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Twelve Years after the Financial Crisis—Too-big-to-fail is still with us

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ABSTRACT

This article comments on the Consultation Report published by the Financial Stability Board (FSB) evaluating the success of regulatory reforms since the global financial crisis of 2007–2009. It argues that the FSB's assessment of the role of equity is too narrow, being phrased in terms of bankruptcy avoidance and risk-taking incentives, without attention to debt overhang creating distortions in funding choices, the systemic impact of ample equity reducing deleveraging needs after losses, or equity contributing to smoothing of lending and asset purchases over time. The FSB's treatment of systemic risk also pays too little attention to the mutual interdependence of different parts of the system, which is not well captured by linear causal relationships. Finally, the article points out that bank resolution of systemically important institutions is still not viable, due to lack of political acceptance of single-point-of-entry procedures and bail-in. Within the European Union, this viability is further undermined by the lack of sufficient funding for banks in resolution and the lack of fiscal backstops.

KEYWORDS: Financial Stability Board; too-big-to-fail; systemic risk; banking regulation; bank resolution

I. INTRODUCTION

When I was a child, I once heard the dialogue, 'Are you well again?'—'No, but I am better', and wondered how 'better' could be worse than 'well'. Over the past decade, I have often been asked whether I thought that regulatory reform after the global financial crisis had made the financial system safer. My answer was always 'safer, yes, but not safe'. 'Safer' is too weak a standard to assess whether reforms of financial regulation after the crisis can be regarded as satisfactory.

On one occasion over lunch at a conference, a former central bank governor asked me why I was dissatisfied with the reforms that had been brought about since 2008. I responded by asking: 'If all these reforms had been in place in 2000, would the global financial crisis have been avoided?' Before the questioner even had time to think, another former central bank governor jumped in with a resounding 'No!'

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Most regulatory reforms after the global financial crisis of 2007–2009 were enacted without any systematic and comprehensive analysis of the causes and the mechanisms of the crisis. Many measures were piecemeal and so were the arguments given for them.

In the United States, the Congress-appointed Financial Crisis Inquiry Commission's report did provide an official analysis, but it came out in 2011, too late to influence the Dodd-Frank Act of 2010. In the European Union (EU) and its Member States, there was no official analysis. The 2010 reform of the Basel Accord on banking supervision ('Basel III') was based on piecemeal assessments of what had gone wrong, without much of a departure from the mindset that had shaped the flawed regulation of the preceding decade.

In the area of bank resolution, systematic analyses were provided by the Financial Stability Board (FSB), and some progress was made, but in the EU some essentials of effective reform were completely disregarded by the legislation. At this point, the EU's resolution regime remains impractical.

Given this record, the FSB is to be highly commended for trying to take stock of where we are in the attempt to make financial systems safe. Its Consultation Report of June 2020 provides an extremely useful account of the too-big-to-fail reforms undertaken since the global financial crisis.[1] I know of no other attempt at surveying and evaluating the measures that have been taken that would equal this one in terms of comprehensiveness and competence. This being said, I have several important points of criticism, which I will lay out in the following comments. The fact that these comments are critical should not however obscure the fact that I applaud the overall undertaking and consider the FSB Consultation Report to make a great step forward in the official debate about regulatory reforms.

My comments come in two parts. In section II, I consider the analysis of systemic risk and of the role of bank equity in reducing systemic risk. The discussion here raises mainly conceptual issues: identifying distortions in banks' funding choices; expanding the spectrum of distortions in bank behaviour that are induced by distorted funding choices; expanding the spectrum of the systemic implications of these distortions, in terms of allocative dynamics over time; and systemic impact outside insolvency/resolution. In section III, I look at bank recovery and resolution procedures. While acknowledging the progress that has been made, I argue that important gaps remain. These gaps concern the resolution of institutions with systemically important operations in multiple jurisdictions; the provision of funding in resolution; the handling of valuations relevant for bail-in decisions; the need for fiscal backstops; and, not least, the politics of bank resolution.

1 FSB, *Evaluation of the effects of too-big-to-fail reforms: Consultation Report* (20 June 2020) <https://www.fsb.org/wp-content/uploads/P280620-1.pdf> ('the FSB Consultation Report'), accessed 21 January 2021. The present article contains my contribution to the consultation.

