Furthermore, section 165(d) of Title I on Financial Stability of the Dodd-Frank Act requires SIFIs to report periodically a plan for rapid and orderly resolution in an event of material financial distress or failure. The main focus is on how insured depository institutions affiliated with the company subject to the new law are protected from risks arising from activities of its non-bank subsidiaries. For example, full description of ownership structure, assets, liabilities, and contractual obligations are required as well as information on cross-guarantees, major counterparties and to whom the collateral of company is pledged.

The authorities need to notify the SIFIs about their resolution plan deficiencies and demand SIFIs to resubmit their plans. The authorities also have the power to require changes to SIFIs business operations and corporate structure to facilitate resolution. This implies that the company needs to change its structure to adjust to the new resolution plan. If a SIFI fails to resubmit its resolution plan the authorities have the power to impose more stringent capital, leverage, and liquidity requirements, as well as restrictions on growth and SIFI's activities and operations. Nevertheless, resolution plans are not binding on bankruptcy courts and receivers (Dodd-Frank Act, SEC. 165(d), 2010).

Additionally, according to Title II on Orderly Liquidation Authority, creditors and shareholders are the ones that bear losses not the taxpayers in the event of financial distress or failure of a company, while at the same time, management is replaced (Dodd-Frank Act, SEC. 204 (a), 2010).

The problem in the US seems to be that these living wills are being produced under Title I of the Dodd-Frank Act, which covers recovery, whereas this is just part of the process all the way through to resolution under Title II. The authorities want a feasible way to handle the whole process.

The EU case

The EU setting emphasizes the importance of both the recovery and resolution planning of SIFIs at both the EU and euro area (SSM) level as there were no such arrangements before the GFC. According to the BRRD (Directive 2014/59/EU), credit institutions that are not part of a group subject to consolidated supervision should draw up recovery plans and submit them for revision to their competent authorities on an annual basis.[25] When a financial institution is a part of consolidated supervision then the authorities have the discretion to decide whether the group's subsidiaries are also going to be subject to recovery planning at an individual level. The authorities have six months to assess whether the submitted recovery plans are credible and can restore the viability of an institution under stress. Some examples of measures that the competent authorities could require from an institution to undertake due to the deficiencies identified in the submitted recovery plan include recapitalisation measures and changes to the governance structure of the institution.

The same institutions and groups are also subject to resolution plans, which are drawn up by the authorities themselves; however, the institutions might be required to assist the authorities in their task. Some of the key elements of a resolution plan are the identification of critical functions, how these functions can be continued without a break, and what arrangements an institution should make in order to remove impediments to resolvability. At a group level, the identification of its complexity and interconnectedness is also crucial. Another crucial factor that the Directive incorporates, which will facilitate resolution at a group level is information sharing and cooperation among various resolution authorities with the European Banking Authority (EBA) developing procedures and templates for providing and sharing that information.

Under the terms of the BRRD both recovery and resolution plans should not assume any access to public funds nor, in the case of resolution plans, any central bank emergency

[25] By 'competent authorities' the EU means the supervisory authorities that have jurisdiction in each specific case.

liquidity assistance.[26] At a group level, if there is a disagreement among the consolidated supervisor and the competent authorities of the subsidiaries the consolidated supervisor could make its own decision while the competent authorities can refer to the EBA, which plays the role of the mediator. If a joint solution is not reached, the measures are taken only in the jurisdictions which reached an agreement.

In order to achieve resolvability, reforms have been proposed. On 29 January 2014, the European Commission published a proposal for a regulation 'on structural measures improving the resilience of EU credit institutions' (RSM), but this measure has not progressed and has attracted a lot of opposition, not just from financial institutions themselves but also from their regulators, particularly in France and Germany (European Commission, 2014), who have already passed legislation according to which financial institutions are required to separate their proprietary trading from deposit-taking activities.[27] Although their proposals resemble that of the European Commission, they are more flexible. For example, they allow retail parts of the bank to engage in market-making activities subject to specific conditions. Thus, banks in these countries might be exempted from the EU legislation if the European Commission decides that they meet the EU standards.[28]

Other countries have already made this change with the implementation of the so-called Volcker rule in the Dodd-Frank Act in the US and the ring-fencing and fuller capitalisation of narrow banking functions in the UK following the recommendations of the Independent Commission on Banking headed by John Vickers.

