I am truly glad to be at this conference. As the title of my remarks suggests, I have a strong conviction that resolution policy should be at the very centre of public policy regimes for financial stability. But the question mark signals that I harbour concerns that resolvability is far from reaching that central position.¹

I shall say something about that, starting with what can reasonably be meant by “solving Too Big To Fail.” I will go on to discuss how resolution policy should transform the principles and practice of both lender-of-last-resort policy and prudential supervision, but how in each case that remains an aspiration. At the end of my remarks I will turn to the most prevalent critique of the ‘bail-in policy’ with which I am associated: that it would not work in a full blown systemic crisis in which many intermediaries were falling over more or less simultaneously. I will meet that pessimism with a new proposal for policy reform.²

Have policymakers ‘solved too big to fail’ --- and what could that expression sensibly mean?

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¹ My thanks to Eva Huepke and Wilson Ervin for questions and comments at and around the conference.
Policymakers have become fond of saying or implying that they have solved the problem of Too Big To Fail (TBTF). But critics, especially those who believe the post-2008/09 regulatory reforms did not go nearly far enough, are equally fond of retorting that no such thing is true.

What’s odd about this is that, so far as I know, no one ever bothers to spell out what solving TBTF would look like: bluntly, what the policy objective is. Indeed, I regret not doing so myself when I was chairing the Financial Stability Board’s group on resolution policy.

If the objective were to reach a state of affairs where no firm’s distress could ever, in any circumstances, cause any economic dislocation or other social costs, then I can tell you that it is unachievable.

If, by contrast, the objective was (and remains) to avoid taxpayer bailouts of insolvent intermediaries, then I want to say that that is achievable; and in some jurisdictions has probably already been achieved. That was what I had in mind when, in October 2013, shortly before leaving office, I said that the US was already in a position where it would not need to resort to fiscal solvency support if some of the biggest American firms were to fail:

“I cannot see how the US Administration could persuade Congress to provide taxpayer solvency support to – ie bailout – some of the biggest US banks and dealers.

In short, the US authorities have the technology – via Title II of Dodd Frank; and, just as important, most US bank and dealer groups are, through an accident of history, organised in way that lends them to top-down resolution on a group-wide basis. I don’t mean it would be completely smooth right now: it would be smoother in a year or so as more progress is made. But in extremis, it could be done now.”

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3 Paul Tucker: Solving too big to fail - where do things stand on resolution?
Speech by Paul Tucker, Deputy Governor for Financial Stability at the Bank of England, Member of the Monetary Policy Committee, Member of the Financial Policy Committee and Member of the Prudential Regulation Authority Board, at the Institute of International Finance 2013 Annual Membership meeting, Washington DC, 12 October 2013. The ‘accident of history’ referred to is that, as a result of a long-repealed bar on inter-state banking, most significant US banking groups comprise operating companies owned by a pure holding company that does not itself provide services to households or businesses.
I stand by what I said then. I meant that, given the resolution regime, the amount of social pain a large intermediary’s failure would bring was plausibly within the country’s risk tolerance; ie that the crisis would not be so great that the only sane policy would be a government bailout sanctioned by Congress.

In the background lies a view that crisis/non crisis is not binary --- likewise, financial stability/instability. Rather, policymakers are faced with something that is more akin to Dante’s Circles of Hell: there are degrees of dreadfulness for the public. In 2008/2009, policy makers avoided a repeat of the 1930s’ Great Depression (which is quite something). The next generation must (and can) improve on that: ensuring that in the event of major firms failing, the economy lands in a better (less bad) circle of Hell. They have the tools to deliver that.

It is helpful, then, to think in terms of society having a tolerance for different bad states of the world, including cessation of all core financial services (the deepest circle of Hell) and severe impairment of only one broad type of service. This makes us think about which services are most elemental. At extreme, the suspension of payments services, even for only a few days, is not far short of disastrous. Once people had run out of cash, they would have to resort to barter to undertake transactions of any kind with anyone whose credit they did not trust --- as happened in parts of the United States during the 1930s. By contrast, the stock exchange having to close for a few days is not immediately devastating for run-of-the-mill economic activity, but would deliver a blow to confidence, and would inflict damage the longer capital raising was suspended.