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The FSB's overall assessment of the too-big-to-fail reforms matches my view of 'safer, but not safe'. My critical comments indicate that, on the question how close we are to 'safe', I am rather less optimistic than the FSB. In particular, we are still far from being able to trust in bank resolution being viable without creating large damage for the rest of the financial system and the overall economy.

II. SYSTEMIC RISK AND ITS CAUSES

1. Bank shareholders' funding incentives

Section 2.1 of the FSB Consultation Report links the too-big-to-fail problem to the systemic importance of a bank and to distortions in the incentives of market participants. Banks' shareholders neglect the systemic externalities of their decisions; moreover, explicit or implicit government guarantees create incentives for excessive debt finance and excessive risk taking.

Without doubting the importance of these effects, which might be expanded to include biases created by the deductibility of interest in the corporate income tax, I would like to point out that incentive distortions arise not only from a neglect of external effects on third parties but also from an inability to commit future decisions and the resulting time inconsistency issues. Once a firm (any firm) is highly indebted, a new funding decision is biased against equity (through retentions as well as new issues) and in favour of debt. The simple dilution argument that a new equity issue lowers the incumbent shareholders' ownership share, which is often raised in discussion, is inconclusive because, while the ownership share goes down, the assets go up by the amount that the new shareholders contribute; moreover, this argument does not apply to retentions. A closer look, however, reveals that the increase in the value of assets that is induced by an equity issue or a retention is not matched by an equal increase in the value of equity because some of the benefits from the increase accrue to debt holders rather than shareholders. In consequence, shareholders are biased against equity funding. Funding by additional debt rather than additional equity may be socially expensive, but the cost would be borne by debt holders, so this is an additional externality that needs to be taken into account.[2]

If such decisions could be committed in advance, the bias might disappear through initial contracting with debt holders imposing covenants. With non-financial firms, such covenants are actively used—and enforced by creditors whose numbers are usually small enough to allow for effective coordination in enforcement. With multiple, highly fragmented debt holders, however, as banks have, such covenants are hardly enforceable and therefore not credible.[3] In discussions about equity funding of banks, one often hears that a bank is *unable* to raise equity. The argument just given justifies this statement with the proviso that the bank is unable to raise equity *at a price that is acceptable*

2 For a detailed analysis, see Anat Admati and others, 'The Leverage Ratchet Effect' (2018) 73 Journal of Finance 145.

3 For a detailed account of the impact of fragmentation of creditors, see Anat Admati and Martin Hellwig, 'Bank Leverage, Welfare and Regulation' in Douglas Arner and others (eds), *Systemic Risk in the Financial Sector: Ten Years after the Great Crash* (Centre for International Governance Innovation 2019) 217.

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to shareholders. Without this proviso, the statement is not correct, unless the bank is technically insolvent. To see this, let A be the value of the bank's assets, D the face value of debt, and O the value of the option to default on the debt. Then the value of equity is $A - D + O$. Suppose that a new equity issue adds an amount C to the bank's assets. Since the value of the default option is non-negative, the post-equity-issue value of total equity, $A + C - D + O$, is at least C, unless $A < D$, in which case the bank is technically insolvent. Banks that are in fact unable to raise equity should be supervised with special care because their solvency must be doubted.

2. Systemic effects of funding mixes

The FSB Consultation Report's discussion of the systemic effects of funding choices is too narrow. The Report focuses on excessive risk taking, which is very important, but other effects must be considered as well. First, the higher the bank's leverage, the greater the distortions of funding decisions discussed in section II.1. Second, excessive risk taking is not the only response to debt overhang. Another response that must be considered involves inadequate treatment of nonperforming loans. In principle, bank behaviour towards problem borrowers is a matter of entrepreneurial choice, where one may assume that the bank is best placed to assess different strategies with varying degrees of strictness. This principle cannot be presumed, however, if the bank must take account of repercussions that its choices may have on its relations to debt holders and supervisors. For example, if the bank's own solvency is in doubt, the bank may have excessive incentives to exercise forbearance in order to avoid having to register a credit event, or to book provisions against losses, or even to take write-downs. In this case, the bank's choice is distorted by concerns about third parties' reactions to the need for provisions or write-downs, which have nothing to do with the costs and benefits of forbearance per se. Such behaviour can be socially inefficient because it prevents markets and supervisors from imposing proper discipline. It can also be socially inefficient because the forbearance that is exercised towards zombie borrowers is an impediment to structural change and productivity growth, as exemplified by Japan in the 1990s.[4]