The US and UK legislation and the Commission proposals (and indeed the recommendations of the 'high-level expert group' (HLEG) chaired by Erkki Liikanen on which the European Commission drew) all come to different decisions about how financial groups should be restructured.[29] Furthermore, we cannot assume that the financial system does not change over

[26] It is worth noting that in the US as well there has been some tightening up of the ability of a solvent bank with liquidity problems to borrow from the Federal Reserve under Fed Art.13 (3) or the lender of last resort (LOLR) arrangement (Scott, 2012).

[27] Loi 2013-672 du 26 juillet 2013 de séparation et de régulation des activités bancaires, J.O. n°173 du 27 juillet 2013, p. 12530 and Gesetz zur Abschirmung von Risiken und zur Planung der Sanierung und Abwicklung von Kreditinstituten und Finanzgruppen v. 7.8.2013, BGBl. 2013 I p. 3090. See Lehmann (2014) for a discussion.

[28] http://www.europarl.europa.eu/RegData/etudes/BRIE/2014/542145/EPRS_BRI(2014)542145_REV1_EN.pdf.

[29] January's proposal from the European Commission alters the Liikanen proposals in a number of respects. First of all, it widens what can be included in banking activities – government bond trading for example – Second, it is permissive rather than compulsive and authorities have the discretion to decide whether a separation is needed and lastly, the nature of the separation is harshened, so that the non-banks have to be legally separate and not just different subsidiaries within the same banking group. Lehmann (2014) offers a

time in the light of experience and opportunities and can most certainly assume that financial firms will react to regulatory requirements to change their structures in ways that the authorities had not envisaged. The idea, therefore, that a reasonably harmonised approach is likely to emerge internationally seems rather distant at present.

For a banking group to be 'resolvable', it needs to be structured in such a way that its vital functions can be kept operating in a resolution in the manner described above. In its justification of its choice of how to split up financial institutions in the proposed RSM, the European Commission suggests that there are two simple dimensions to consider. The first is where to draw the boundary between functions of the banking that need to be continued and those which can be allowed to enter a more standard insolvency process. The distinction is not simply on the basis of what the functions are but on how important they are in the banking group as a whole. The second is what the nature of the division should be – do the activities need to be self-standing, ring-fenced units in the organisation, do they need to be legally separate subsidiaries within the financial group or does the group itself have to be broken up so that there are no links between the activities at all, although of course people could own shares in all of them.

There is, however, a significant further dimension to this discussion, namely that, in the largest financial institutions, operations run across borders. Hence, resolution is going to involve authorities in a number of countries. Experience in cross-border resolutions shows that they are very difficult. Not only do the different proceedings need to be coordinated but the interests of jurisdictions may conflict. Assets not only can be moved round in a group, so altering the incidence of the losses from one part of the group to another but typically there is a rush of such reorganisation in the days before the resolution as the group desperately tries to avoid insolvency.

What is surprising about the HLEG report is that there is no detailed discussion of where the boundary between what is labelled 'banking' and 'trading' activities should lie. Trading is thought of as trading in market instruments on the institution's own account rather than that of clients but is taken to exclude market making and trading in government bonds. Since 'The use of derivatives for own asset and liability management, as well as sales and purchases of assets to manage the assets in the liquidity portfolio, would also be permitted' it is clear that

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comparison of the Volcker, Vickers, Liikanen and European Commission proposals. See also Gambacorta and van Rixtel (2013).

the definition of trading is narrow (HLEG report, 2012, p.101). The report suggests that the decision over what should be included and what should be separated will also depend on the plausibility of the recovery and resolution plans. So, if the EU does not proceed with the RSM, the onus for deciding on how the banking group should be structured will lie with the supervisory and resolution authorities on a case by case basis. In any case, the debate over where to draw the boundary between risky and vital activities is still debated. Blundell-Wignall and Roulet (2013), for example, argue that there is empirical evidence that the trading book and available for sale securities make a bank safer and not weaker and that it is the derivatives and wholesale funding that make the bank more vulnerable.

There are two parts to the discussion. The first is the observation that what is vital to financial stability is much larger than might previously have been thought. Thus, letting Lehman Brothers go into a disorderly insolvency was clearly a mistake. AIG needed to be saved and even quite small institutions, such as Northern Rock, were thought too-big-to-fail. Small banks may need to keep operating if they are the only institutions covering a region. Thus, the scale and scope of both bailing in and bailing out may turn out to be larger than thought beforehand. Hence, any ex-ante division of institutions into parts that are considered vital and parts that are not is likely to be too conservative and action will have to be taken to save activities that were not thought vital beforehand. In part, this reflects the expectation that those who will get into difficulty are likely to lie outside the carefully regulated and supervised sector. That leads to the second part of the discussion. The more the authorities seek to regulate part of the financial sector the more they will tend to drive risky activity out beyond the boundary and into areas where they are relatively less well informed, nicely contributing to raising the chance of a future crisis.