In practice, politicians need to decide (or bless) a basic resilience requirement for financial services and, therefore, for core intermediaries, markets, and infrastructure. That is what is going on, implicitly, when regulatory constraints are placed on intermediaries’ balance sheets and interconnectedness.\(^4\) Such policies cannot come out of the sky but must reflect judgments on how far the

provision of core services could be maintained (a) via replacement capacity entering a market and (b) by resolving or transferring the functions of failed intermediaries.

Thought of like that, ‘solving TBTF’ means bringing the social costs of firms’ failing below the threshold at which elected politicians would feel compelled to bail out equity holders and bondholders because otherwise crucial services, such as money transfer and credit supply, would be suspended or severely curtailed. After Lehmann’s failure, it was the credit crunch that did the real and lasting damage.

This new way of thinking about stability is transformational for the authorities, redrawing the map for the lender of last resort and requiring prudential supervisors to think and act in a completely new way.

The Resolution Revolution and the LOLR

Vitally, faced with an ailing large and complex firm, the authorities no longer have to choose between, on the one hand, putting the firm into a regular bankruptcy proceeding and accepting massive systemic disorder and, on the other hand, going to the fiscal authority to seek a taxpayer bailout to avert systemic collapse. For central banks this is nothing less than the best possible news: a fatally wounded firm can --- and should --- go into resolution rather than going to the Discount Window to be propped up by lender-of-last-resort (LOLR) assistance.

Concretely, there should be much less pressure on central banks to treat solvency problems as liquidity problems. If a firm is fundamentally bust, there should be no question of liquidity assistance from the central bank. And if the

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condition of an initially solvent firm deteriorates after LOLR support has been extended, they can withdraw their support and put the firm into resolution.

In short, a credible statutory resolution regime for handling irretrievably bankrupt firms makes it credible for the LOLR to say ‘no’. This offers the most important response to those critics concerned that some central banks overstepped the mark in the past, and needs to be explained energetically by the central banks.  

To be clear, that should not preclude central banks from providing liquidity assistance *post-resolution* to firms that have been restored to solvency and viability (as well as to innocent bystanders). That would be much more orthodox than resolved firms accessing an unsecured line of credit from the finance ministry, which looks like fiscal support --- a perception that has polluted debates about resolution in the United States.

More central banks need to make this change clear in public statements of their LOLR principles. Indeed, they ought to be shouting from the rooftops about this general transformation. Concretely, I would like to see them open each and every speech on their LOLR role and responsibilities with a disquisition on the *revolution in resolution policy and technology*. I must say, however, that I do not observe that. Whatever the reason (myopia, institutional rivalries?), they should change tack.

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7 Under Title II of Dodd Frank, the US Treasury can lend to a financial firm going through resolution. In part this set up exists because of restrictions on the Fed’s ability to lend secured to non-bank financial institutions even where to do so would stem a socially costly liquidity run. The overall statutory regime for liquidity assistance in the US is in a bit of a muddle.

8 Bank of England, *Approach to Resolution*, October 2017, page 22. For the ECB, see Yves Mersch, “The Limits of Central Bank Financing in Resolution,” European Central Bank, 30 January 2018. It matters at what point in the resolution process the Window should become available: it should be once the LOLR is satisfied that the operating company has been restored to solvency, not when all the formalities, which might take months, are complete.
Resolvability and prudential supervision

There is --- or, rather, should be --- no less a revolution for bank supervisors. The pre-crisis model focused almost exclusively on reducing the probability of failure, not failure’s impact. Looking back, this is truly bizarre given the habitual refrain of supervisors (and their political overseers) that they were not aiming for zero failures. While the United States did have an effective resolution regime for small and medium-sized deposit-takers, few other G7 countries did, as Britain’s Northern Rock mess advertised in the summer of 2007. And even the US did not have a resolution regime that could work for large and complex banking groups or for those non-banks where bankruptcy would exacerbate rather than contain systemic spillovers.\(^9\)

Perhaps the most profound shift in high policy after 2008/09 is that supervisors have received a direction not to focus entirely on reducing the probability of failure but must also work backwards from insolvency, ensuring that distress, when it occurs, does not entail taxpayer bailout or a systemic crisis. The plan was to reorient supervisors towards resolvability.