Third, excessive forbearance towards borrowers, as discussed above, is an example of a more general kind of behaviour involving excessive caution. Whereas debt overhang and, even more so, hidden technical insolvency motivate some banks to gamble for resurrection by taking excessive risks, they can also motivate others to refrain from any risk taking altogether, for fear that any mishap might trigger a disaster, with a hope that 'corrections' in markets or in the overall economy might eliminate the need for any further corrective action. Such quietism can also have systemic effects, not so much because it may trigger an acute crisis as because it deprives the economy of the funding of new firms and structural change that it needs.

4 For details, see European Systemic Risk Board, *Forbearance, resolution and deposit insurance* (July 2012) Report 01/2012 of the Advisory Scientific Committee <https://www.esrb.europa.eu/pub/pdf/asc/Reports_ASC_1_1207.pdf>, accessed 21 January 2021.

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Lastly, the kind of dynamic sketched in the preceding paragraph points often involves delays of exit from the market. Such delays, and the associated persistence of participation in markets, contribute to the maintenance of excess capacities and thereby to pressures on the profitability of other banks. Later on, the FSB Consultation Report mentions that profitability of banks is low and has been declining, especially in Europe; it would be important to appreciate that this finding may be a consequence of insufficient exit.[5]

3. 'Procyclicality'

Much of the discussion of equity regulation focuses on the role of equity as a buffer against losses and on the effects of equity on incentives. The notion of 'buffer' is seen in the context of insolvency avoidance, and the incentive effects are discussed in a static one-shot risk-taking setting. Both perspectives are too narrow.

In a dynamic setting with choices taken over and over again, the buffer role of equity is not limited to insolvency avoidance. It also concerns the reactions of solvent banks to ongoing losses. Banks that had more equity to start with are in a better position to continue lending. Procyclical effects of a bank's losses through the bank's reaction to these losses are smaller if the bank had more equity to begin with. Suppose, for example, that a bank starts out with equity funding amounting to 2 per cent of its total assets. If this bank incurs a loss equal to 1 per cent of its assets, fully one half of its equity is wiped out. Merely to re-establish the 2 per cent ratio, it must reduce total assets by 50 per cent, unless it issues new equity, which it usually does not want to do, as discussed above. If the initial equity funding had been 20 per cent of total assets, the loss would have wiped out 1/20 of the equity, and a reduction of total assets by 5 per cent would have been sufficient to re-establish the 20 per cent equity ratio. The systemic impact, on borrowers and/or asset markets, would be that much smaller.

Importantly, equity requirements are not only about the amount of lending or investing that banks can do at any time; they are also about the time path of such lending and investing as the banks experiences fluctuations in profits and losses. At any given point in time, a given equity ratio may be seen as a constraint on the amount of lending and investing the bank can do; over time, however, a higher equity ratio serves to smooth the time path of lending and investment because the banks reacts less radically to realized profits and losses. Putting the point in more drastic terms: between the Great Depression and the coronavirus crisis, the worst decline in bank lending and growth in the global economy occurred in the fourth quarter of 2008, and this decline had a lot to do with the exceedingly small levels of equity that banks had prior to the crisis.

Conceptually, this point could already have been made under section II.2, but the change in perspective, from considering an individual institution at a given point in time to considering that institution's behaviour and the systemic impact of that behaviour over time, is sufficiently important to warrant a separate treatment.

5 FSB Consultation Report (n 1) 47.

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4. Systemic interdependence

The FSB Consultation Report seems to consider systemic risk in terms of linear causation. Some interdependences are acknowledged, such as in the treatment of the effects of implicit funding subsidies on funding outcomes,[6] but the basic line of causation goes from decisions of individual institutions to system effects that can be dangerous. In this context, too, however, mutual interdependence may be important.