Thus, there is a temptation to include the full range of financial activity within existing groups. An exception here is that banking is a much more important source of business finance in many European countries than in the US or indeed the UK. As a result, banks and financial groups become rather larger compared to the economy. Hence, if they fail, the impact is similarly likely to be bigger. Reducing the relative importance of the banking sector without reducing finance for firms therefore might be a more appropriate means of structural change in the sector rather than trying to divide up the existing financial groups into those that are heavily protected and those that are not.

Australia and New Zealand

Australia and New Zealand have also followed different routes with recovery and resolution plans. Australia has decided to proceed with recovery planning for the time being and then continue to resolution planning after satisfactory progress has been made with recovery part of the living wills (Australian Prudential Regulation Authority (APRA), 2011). Initially, recovery planning has affected the large authorized deposit-taking institutions (ADIs) in the country but there is an indication from the Australian authorities that these arrangements will be extended to smaller ADIs. The lack of eagerness by the Australian authorities to develop and implement living wills could be because their financial system did not suffer large losses due to the GFC as their banks focused mainly on core banking activities rather than the riskier investment banking activities, as happened in the US and the EU (Brown and Ralston, 2012).

On the other hand, New Zealand has not subjected its Australian-owned SIFIs to living wills but has focused on establishing viable resolution plans, which are rather different in character from those being pursued in the US and Europe and most importantly from Australia. More specifically, for living wills the Reserve Bank of New Zealand (RBNZ) concluded that they are best suited for dealing with globally significant banks with complex structures and cross-border interactions. The scheme would be less beneficial in New Zealand because banks generally are stand-alone domestic institutions or subsidiaries of Australian banking groups (Lee, 2013). Moreover, while it is still not clear what comprises a vital function and what not in the US and the EU, in New Zealand there is an explicit definition of what is deemed as systemically important operation and what not, which is a prerequisite for its resolution regime, labelled Open Bank Resolution (OBR), to work (RBNZ, 2013).

The large New Zealand-registered banks are required to have technical and operational arrangements in place in advance to facilitate OBR, which is a form of bail in, and they need to disclose to the authorities all the steps they have undertaken in order to achieve those arrangements. In more detail, each bank must be a locally incorporated and separately capitalized subsidiary[30] so that the New Zealand authorities can have the legal power to resolve it, each bank must be able to operate on its own overnight, independently of its parent or other key supplier so that it has the practical basis for resolution, and each bank must implement and regularly test the detailed procedures necessary to be able to separate out

[30] With clear separation of assets and liabilities from those of the parent (RBNZ, 2014).

accounts and other claims into their frozen and unfrozen parts overnight.[31] These large banks are almost entirely retail and indeed three operate their wholesale activities through a separate branch of the Australian parent. Thus, New Zealand offers as near a 'vanilla' solution as one can expect, assisted by the fact that the country is small and hence the absolute scale limited, although similar to many European countries.

OBR operates overnight so that the window during which the resolution takes place does not constitute a material break in the operation of the vital functions. If a SIFI is in trouble, authorities under the OBR have the power to appoint a statutory manager (similar in concept to a receiver or perhaps more literally a conservator as the bank is to be kept open) and temporarily close the bank. Consequently, the customers stop having access to the bank and all liabilities are frozen. The statutory manager determines customers' liability account balances according to a conservative valuation and applies a partial freeze to customers' liability accounts based on estimated losses in order to return the bank to balance – recapitalization comes later. At the same time, government issues guarantees for the unfrozen funds. The bank reopens at the start of business on the next day for core transaction business. As new information emerges, the statutory manager determines future operations and potential restructuring of the failed bank and might release additional frozen funds, if available (Hoskin and Woolford, 2011). The bank will exit statutory management when a suitable acquirer can be found who provides the necessary recapitalization or by winding down or dismembering the bank while maintaining the core transaction function over a longer period of time.