Banking structure: a world of SPE and MPE financial groups

Concretely, this meant they were to remove impediments to resolvability that were deeply embedded in a financial group’s structure. The key initiative was to move towards mandating structures that could keep operating companies going while imposing losses on subordinated creditors. Many policymakers, including myself, preferred the structural subordination delivered by separating business functions in operating subsidiaries (opcos) from the pure financing functions of holding companies (holdcos). Rather than use new words, I can quote from an old speech given while I was in office:\(^{10}\)

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\(^9\) Amazingly, that had been made clear in the early-2000s in an unpublished report to the then Financial Stability Forum and G10. Disclosure: I was a member of the working group.

\(^{10}\) Paul Tucker: Solving too big to fail - where do things stand on resolution? Some countries have not embraced structural subordination. Germany passed legislation to deliver statutory subordination, and France
“The Single Point of Entry versus Multiple Point of Entry resolution strategy distinction may be the most important innovation in banking policy in decades

We will learn to speak of banks and dealers as either “SPE groups” or “MPE groups”. Some technical developments don’t matter hugely. This one does. A lot will follow from it,...

A single-point-of-entry or SPE resolution works downwards from the group’s top company – most simply, a pure holding company (Holdco). Losses in subsidiaries are first transferred up to Holdco. If Holdco is bankrupt as a result, the group needs resolving. The “bailin” tool is applied to Holdco, with the equity being written off and bonds converted as necessary into equity to recapitalise the group. Those bondholders become the new owners. The group stays together.

Under multiple-point-of-entry or MPE resolutions, by contrast, a group would be split up into some of its parts. Healthy parts might be sold or be maintained as a residual group shorn of their distressed sister companies. The resolution of the distressed parts might be effected via bailin of bonds that had been issued to the market by a regional intermediate holding company...

For many financial groups, it is fairly obvious which broad resolution strategy (SPE or MPE) they are currently most suited to. But few major groups will escape having to make significant changes to their legal, organisational and financial structure to remove obstacles to effective resolution under that preferred strategy...

For “MPE groups”, many will need to do more to organise themselves into well-defined regional and functional subgroups, perhaps with regional or functional intermediate holding companies, which could be subjected to SPE resolutions. And these groups will need to ensure that common services, such as IT, are provided by stand-alone entities under contracts that are robust enough to survive the break up of the group.”

This is the world created by the Financial Stability Board’s Key Attributes of Effective Resolution Regimes, published and endorsed by G20 leaders in 2011, and the need they generated for minimum required levels of gone-concern
loss-absorbing capacity (colloquially, bail-inable bonds), later framed as part of TLAC (total loss-absorbing capacity) requirements.\textsuperscript{11}

\textit{How this can solve coordination problems in cross-border resolution}

Paraphrasing remarks elsewhere, these plans \textit{can} --- and were designed to --- solve the challenges in the cross-border resolution of international banking groups. In essence, the solution is for overseas (and domestic) opco subsidiaries to issue super-subordinated debt to their parent group/sub-group holdco, with host authorities being able to trigger write down (or conversion into equity) whenever they would otherwise be empowered to put the subsidiary into a resolution or bankruptcy process.\textsuperscript{12} (This has become known as Internal TLAC.\textsuperscript{13})

That enables losses exceeding a subsidiary’s equity to be transmitted up to the holding company/intermediate holdco, without the operating subsidiary itself going into default. Amongst other things, this would at last make a reality of the long-standing doctrine, underpinning all consolidated supervision, that groups/subgroups are a source of strength for their component parts: a piece of partial fiction would, at last, gain substance.