To see the issue, it is useful to go to the discussion of interconnectedness in Section 6 of the FSB Consultation Report. The discussion mentions that interconnectedness can be indirect as well as direct, but it does not go much further. Yet with indirect interconnectedness, mutual interdependence is as important as interdependence through chains of linear causation.

As an example, consider the impact of the Lehman Brothers bankruptcy on the German bank Aareal Bank. The Lehman Brothers bankruptcy caused the Reserve Primary Fund, a money market fund, to 'break the buck', acknowledging that the net asset value of a share had dropped below one dollar. This in turn triggered a run on the Reserve Primary Fund—and on other money market funds. These funds were forced to reduce their lending in global money markets. The freeze in these markets affected all institutions that had significantly relied on wholesale funding, among them Aareal Bank, a German institution involved in covered-bond finance of real estate investments. Aareal Bank used wholesale markets (and some deposits from institutional investors) to fund whatever was not financed through covered bonds (eg warehousing and excess coverage). For other institutions in this business, such as Hypo Real Estate, Dexia, Commerzbank (Eurohypo), West LB (WestImmo), it might have been argued that funding difficulties were due to concerns of investors about these institutions' solvency; with Aareal Bank, solvency never was in doubt, and yet this bank was also affected by the freeze.

Interconnectedness in this example was due to the common reliance of Lehman Brothers and Aareal Bank on wholesale money market funding, in combination with a simple domino effect of the Lehman Brothers bankruptcy on the Reserve Primary Fund and the ensuing run on several money market funds and the freeze of money markets.[7]

For the assessment of the too-big-to-fail problem, it is important to have an overview over the extent of money market funding and the vulnerability of money market funding of major institutions. In addition to the sheer magnitude of losses from subprime and related activities and to the sense of crisis that prevailed, the mere mechanics of money market developments played a key role in the fall of 2008 (and had a repeat performance in Europe in 2011, stifled only by the European Central Bank's Long Term Refiancing Operation (LTRO) in December 2011–January 2012).

As far as I can tell, the exposure of large banks to this kind of funding risk is still very substantial, especially for European banks' dollar funding. Supervisors may believe that

6 FSB Consultation Report (n 1) 13.

7 For details of the mechanisms, see Anat Admati and Martin Hellwig, *The Bankers' New Clothes* (Princeton University Press 2013) ch 5; as well as Martin Hellwig, 'Systemic Risk and Macro-Prudential Policy' in Aerdt Houben and others (eds), *Putting Macroprudential Policy to Work* Occasional Studies 12-7 (De Nederlandse Bank 2014) 42 <https://www.dnb.nl/binaries/os7_tcm46-313965.pdf>.

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rule changes for funds promising stable net asset values (NAV) and/or funds' support have reduced or eliminated the likelihood of a run. I am not convinced that this is the case and I believe that it is important to have quantitative information on system dependence on these institutions. Concerning stable NAV, Gordon and Gandia showed that, while the runs started with a stable NAV fund (Reserve Primary), in the crisis overall, variable NAV funds (in Europe) were just as badly hit by runs as stable NAV funds.[8]

Indirect interconnectedness from doing something that other banks are also doing concerns the asset side of the balance sheet as well as the liabilities side. In 2007–2008, an important linkage occurred because fair-value accounting rules required banks to take losses when the assets in their balance sheets lost in market value. With multiple institutions holding parallel positions in subprime and related securities, this meant that price declines affected many institutions at once; moreover, a decision by any one institution to sell such securities will put pressure on the securities' prices and thereby on the balance sheets of all the others, potentially with further repercussions as discussed in section II.3.[9]

III. BANK RESOLUTION

Bank resolution is at the core of the too-big-to-fail problem.[10] As long as we are unable to resolve systemically important institutions without significant fallout for the overall financial system and the economy, the too-big-to-fail problem will remain with us (unless of course, we get rid of systemically important institutions altogether).