Nevertheless, as mentioned above, one consequence of those resolvability proposals is that more risky activities are likely to move to the less supervised parts of the financial sector, the so called shadow banking, where less supervised entities such as hedge funds, structured investment vehicles, and money market funds can also provide banking-like activities (Lybeck, 2014). It is thus debatable in the light of the problems caused by the failure of Lehman Brothers, whether this separation will lead to a more or less stable financial system. Without doubt the ring-fenced narrow banking operations will become safer (the tighter the fence the safer) as riskier operations are excluded and capitalisation increased. However,

[31] http://www.rbnz.govt.nz/research_and_publications/reserve_bank_bulletin/2011/2011sep74_3HoskinWoolford.pdf, http://www.rbnz.govt.nz/research_and_publications/reserve_bank_bulletin/2013/2013mar76_1hoskinjavier.pdf; http://www.rbnz.govt.nz/regulation_and_supervision/banks/banking_supervision_handbook/5341478.pdf and Chetwin (2006).

those outside the fence may now become more fragile without the banking resources. There is no equivalent of deposit insurance to buy time and with relatively better informed creditors, who might get bailed in, the temptation to exit at the first sign of trouble will become larger. Thus, these institutions may be pushed into crisis resolution earlier than before.

Ways forward

In order to improve SIFIs resolvability, there are some important problems that need to be addressed.

Funding

Providing funding for resolution in advance represents a dead weight cost that has to be borne irrespective of whether the funds are ever needed. However, attempting to raise such funds from a distressed banking sector in a crisis is unlikely to be possible and so recourse would have to be made (temporarily) to the state – assuming, that is, that the state itself has the resources, which has not been the case in some European examples. There is thus a good case for having some ex-ante resources available and this has been a long standing argument for deposit guarantee/insurance funds. However, such funds have usually been aimed at the short-run costs of resolving small institutions where the failures are idiosyncratic and not part of a general distress across the economy.

While such funds would also be required if there were insufficient loss absorbing capacity in a resolution, much of the debate has revolved round requirements for funds that either could not or should not be the responsibility of the creditors.[32] All this assumes of course that future resolutions are orderly and hence that cases like Lehman result in relative small losses as the FDIC avers it could have achieved with the appropriate powers (FDIC, 2011).

The first issue is associated with the size of the value of the derivative contracts on and off the balance sheet of the SIFIs as well as the short-term nature of their other liabilities, which may reach trillions of dollars. Hellwig (2014) distinguishes the need to fund operations as long as they are ongoing from the need to allocate or to absorb losses. He argues that resolution funds might be sufficient to absorb losses however these funds are not sufficient to

[32] In their assessment of the appropriate size of loss absorbing capacity the Vickers Report notes that only in the case of Anglo-Irish Bank did the loss exceed 16% of assets among the large banks in the GFC (and hence concludes that a 17% buffer would be appropriate for the future).

keep the systemically important operations going, at least in the short-run. Consequently, establishing interim funding is also crucial.

The position varies across countries. There are no ex-ante arrangements for resolution funds in Australia and New Zealand. In Australia, the expectation is that the government will provide the funding in the short run and will recoup any losses from the resolution. In New Zealand, it is assumed that guarantees will be sufficient but in so far as any funding is required it will come straight from the government budget. In the US, the FDIC could receive Treasury support through the Ordinary Liquidation Authority. The EU decided to go for establishing funds to facilitate resolution rather than rely on ex-post resources. In particular, member states need to set-up ex-ante resolution funds. But before eligible FIs can have access to those funds a minimum level of losses equal to 8% of total liabilities including own funds will have to be imposed on shareholders and creditors. [33]

According to the BRRD, the national resolution funds will have to reach a target level of at least 1% of covered deposits of all credit institutions authorised in their country raised by the industry. FIs have to contribute annually based on their liabilities (excluding own funds and covered deposits) adjusted for risk (Directive 2014/59/EU, Art.103). Resolution funds can provide temporary support to FIs under resolution via loans, guarantees, asset purchasers, or capital for bridge banks. However, the contribution of the resolution funds should not exceed 5% of a bank's total liabilities (Directive 2014/59/EU, Art. 44).

Under SRM, the decisions are made centrally in order to enhance the functioning of the Single Market. More specifically, resolution decisions will be prepared and monitored centrally by the SRB, which will apply the Single Rulebook on FI's resolution specified in the BRRD. Moreover, the fund (SRF) established under the SRM regulation will be composed of separate national compartments, which will be merged during a transitional period of eight years (Regulation (EU) No 806/2014, Art. 77).

However, the resolution funds are relatively small, just one 1% of covered deposits and hence might get exhausted in a crisis. It is possible that it may be very difficult to recapitalise problem banks by creditor funds alone. There is a second reason why they are needed in that since resolution of SIFIs takes into account the wider public interest and not just the private interest of the creditors someone else should bear that extra cost. Making it the whole of

[33] http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/142492.pdf.

those involved in the banking industry seems appropriate. Deposit guarantee funds will be bailed in to the extent that covered depositors would have been bailed in had they been treated equally with other creditors in the same class.[34] Nevertheless, currently, there may not be access to sufficient interim funding under the BRRD.[35] Hence, other sources of funds might be needed. A medium-term solution could be a further integration in the EU via establishing a fiscal union (Moro, 2014).