If as a result the holding company is mortally wounded, the group/subgroup’s home country authorities can resolve it, and it alone. Thus, a group-wide, global resolution is executed without operations across the planet going into local liquidation or resolution.

Careful specification of the trigger for “converting” intra-group debt into equity can hard-wire co-operation between the home and host authorities.

\textsuperscript{11} The term ‘bail-inable bonds’ is a convenient but misleading shorthand. Whether something can be bailed-in as a matter of law is simply a question of the resolution authority’s statutory powers. Whether it is sensible to do so given the public policy objective depends on the firm and group’s capital structure. This is not about term sheets and financial engineering.

\textsuperscript{12} For a post-office account of the analysis underpinning the new resolution policies, see P Tucker, ‘The Resolution of Financial Institutions without Taxpayer Solvency Support: Seven Retrospective Clarifications and Elaborations’, European Summer Symposium in Economic Theory, Gerzensee, Switzerland, 3 July 2014.

Crucially, if those authorities fail to agree that inter-group gone-concern loss-absorbing bonds must be issued by an opco subsidiary to its foreign holdco, they will be discovering *ex ante* that they cannot rely on each other, which is much better than their discovering that *ex post* when, say, the home authority cuts off the subsidiary in the midst of crisis. Where home and host authorities cannot agree on the terms of ‘internal TLAC’, the group would need to be broken up in some fashion or restructured into ring-fenced silos (for MPE resolution). This should give a harder edge to discussions amongst home and host authorities, finally bringing real substance to supervisory and crisis-management colleges (whose members have had incentives to attest that they work better than, I suspect, independent observers or top policymakers would conclude).

The question is whether or not that is what is going on. I am not convinced that what I have been describing, the very core of the FSB Key Attributes-led policy, has been understood across the policy making community.

Separately, as of yet, I do not have a sense that these issues are dominating the world of prudential supervision in the way they should.

*Some technical implications: investment in TLAC bonds*

Arguably, one sees evidence of this in a series of technical issues that seem to have languished notwithstanding how important they are entailed to resolvability. I will list just four:

1) Monetary institutions should be subject to strict, low limits on holdings of each other’s equity and bonds counting towards TLAC. That should apply to bank-like entities, such as money market mutual funds, as well as to *de jure* banks.\(^{14}\)

2) Longer-term investment institutions, such as life insurance companies and pension funds, should be subject to aggregate exposure limits to

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\(^{14}\) By ‘monetary institutions’, I mean *de jure* banks, money market mutual funds and other shadow banks that have the economic substance of *de jure* banks (leverage, maturity transformation, etc).
TLAC-eligible instruments.

3) Securities regulators should ensure that retail investors understand that TLAC bonds are risky instruments, and are not the same as insured deposits.

4) Market regulators should ensure that initial margin requirements apply to any derivative and repo transactions between entities in a MPE group that would fall to be resolved as parts of separate subgroups.

The revised regime for stability is not going to deliver on its promises unless these and many other necessary adjustments to financial policy and practice are made and widely understood. And yet, oddly, the G20 policy statements do not go further than saying that there should be limits on G-SIBs and other internationally active banks holding each other’s TLAC instruments.\(^\text{15}\) This leaves open the incentive of bankers to distribute TLAC instruments to medium-sized domestic banks and money funds, a likely recipe for contagion from distressed global firms to domestic credit institutions. Or to distribute them to retail investors, a recipe for political pressure to resort to bailouts rather than bail-ins --- as demonstrated by the recent taxpayer bailouts of some regional Italian banks.

*Regulatory policy: revisiting what counts as ‘capital’ under the Basel Capital Accord*

Although this will bring on a groan, there is also important regulatory-policy housekeeping to be done. Specifically, the Basel Capital Accord needs to distinguish more carefully between the different phases of a bank’s life and death.\(^\text{16}\) Otherwise confusion, and a certain amount of rent extraction, are liable to persist.