The FSB rightly emphasizes the progress that has been made in this matter. It also points to problems which still remain. Alas, the remaining problems are so important and so seemingly unsolvable that the resolvability of systemically important institutions remains a pipedream. In this section, I highlight the issues and explain why I consider the problems to be too difficult to admit a solution—or at least one that is politically feasible.

1. Institutions with systemically important operations in multiple jurisdictions

The Lehman Brothers bankruptcy provided a paradigmatic example of what can go wrong when an institution has systemically important operations in multiple jurisdictions. The London establishment of Lehman Brothers was a legally independent subsidiary, so the UK authorities were in charge there. Having separate authorities in charge

8 Jeffrey Gordon and Christopher Gandia, 'Money Market Funds Run Risk: Will Floating Net Asset Value Fix the Problem?' (2019) 2014(2) Columbia Business Law Review 314.

9 For details of the mechanism, see Martin Hellwig, 'Systemic Risk in the Financial Sector: An Analysis of the Subprime-Mortgage Financial Crisis' (2009) 157 De Economist 129.

10 For earlier statements of concerns about these issues, see Martin Hellwig, 'Yes, Virginia, There Is a European Banking Union! But It May Not Make Your Wishes Come True' in Austrian National Bank (ed), *Towards a European Banking Union: Taking Stock* (42nd Economics Conference, Vienna 2014) 156; Martin Hellwig, 'Precautionary Recapitalisations: Time for a Review', Report to the European Parliament's Economic and Monetary Policy Committee (July 2017) <https://ssrn.com/abstract=3000951>.

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in different jurisdictions destroyed operational processes that were integrated across the entire organization, such as cash management. (Shared IT systems are probably even more important, and their disintegration more dangerous, in this respect.) Lack of cash was an immediate reason why systemically important operations of Lehman Brothers London, such as market making in derivatives, could not be maintained, even for a short while, after the bankruptcy had been initiated.

For years, the FSB has proposed addressing the problem by having a single point of entry (SPE) for resolution; in particular, for the authorities in charge of the parent of the organization (in the US, the holding company) to intervene and go through the proper resolution procedure. Resolution planning of major banks has also been based on this principle. Protracted negotiations of major non-US-banks with US authorities have shown that acceptance of SPE resolution requires significant safeguards for countries hosting subsidiaries. It also requires more trust than may be available in a crisis, however.

Negotiations about the matter have suffered from two shortcomings. First, the discussion has focused on matters such as the distribution of losses across subsidiaries in different jurisdictions. Having the parent provide subsidiaries with sufficient internal "total loss absorbing capacity" (TLAC = equity plus bail-in-able debt) serves this purpose though we have yet to see how this works in practice. However, the very meaning of the word 'systemically important' indicates that the problem is the need to maintain certain operations, at least for a while. Such maintenance requires funding, and it requires access to common resources, such as IT systems, data files, and the like. If the systemically important operations concern different jurisdictions differently, SPE poses the risk that the single authority in charge may provide this funding and access to common resources in a biased manner, giving precedence to activities in its own jurisdiction. I have yet to see a document indicating which activities are to be maintained and how they are to be protected from chauvinistic ring-fencing by the authority in charge of resolution. The US authorities have asked for a number of guarantees for the maintenance of funding and equity; I am not convinced that, in a crisis, these guarantees will actually be honoured.

Second, and related to the first point, the discussion has neglected systemically important operations that are not typical for global banks. Another way to put it, the discussion has focused on wholesale activities, investment banking activities, securities business, derivatives, and the like. In Europe, however, there are many banks with systemically important *retail* activities in multiple jurisdictions. An example is Nordea in the Scandinavian countries; other examples involve banks in Austria, Germany, Italy, and their subsidiaries in the transition countries of Eastern Europe. In these cases, bank lending is systemically important for each of the affected countries, and the authorities of these countries are concerned that, under SPE, continuance of bank lending in their jurisdiction would not be assured. I have personally heard quite a number of supervisors assert that, for this reason, SPE would be out of the question for their countries.

In other words, SPE is a technocratic design but a political pipedream.

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2. Funding in resolution

The FSB Consultation Report indicates that thinking about funding in resolution has not yet progressed very far and that 'further work may be necessary to develop resolution funding strategies'.[11] This formulation is candidate for understatement of the year.