Furthermore, intra-group financing cannot be used in some cases as part of a resolution process. For example, the UK, which has one of the largest financial markets, is outside SSM and SRM. This could have an impact on intra-group financing if there is no ex-ante agreement or close cooperation among the involved parties. Furthermore, the UK and the US are considering taking more responsibilities for host countries in terms of supervising foreign-owned banks' branches and subsidiaries and require from foreign banks to operate as independent subsidiaries subject to the UK and US law like the arrangement in New Zealand (FDIC and Bank of England, 2012).

Again, this implies that using intra-group financing arrangements to resolve the problem at a cross-border level might not be an option. If this is the case, then stating explicitly those arrangements in the living wills of the SIFIs at a group and subsidiary level might ameliorate the uncertainty around the resolution of a cross-border bank. Nevertheless, the lead authority can apply transfers within the parts of the group which lie within its jurisdiction.

Under OBR, in New Zealand, it is assumed that with the statutory management and the involvement of the state, probably as a guarantor for the future, the wholesale and other funding markets would immediately reopen. The costs of the resolution process itself would be charged to the subject bank and hence fall on the creditors. Clearly, the costs of running the saved part of the bank should be a charge on the new institution, while the costs of resolving the problems, will effectively be a charge on the insolvency. In the OBR case, the lender of last resort (LOLR) function would presumably work because the bank is now solvent and should have adequate collateral to place with the central bank. In any case, if a

[34] All depositors have preference in the insolvency proceedings but the Deposit Guarantee Scheme has first claim ahead of the uncovered depositors.

[35] Deposit guarantee funds and resolution funds will be separate in many countries, such as, Finland where the funds are private and controlled by the banks themselves, the Bankers Association in the Finnish case, and are therefore not subject to direction by the resolution authority. The case is further different in Germany where the private funds have historically been used to facilitate resolution, without access to state funding. In the UK, funding has been ex post. Hence, considerable variety can be expected in the actual arrangements in the future despite the uniformity implied by the directive.

government guarantee has been issued then this could stand in lieu of collateral with inadequate quality. In the EU, it appears that these guarantees are to be discouraged and only applied through the limited resolution funds, which might leave the banks with continuing liquidity problems. It is thus the EU case where one might worry that adequate funding will not be available. However, it makes obvious sense for the rhetoric against taxpayer funding to be as strong as possible, if only to minimise the moral hazard, while at the same time being prepared, without stating it, to be able to provide at least interim finance for the wider costs of maintaining confidence in the financial system in the event of the failure of a major bank.

The plausibility of bailing in

In resolving a cross-border FI, the first question is "Who is going to pay?". In order to achieve the financial stability objective of a recovery/resolution framework, it is crucial that the decisions are made very rapidly, which implies very extensive preparation of which living wills form part. However, if there are no legally binding arrangements for burden sharing agreed in advance, then it is less likely that resolution will succeed and achieve its objectives.[36] This is where the attractiveness of bailing in comes in – there is no public debt burden to be shared. However, the national composition of those being bailed in and that of the protected depositors and indeed borrowers may be completely different. For example, Nordic and Baltic countries, having financial groups operating in their region, made ex-ante burden-sharing arrangements in their Cooperation Agreement (CA, 2010). This is an important first step. However, in a crisis, it is likely that national authorities will protect domestic interests first before pursuing resolution at a cross-border level, which might require their funding support. One possible solution for the living wills of cross-border SIFIs to be credible is to establish a common resolution and insolvency regime across borders with explicit burden-sharing arrangements.[37]

Another important problem that needs to be addressed is the credibility of the bail-in tool as a resolution measure. Bail-in measures have been introduced in part to reduce moral hazard. These measures are expected to eliminate the implicit public subsidy problem, i.e., the

[36] While MoUs exist (for example the MoU among Nordic countries), in a crisis it is not clear that they would necessarily be followed, especially if a state was finding it difficult to raise sovereign debt or felt that the responsibility for the problems lay in another jurisdiction.