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\(^\text{16}\) Paul Tucker: Banking reform and macroprudential regulation - implications for banks' capital structure and credit conditions

Speech by Mr Paul Tucker, Deputy Governor for Financial Stability at the Bank of England, Member of the Monetary Policy Committee, Member of the Financial Policy Committee and Member of the Prudential
The key is to distinguish between minimum requirements for, separately, *going-concern* and *gone-concern* loss absorbency. Only tangible common equity belongs in the former. Bonded debt that is subordinated belongs in the latter.

Perhaps a third tier, of *recovery instruments*, might be added. These would be bonds that would convert into equity when equity ratios dipped below some high threshold. They would convert way before a firm was headed towards distress.

This would be a regulatory world without complicated categories (and labels) like Alternative Tier 1 and Tier 2, which are a hangover from muddled thinking in the Basel 1 and 2 debates. The regulatory world would begin to recognize economic reality. And rent extraction would be reduced, because sand would be thrown in the wheels of the current industry that analyzes, advises on and trades AT1 etc without appearing to recognize the connection to resolvability and resolution. There is something deeply unsatisfactory about that.

*Prescribing the ranking of opco creditors*

In a similar spirit, regulatory authorities probably need to be more prescriptive about the ranking in liquidation/bankruptcy of opco creditors. This will become important if ever a financial group’s losses exceed its total loss-absorbing capacity (TLAC) and, thus, some of the group’s opcos go into resolution or bankruptcy.

At present, in some jurisdictions the resolution authority is permitted to treat formally equal-ranked creditors differently if necessary to maintain financial stability (or contain instability). This is not infrequently objected to on the grounds that it cuts across our rule-of-law values. The choice is clear enough:

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17 Disclosure: I was the most junior official on the Bank of England’s Basel 1 policy team in the mid-1980s.
• Either resolution authorities (and bankruptcy judges) need to be able to exercise such discretion in the pursuit of a clear statutory objective to contain instability,

• Or legislators and/or regulatory authorities need to be much more prescriptive about the permissible creditor hierarchy so that the need for any such discrimination is eliminated.

In Europe, this is the background to legislators having made insured depositors (and the deposit insurance scheme) preferred creditors. But much more would be needed. For example, should trade creditors (for example, the people who supply food and transport services to banks) rank equally with uninsured depositors? Where should derivative counterparty-credit exposures come?

I don’t mean to try to solve that issue here. But I want to stress that those who argue against resolution agencies exercising discretion should --- assuming they are against financial instability and fiscal bailouts --- also be arguing for greater regulation of bank and dealer creditor hierarchies. That is a gaping hole in the US debate about reforming the bankruptcy code and amending Title II.18

What happens when SIFIs fail together?

Finally, I will turn to what passes for the big objection to the high policy I have been describing.

Up to this point, I have been exploring the implications of current policy, as set up by the dynamic created by the Key Attributes. Before concluding, I want to offer a potential solution to the problem of what’s to be done if a host of

systemically significant financial institutions (SIFIs) fail more or less simultaneously.\(^\text{19}\)

The strong form of the riposte to what I have been setting out goes roughly as follows:

1) SPE-bailin might work for an isolated SIFI failure, but SIFIs only rarely fail for manifestly idiosyncratic reasons (say internal fraud)
2) Mostly, SIFIs fail in batches due to inter-connectedness or contagion and, far from addressing that, bail-in would exacerbate it as creditors were haircut
3) Therefore, bail-in policy does not get far at all in addressing TBTF, and governments are going to end up bailing out firms in a systemic crisis.