In Europe, the legal norms on bank resolution, the Bank Recovery and Resolution Directive (BRRD)[12] and Single Resolution Mechanism (SRM) Regulation,[13] do not contain a single word on funding in resolution. Banco Popular Español (BPE) had to be sold overnight to Banco Santander because the authorities saw this as the only way out of the dilemma caused by the run of institutional depositors (ie local and regional governments that banked with BPE and had funds exceeding the limits for deposit protection).

The thinking underlying the legal norms seems to have been based on the view that, for example, on a Friday night the authorities would step in, use Saturday to value the bank's assets and liabilities and Sunday to notify the bank's shareholders and creditors about write-downs, haircuts, and conversions, with a hope that, by Monday, the bank would be up and running again, clearly solvent and trustworthy towards new financiers as well as incumbent financiers who had not been bailed in. Like the hopes placed on SPE, such thinking is no more than a pipedream.

Valuations take more than a weekend; in the case of BPE, the auditors stated that the time from 23 May 2017, when they were called in, to the resolution date of June 6 2017 was too short to allow for more than a provisional valuation. The notion that everything would be up and running again by Monday is naïve—unless one sees the certification of solvency by the resolution authority as a permit to obtain access to funding by the central bank, a matter which might end up being highly political and therefore fraught with frictions.

If it is done properly, resolution takes time. Management decisions on how to best dispose of the bank's assets and operations are not taken in a day. And the attempt to wind down a loan portfolio quickly might end up magnifying losses. For systemically important activities, the very notion that these are to be maintained at least for a while implies a need for time. While these things are going on, the bank requires funding. It also requires access to certain markets that are essential for the continuation of certain activities.

In the US, the problem is solved by having the Federal Deposit Insurance Corporation (FDIC) take over the bank, using the Treasury for (interim) funding. In Europe,

11 FSB Consultation Report (n 1) 29.

12 Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council [2014] OJ L173/190.

13 Regulation (EU) No 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010 [2014] OJ L225/1.

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there is no equivalent. The Single Resolution Fund—or the stipulated contribution of the European Stability Mechanism (ESM)—might suffice to cover ultimate losses from the intervention, but this is much too small to provide sufficient liquidity to the likes of Deutsche Bank or BNP Paribas, with funding needs exceeding 1 trillion euros. I suspect that the enormous dimension of such potential liquidity needs was a reason why the problem was not addressed in the first place; after all, even the rather smaller amounts available to the ESM were highly controversial politically.

As long as the problem of funding in resolution is not properly addressed however, authorities will shy away from relying on bank resolution.

3. Bail-ins and valuations

One overriding principle of resolution reform has been that losses should be borne by shareholders and by the different classes of debt holders in reverse order of their priorities. Never again would taxpayers have to provide funds to rescue banks, so the promise went. In the EU, however, this principle has been modified by exempting some creditors from such bail-in. The principle has also been placed under a cloud by a second principle, according to which no creditors must be made worse off than they would be under an insolvency procedure. The inconsistencies and impracticalities in norms and procedures related to these principles stand in the way of a viable resolution regime.

The problems of the no-creditor-worse-off principle for bail-in can be illustrated by the case of BPE. The BRRD and the SRM Regulation stipulate a final valuation, whose purpose it is to assess what the different claimants would have received in an insolvency procedure and to compare these amounts with what they actually received in the bail-in decision that was part of the resolution procedure. In the case of BPE, this final valuation (valuation 3) was de facto impossible because once the bank had been sold to Santander there was nothing left to value. Moreover the valuation that provided the basis for the bail-in of shareholders as well as Tier 1 and Tier 2 hybrid investors (valuation 2) was explicitly called provisional because the auditors had not had time to carry out a regular valuation. One may argue that there was nothing better to be done, but that still leaves a concern that the authorities made short shrift of the no-creditor-worse-off principle.