[37] Avgouleas et al. (2013) propose to incorporate burden sharing agreements in the living wills. The authors recognize that living wills will reveal the inconsistencies of resolution regimes, which subsequently can be dealt with. This is a good start to developing a common legal framework for resolving SIFIs across G20.

cheaper funding that has existed for those SIFIs whom the market expects will be bailed out, which thereby gives them an advantage over other smaller FIs (see for example, Baker and McArthur, 2009). This in turn is expected to increase the cost of funding as investors are aware that they will not be bailed out. An increase in funding costs as well as compliance costs can be passed on to the non-financial sectors and ordinary people, who borrow money from FIs subject to these costs. Nevertheless, the removal of this distortion should not represent a social cost to the economy. However, the requirement simply for all banks to hold more capital in future, especially the largest banks which may be subject to a special surcharge is a different issue. Admati and Hellwig (2013) argue that because banks are required to hold more capital and liquid assets this might lower the costs of funding as the likelihood of failure falls along with the risk to the investors or lenders.

The EU, New Zealand, and US authorities made it clear that shareholders and creditors will also bear losses in an event of failure. (Currently, there is no such explicit arrangement in Australia but the authorities have made it clear that they expect to recoup the cost of their intervention, which amounts to much the same thing but without a clear indication of how the loss will be distributed across the same group.) It is also clear that they do not believe the Admati and Hellwig (2013) argument, as their impact studies include a clear allowance for an increase in bank funding costs. However, the social cost is lower than the bank funding cost as the social benefit from losing the element of subsidy for the TBTF banks has to be offset against the cost.

Although living wills appear to be useful to resolve individual failures, they are of less value in dealing with systemic crises. When there is an unexpected change in the economy that affects the whole financial industry rather than an individual FI, it is difficult to predict how all the SIFIs are going to acquire additional capital or apply the measures they developed in their living wills to recover from the market shock or be resolved in an orderly manner at the same time (Pakin, 2013). (Indeed one might well argue that serious idiosyncratic problems in SIFIs are unlikely to lead to failures unless there are general problems in the financial system. Hence, most problems in SIFIs are likely to be part of a more general crisis.) This is a version of what Robert Eisenbeis described as the Hurricane Katrina problem. All hospitals and resthomes in New Orleans had to have contracts with bus companies to shift their patients in the event of a serious problem, such as a fire. But of course, these contracts were all with the same bus companies so when the hurricane affected all the hospitals and resthomes at the same time the contracts did not work. Individual plans will assume saleability of subsidiaries

or successful capital injections. Taken jointly this will not work, which may explain some of the unenthusiastic response of the FDIC and the Federal Reserve to the initial living wills quoted at the beginning of the paper.

Goodhart and Avgouleas (2014) illustrate a further facet of the problem by emphasising that bailing in may generate a collateral crunch with widespread impact. They argue that as soon as the first bail-in starts, prices of other bailinable debt will fall and the market will dry up. Preliminary research shows that bailing-in would have been technically feasible during the recent financial crisis in the sense that there were enough eligible liabilities to be bailed in. For example, Bagus et al. (2014) look at the feasibility of bail-in for Spain and find that, although many liabilities are excluded, bail-in would be feasible in Spain. Conlon and Cotter (2014), who also examine the feasibility of bail-in across some European countries, find that equity and subordinated bondholders would have borne most of impairment losses realized by European banks if they were bailed in. Losses to senior debtholders, however, would have been small while there would not have been losses for depositors. In the cases of Greece, Austria, and Ireland, senior debtholders would have suffered significant losses too along with the shareholders and subordinated bondholders. The Vickers Report suggests that a bailinable capacity of 16% of total liabilities would have been sufficient to cover the losses of all the major failures in the GFC, except Anglo-Irish Bank where the losses were much larger, and hence recommended that the desirable buffer should be 17% for the UK banks, a number that was then embodied in the legislation.

Since some liabilities are excluded from the bail-in,[38] living wills would explicitly disclose and show sufficient eligible liabilities to ensure that, if the bail-in tool were to be applied, losses could be absorbed and thus enhance the credibility of that tool (Directive 2014/59/EU, Art. 45).

Denmark was the first country in the EU to impose the bail-in tool on senior unsecured creditors after the shareholders and subordinated debtholders of its two medium-sized banks that operate mainly domestically Amagerbanken and Fjordbank Mors failed in 2011. In particular, in the case of Amagerbanken the initial haircut for subordinated creditors whose claims were not covered by the Deposit Guarantee Scheme was set at 41%, but after a subsequent assessment the final payout was increased from 59% to 84.4%. While in the case

[38] Typically all secured debt, liabilities to other parts of the banking system, derivatives and related contracts and all short-term funding (Directive 2014/59/EU, Art. 44).

of Fjordbank Mors on holders of senior unsecured claims reportedly faced a 26% loss (14% according to a Danske bank report[39]).[40]

Nevertheless, the implementation of the bail-in tool on the senior unsecured bondholders was deemed as an inferior solution by the chief executive officer of the Danish state resolution agency Henrik Bjerre-Nielsen. As he stated: "Denmark is freeing itself of the bail-in stigma that shut most of its banks out of international funding markets."[41]

The bailing in of creditors in Denmark led to re-pricing of Danish bank debt compared to other Scandinavian/ Nordic banks. Danish banks had to pay an additional 100-200 basis points making it harder for the banking system to survive (Lybeck, 2014).