There are problems with each stage of this argument, but most importantly the third:

1) Even when a string of large and complex firms fail, not infrequently they do so at intervals. Resolution of early cases might prompt others to embrace private sector recovery strategies (eg equity issuance to third parties). For example, there was a lengthy six months between the failures of Bear Stearns and Lehmann during 2008
2) If the structural policies entailed by SPE (whether at group- or subgroup-level) are followed and if sufficient gone-concern loss-absorbing capacity exists under the FSB’s TLAC policy, applying bail-in would not exacerbate the problems of systemic inter-connectedness, because:
   a. Opcos would not go into bankruptcy or resolution, and
   b. Investors in the bailed-in holdco bonds would not be monetary institutions but, rather, would be longer-term or unlevered investment vehicles with limited aggregate exposures

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\(^{19}\) With some hindsight, it was a mistake to move from the pre-crisis term Large and Complex Financial Institution (LCFI) to Systemically Important Financial Institution (SIFI) as the latter invites the perception that SIFIs need to be bailed out by the taxpayer --- a perception that critics have been keen to foster and embed in public opinion.
3) Why should the public accept that government be left with no option other than bailing out bondholders and, possibly, equity holders too?

Where the critics do, I think, have a point is around governance (or political economy). It would be a hell of a thing for a technocratic resolution authority, led by unelected officials at arm’s length from the elected executive, to put huge swaths of finance into resolution more or less at the same time. But once one thinks of it like that, the policy thought that occurs is:

- In the face of a truly systemic crisis, with multiple SIFIs failing, the elected executive should be empowered to apply bail-in across the board.

Of course, any such emergency power would need to be conferred on the executive branch by the legislative assembly.

The power would be exercised before every afflicted firm had reached the point of non-viability (PONV) relevant for a stand-alone bail-in. That being so, since property rights would be affected, the power should be confined to the restricted circumstances of incipient systemic crisis.

I air this as an option for a new statutory power for the elected executive branch because I cannot see why government cannot prepare in advance rather than having to seek emergency powers in the midst of crisis. Nor can I see why the only sane emergency power is a bailout.

I am not saying that executive government could confidently be relied upon to deploy multiple-firm bail-in rather than bailout in all circumstances. Nor am I asserting that there is a zero chance of fiscal measures being needed at some point in the future.\(^\text{20}\) But the frontier can be shifted outwards. It would help to put politicians in a position where they would have to account ex post for

\[^{20}\text{A point stressed by former Secretary Geithner, who very much continues to focus on the inevitability of extemporizing in the face of unexpected disasters. Geithner, Timothy, “Are We Safer? The Case for Updating Bagehot.” 2016 Per Jacobsson Lecture, The Per Jacobsson Foundation.}\]
actively choosing bailout, rather than, as in the recent past, maintaining that there was no other option. With the new technology of bail-in, that simply need no longer be true.

Conclusions

I want to conclude with some broader thoughts. The bail-in project, kicked off, separately, by Wilson Ervin and me nearly a decade ago, amounts to nothing less than trying to make banking and other parts of finance a legitimate part of a market economy: bringing banking into mainstream capitalism. When investors, legislators, bankers or others oppose that, it is reasonable to ask whether they are part of some kind of ideological project --- perhaps favouring a commercial oligarchy, maybe wanting to abandon the market economy altogether, or even thinking that they and their allies can benefit from systemic disorder.

We are living through a period where the macroeconomic arsenal --- monetary and fiscal --- available to cushion the blow of the next recession is depleted. That makes it even more important that the financial system should be highly resilient. Experience surely teaches us that resilience means not only trying to avoid firms failing (the traditional focus of prudential supervisors), but also being able to contain the social costs of financial firms’ distress when, inevitably, it occurs.

Compared with a few years ago, the staff of deposit insurance and resolution agencies are seized of this, as evidenced by the discussions at this conference. It is vital others catch up.

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21 Wilson Ervin’s ideas were expressed in an article in the Economist of 30 January 2010. The first public airing of my thoughts, developed during the autumn and winter of 2009, was in March 2010. I thought in terms of a kind of speeded up Chapter XI whereas Ervin coined the term ‘bail-in’. Tucker, Remarks at the European Commission’s Conference on Crisis Management, Brussels, 19 March 2010, Bank of England. 