The difficulties have three causes. First, valuations are always 'as if' statements—counterfactuals for which the evidence is weak. They serve as stand-ins for actual counter-values in transactions. Second, with respect to timing and uncertainty, valuation in bail-in and counterfactual valuation with reference to an insolvency procedure do not fit together. The latter is an *ex post* concept, as the returns to claimants in an insolvency procedure are only determined *ex post*. The former is an *ex interim* procedure, applied as resolution is triggered, quite possibly under significant uncertainty about the final outcome. For the two to be comparable, one would need an *ex interim* version of valuation in an insolvency procedure, taking account of remaining uncertainty and appropriate discounts for this uncertainty. Third, all valuations under discussion depend on choices made by the persons in charge, the resolution authority, or the receiver in an insolvency procedure. In the case of BPE, the sale to

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Santander determined definite values in a way that precluded any alternatives. In a sense the price paid by Santander was an *ex post* valuation, but it could legitimately be argued that the 'fire sale' nature of the transaction imposed an undue burden on investors who might have obtained higher reimbursements if the authority had chosen or had been able to choose a more patient strategy for disposing of the bank. The lack of a satisfactory solution for the problem of funding in resolution that I criticized above also played an important role for the handling of valuation and bail-in of creditors.[14]

The cases of Veneto Banca and Banca Popolare di Vicenza are also of interest. The Italian government has been accused of violating the spirit underlying the BRRD, namely that taxpayers should never again have to pay for bank bailouts. In fact, the arrangement under which the banks were split into 'good' and 'bad' parts, with an outright sale of the former to Intesa and an administration/funding agreement for the latter, also with Intesa, can be understood as a way to overcome the funding problem. The Italian government is liable for any remaining losses of the 'bad part' after the loan portfolio has been wound down, but these losses are likely to be much smaller than if no such arrangement had been made and loans had been wound down very quickly. The required amount of bail-in was therefore smaller, as was, probably, the overall social cost of the liquidation.

4. The role of fiscal backstops

The handling of the Venetian banks raises the question of what is the role of a fiscal backstop. The FSB quotes the principle that such backstops should not be used without considering the implications of the principle. The political origins of this principle in the revulsion over the bailouts in the global financial crisis are clear, but too little attention has been paid to questions of feasibility. The Italian experience shows just one facet of this problem.

The principle of no taxpayer involvement is inconsistent with the principle that bail-in must be avoided if it involves significant systemic risk. More precisely, it is sometimes inconsistent with the exemptions granted to certain classes of investors who are deemed to be systemically important. To be sure, banks have minimum required eligible liabilities (MREL), ie liabilities, including equity, that are not exempt from bail-in. However, under certain conditions, these requirements are insufficient. In the case of Anglo Irish Bank, losses were well over 20 per cent of total assets, so an exemption of 92 per cent of claims amounting to total assets would have been inconsistent with a full bail-in of creditors. In the case of the Greek and Cypriot banks, the orders of magnitude were similar. These cases are particularly interesting because, under the actual practice

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14 For details, see Martin Hellwig, 'Valuation Reports in the Context of Bank Resolution: What Are the Challenges?' Report to the European Parliament's Economic and Monetary Policy Committee (June 2018) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3209192>, accessed 22 January 2021.

determining MREL not in relation to total assets but in a equivalent relation to risk-weighted assets that is presumed to be equivalent, the government debt that caused these banks to go under would not even have entered the requirements.[15]

The problem is intimately linked with the funding problem. Among the investors who are exempt from bail-in are the providers of very short-term funding: in the EU, for example, short-term lenders with initial maturities of less than seven days. Given the experience with the run on the Reserve Primary Fund after the Lehman Brothers bankruptcy, such an exemption makes sense. Any attempt to bail such lenders in might cause a run on money market funds and a freeze of money markets. But then, what is to happen if these lenders try to get out at once? One approach might be to keep them by providing government guarantees. Or they might be replaced with central bank funding, presumably also with government guarantees to the central bank. In either case, as in the example of the Venetian banks, a fiscal backstop is needed to ensure continued funding. The fact that such a backstop has been excluded as a matter of principle contributes to the non-viability of the existing resolution regime.