The resolution of banking crisis in Cyprus in March of 2013 also illustrated the problem of who should be bailed in and is an important contributor to the EU's decision to try to exclude depositors in future and to have a proper legal basis. In the Cyprus case, both insured and uninsured depositors were made to bear losses to contribute to the recapitalization, ahead of senior bond holders. Simply introducing the uncertainty over whether depositors in other countries might be bailed in increased the fragility of banks in Europe.

The New Zealand system approaches recovery indirectly. The Reserve Bank argues (RBNZ, 2012) that the main gains from bailing in occur not because they are cheaper. They estimate that bailing in will have as big an adverse impact on GDP as a 'bad' bailout. The gain comes because banks themselves will want to make sure that they are resolvable/recoverable through the private sector. This is a straightforward moral hazard argument. Because shareholders will be wiped out and the senior management can expect to lose their jobs under OBR, they will have a strong incentive to make sure that an OBR never occurs. This incentive rests firmly on the belief that should they get into difficulty they will not be bailed out.

New Zealand arrangements show how one can put together a resolution plan that would work in most circumstances without any resort to public money unless either a guarantee is required and called upon or if the dividing line between the frozen and unfrozen balances undervalued the losses. (OBR assumes that it is not possible to apply the writing down

[39] http://danskebank.com/da-dk/ir/Documents/Presentations/2012/201203-Danish-Support-Packages.pdf.
[40] http://ec.europa.eu/internal_market/bank/docs/crisis-management/2012_eu_framework/impact_ass_en.pdf.
[41] http://www.bloomberg.com/news/2012-04-26/danish-bail-in-trauma-consigned-to-history-in-merger-wave.html.

process a second time.) One of the reasons the New Zealand arrangements could work in theory is that there is plenty of bailinable debt as deposits can be bailed in. But, this same exposure makes the chances of the scheme being applied in practice quite low as the government of the time would be imposing losses directly on a large portion of electors.

Bailing out would be a far less obvious way of imposing the same losses on ordinary people and hence is likely to be more attractive politically even if it is not so 'fair', in not putting responsibility on those who took the risks. Furthermore, bailing in is likely to cause much greater instability, as at the first sniff that a bank might be in trouble it would be sensible for depositors to withdraw their money from the whole banking system. If one of the large four banks is in trouble it is unlikely to be in circumstances where there are not worries about viability of the financial system more generally. Since deposits are on call the system could be destabilised immediately.

In general, bailing in does not imply that those bailed in can survive the losses. If the same pension funds are bailed into several banks then the risk becomes more concentrated and the impact on the funds more dramatic, spreading the crisis to them rather than allowing them to act as risk absorbers and reduce the overall impact of the crisis on GDP in the short run. Loss absorbing capacity recommendations required by the FSB for bailing in are silent on their wider economic consequences.

It is important to distinguish between the direct cost to the taxpayer, which financial authorities aim to minimize through the recovery and resolution planning and other economic costs. For example, the BRRD talks about minimizing the impact on the taxpayer but this is a narrow view of direct costs and takes no account of the impact on GDP, unemployment and hence tax revenues and welfare expenditures in the economic downturn that a crisis or failure in a systemic bank will cause. Simply being able to resolve a bank without a taxpayer bailout does not reduce the economic cost of the resolution.

The FDIC (2011) estimates that had an orderly resolution been performed on Lehman Brothers, the loss to general unsecured creditors could have been just $5bn, once equity and subordinated debt holders had been wiped out. To use the FDIC's words it would have been able to 'preserve financial stability'. However, the FDIC did not consider the hugely costly knock on effects round the world.

It is worth reflecting on the RBNZ's (2012) estimate of the cost to GDP of a bail in in one of the four main banks. Their rough estimate is 25%. Thus, any need to resolve a major bank through OBR will constitute a crisis. Indeed, they expect even private sector solutions to result in a 12.5% reduction in GDP compared to what it would otherwise have been. While the exact numbers are open to question, the main point stands. Any event which threatens to bring down one of the four main banks must be so large that it constitutes a crisis for the economy however it is resolved. The idea that losses on this scale to a well-capitalised SIFI can somehow occur in a vacuum seems unlikely. Even though some frauds have reached staggering proportions a failure on this scale is likely to be associated with a serious downturn in the economy or a natural disaster.

Complying with living wills does not exclude the possibility that SIFIs won't be bailed out, although the main objective of the introduction of living wills is to reduce the possibility of a failure and potentially of a bailout of a SIFI subject to the requirements of those living wills. Again, a crucial factor is the market's perception of what the financial authorities are going to do.

What is more, bailouts are not always the best way to go especially in cases where the country in which a SIFI operates has fiscal problems. A bailout under these circumstances can lead to a sovereign default. Consequently, recovery and resolution planning should be assessed and updated hand in hand with fiscal and macroeconomic developments at a national and international level. Overall, while bail-ins seem fairer than bailouts as those who knowingly run the risks bear the direct costs in the same order of priority as in an insolvency, the impact on the wider economy and society at large is not necessarily lower. Therefore, there can be a trade-off between impact and fairness in that a bailout may enable some creditors to avoid or reduce their losses. In the EU case where there is the European Stability Mechanism (ESM) available to stand behind countries and their banks in some circumstances, this will increase the chance of a less enthusiastic use of bailing in.

Concluding remarks

It is obvious that it will take some time for the recovery and resolution framework to be improved and strengthened. First of all, living wills are not sufficient on their own to tackle a systemic crisis. However, they are valuable if just so that the authorities get a better and more complete picture of each individual financial institution and the financial system as a whole. Understanding the complexities and interdependencies among different parts of the system

will facilitate the identification of weaknesses in the system and activate a process of resolving these problems before they mount. Secondly, resolution of G-SIFIs needs more elements to it apart from living wills. It will be a continuing process of interaction among living wills, CMGs, COAGs and resolvability assessments.

At present, living wills are imposed on SIFIs with an emphasis on deposit-taking institutions. While a comprehensive recovery and resolution framework is also needed for smaller banks, as irrespectively of their size, they are very sensitive to public confidence, anything equivalent to a living will would be a much more straightforward plan. Even a failure of a small bank can lead to contagion and experience, such as Northern Rock, suggests that political intervention points will in practice be at rather lower levels of possible crisis than current new regulation implies. Moreover, living wills could expand to other parts of the financial system such as insurance and market infrastructure as well as shadow banking, which is opaque and not subject to the same regulations as the banking sector although it performs bank-like functions (European Systemic Risk Board, 2012).

There is a systemic component beyond resolvability that can occur even in the recovery phase, which should not be ignored and that is restoration of confidence in the financial system as a whole. This paper illustrated several reasons why public money might be needed such as government guarantees to other banks, which have not entered a recovery or resolution regime.

Some of the main problems associated with plausible cross-border recovery and resolution framework will be addressed steadily over coming years, such as the nature of resolvability, the exact definition of functions whose continuing operation is critical for the economy and the information that needs to be shared among authorities. The move towards banking union in Europe will help address areas such as the inconsistent insolvency regimes and mutual recognition of recovery and resolution procedures across borders, inconsistent definition of vital functions and disagreement on the structural reforms of financial institutions and improved credibility of the bail-in tool. However, major obstacles remain and it does not seem likely on present progress that large financial groups will become neatly structured with the vital functions for each jurisdiction, each organised in separate subsidiaries that are capable of functioning on their own overnight.

Some restructuring is clearly needed and living wills will help identify that need. However, the sheer size and market dominance of many of the larger institutions means that the

restructuring of the industry common in past crises, namely mergers, is not so likely in the future. Just simply making banks smaller might address this but requiring it would be politically difficult.

The recapitalisation of banks that is progressing towards much higher levels, including limiting leverage, and the requirements to have sufficient liquidity to weather short run shocks will make banks more resilient in the first place. Coupled with bailinable capital and other options for prompt corrective action at an earlier stage, this should make the chance of the authorities having to perform speedy and efficient resolutions smaller. Similarly the agreements on the tools needed and the considerable level of planning should make the chance of such orderly resolutions greater. However, the history of crises suggests that problems will not be recognised in the future and that the next crisis will involve aspects of the system that we have not appreciated. So despite all the planning we can expect the normal panic and the need to take extraordinary actions, some of which are likely to involve taxpayer's money. At the very least, bailing in on a large scale across several institutions simultaneously has not been attempted and the consequences in practice may be rather different from those anticipated in theory.

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