In the US, the problem is circumvented by giving the FDIC access to interim funding from the US Treasury. In principle, the FDIC must pay this money back, through industry contributions to the FDIC or through clawbacks from creditors. That arrangement, however, leaves open the possibility that industry contributions and creditor clawbacks might not be enough, so that the Treasury may end up making a loss after all. In the Savings and Loans crisis of the 1980s industry contributions were limited because the industry was in a crisis, and creditor clawbacks were limited because most creditors were depositors and therefore FDIC-insured. In the end, taxpayers contributed US$129 billion out of US$153 billion in losses.

5. Politics

The 'practical' shortcomings of the BRRD and the SRM Regulation that I have sketched in this article are very important, but they probably are not the reason why national authorities and banks are trying to avoid resolution by all means.[16] For banks, as for all other firms, resistance against resolution is as natural as resistance against bankruptcy. For those in charge, 'kicking the can down the road' is an attractive option—in the hope that perhaps something will happen to make the bank viable again. On the side of supervisory authorities and governments, the same reflex might explain why the Spanish and the Italian authorities looked the other way when Cajas and banks sold preferred stock and subordinated debt to unsophisticated retail investors; it might also

15 For a critique of this practice, see Martin Hellwig, '"Total Assets" versus "Risk-Weighted Assets": Does It Matter for MREL Requirements?' Report to the European Parliament's Economic and Monetary Policy Committee (July 2016) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2833834>, accessed 22 January 2021.

16 This section draws on Martin Hellwig, 'Banks, Politics and European Monetary Union' in ECB Forum on Central Banking, *20 Years of European Economic and Monetary Union: Conference Proceedings* (European Central Bank 2019) 250. See also Martin Hellwig, 'How Important is a European Deposit Insurance Scheme?' in Andreas Dombret and Patrick Kenadjian (eds), *EDIS, NPLs, Sovereign Debt and Safe Assets* (de Grutyer 2020) 7.

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explain why the German authorities procrastinated for so long on the need for HSH Nordbank, Bremer LB and Nord LB to acknowledge large losses on shipping loans.

The political dimension of bail-in must also be considered. For non-financial companies, the participation of creditors in losses that exceed the company's equity is taken as a matter of course. With banks, bail-in is regarded as politically illegitimate in many polities. The Brussels-imposed bail-ins of subordinated debt in the Italian banks caused public outrage in Italy and contributed to the 2018 election results which led to a change of government. When in 2013 equity and subordinated debt in Slovenian banks were bailed in, not only was the bail-in contested in the courts, but public prosecutors started criminal investigations of the officials in charge. The bail-in of equity and subordinated debt in BPE was also contested in court.

To some extent, these developments are an example of frictions associated with the introduction of new legal rules. In law, as well as taxation, new rules are often deemed to be bad, and old rules good. From the perspective of traditional insolvency law, the very introduction of bank resolution as a separate procedure is an outrage. Whereas write-downs of equity, junior debt, and senior debt, in reverse order of priority, are treated as natural in bankruptcy, the imposition of such write-downs outside of bankruptcy is criticized as an infringement of private property, and a violation of the investors' constitutional rights.

There is more to the unrest, however, than merely the quirks of adjustment to a new set of rules. Resistance from the affected parties and their advocates resonates with the public, locally, regionally, and nationally, which is one reason why Member State governments actually prefer bailouts to resolution with bail-ins. I see several reasons for the difference in reactions to creditors' losses in non-financial companies. First, whereas creditors of non-financial companies tend to be specialists, banks, or suppliers for whom the risk of losses is deemed to be part of the business, among the creditors of banks are many ordinary people with whom the public at large finds it easy to sympathize. Second, the effect is reinforced if at least some of the debt is a result of mis-selling, especially with banks selling their own junior debt or preferred stock with promises that these claims are riskless. Third, the outrage is further reinforced if the authorities are perceived as bearing some responsibility for the banks' difficulties and the banks' misbehaviour. Such a view arises naturally in countries with a tradition of close government–bank relations, with loose supervision and with banks' investments attuned to the authorities' wishes. If the authorities have tolerated banks' mis-selling of their own risky securities, the outrage will be that much greater.

In summary, the very small number of actual resolution procedures that have taken place should be interpreted as a warning that many important participants have not yet accepted resolution as a legitimate procedure for dealing with problem banks.

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