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Tackling too-big-to-fail

The resolvability challenge for banks

CENTRE *for* REGULATORY STRATEGY

For to arrive is a better thing
than to travel hopefully*

*With our apologies to Robert Louis Stevenson

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Executive summary

Addressing the issue of too-big-to-fail (TBTF) banks has been the overriding aim of financial services policy since the global economic downturn, reflected in the host of initiatives that regulators and supervisors have proposed in pursuit of this objective. At the core of these efforts is the goal of making banks "resolvable" in distress to reduce the risk of having to bail them out with public funds. What resolvability means in practice and how it will be interpreted in detail is one of the more elusive pieces in the post-crisis regulatory puzzle. This paper sets out our view[1] of what "good" looks like for banks trying to achieve resolvability, and raises a number of unanswered questions that we hope will encourage further discussions between banks and authorities.

A "resolvable" bank is one that resolution authorities have determined could be dealt with in an orderly way in the event of its failure, rather than requiring public support to maintain financial stability and ensure the continuity of critical banking services.

A number of high-level principles and characteristics of resolvability have been set out, but the actual determination by authorities of whether a bank is resolvable or not has been less than straightforward.

Whether a bank can be resolved under crisis conditions will only ever be apparent after the fact. As this is plainly too late, resolution authorities need to reach a determination on resolvability before the fact. In doing so, however, they face many challenges, including the sheer number of complex and interrelated factors underlying resolvability, the subjectivity inherent in assessing many of them, and the risks to their credibility if they determine *ex ante* that a bank is resolvable, and are shown *ex post* to have been wrong.

Understandably then, resolution authorities have been cautious in declaring victory. In the US, regulators and resolution authorities have openly voiced sharp criticism of banks' resolution plans and have demanded significant improvements. In Europe, where the process is at an earlier stage, new EU legislation gives authorities broad powers to force changes that address any barriers or impediments to resolvability that they identify. The evolution of the regulatory framework in Asia, where progress has been slower to date, may gradually converge towards the direction taken in the US and Europe as certain issues relating to systemically important banks become increasingly relevant in that region.

Planning blight

Given the complexity and sensitivity of this decision, resolution authorities may be inclined to seek additional information and demand incremental changes *ad infinitum* in order to bring banks closer and closer to this goal. This inclination would bring costs of its own.

Continuing uncertainty about whether a bank is resolvable or not, and therefore about what changes to its legal structure and business model might be required in future, risks creating a form of planning blight for banks and could hinder their ability to strategically reposition themselves to be competitive in post-crisis market conditions.

Just as some policymakers seem to have recognised the need to draw a line under increases in overall bank capital requirements, there will be a need to do the same, when justified by the facts, within the resolvability debate. This will be critical not only for banks, but also for the authorities as they seek to demonstrate that the post-crisis regulatory framework they have designed can credibly address the TBTF problem.

Lingering doubts about the ability of the current framework to make banks resolvable could serve to embolden those calling for much more drastic measures to be taken, including capping bank size or imposing capital requirements well in excess of the Basel framework.

There is, therefore, mutual benefit for all sides in being clear about what specific characteristics and attributes a resolvable bank must have. This paper advances a number of ideas on this complex subject.

Characteristics of resolvability

Important progress has been already been made to enable bank resolution in the event of crisis. Many governments have legislated to establish resolution authorities with powers to plan for and execute bank resolution. These authorities have recently started asking banks to undertake some of the more straightforward elements of becoming resolvable, including raising enough loss-absorbing capacity (LAC) and adopting contractual changes to make bail-in a legally enforceable tool. The industry has also taken important steps, including agreeing to the 2015 ISDA Universal Resolution Stay Protocol to recognise cross-border resolution action in derivatives contracts.[2]

Ensuring that resolution is both feasible and credible in practice, however, is more challenging. Although the public sector still has more to do – not least ensuring effective cross-border co-operation on resolution matters – some of the most significant steps to make resolution workable are largely for the banks themselves to take.

Based on the criteria set out by the Financial Stability Board (FSB) and in implementing legislation, we believe that banks can make sense of the various requirements and expectations by focusing on strengthening their performance across the following six "resolvability drivers":

1. **Simplifying legal entity structures**
2. **Reducing operational complexity**
3. **Enhancing the credibility of loss-absorbing capacity**
4. **Improving liquidity management**
5. **Rationalising and justifying global booking models**
6. **Enhancing data quality, reporting and valuation capabilities**

Taking each of these resolvability drivers in turn, we give our view of what resolution authorities are expecting, together with measures banks can take to address their concerns and demonstrate that improvements have indeed been made.

We feel that there is a strong business case for the management and boards of banks to prioritise the work of becoming resolvable, notwithstanding the absence of clear guidance from some authorities. If done as part of a considered firm-wide strategy, resolvability transformations (while unavoidably costly) can carry concrete benefits for a bank's day-to-day business management and its overall efficiency and resilience. There are also strong grounds to expect that these improvements should ease supervisory scrutiny and reduce the need for regulators to consider additional structural reform measures.

A need for greater clarity

Deciding whether a bank is resolvable or not is one of the most important regulatory decisions that has to be taken in the post-crisis world. Even though resolvability will now be an ongoing consideration for banks as they grow and evolve, it is essential that the initial decision be fact-based and made promptly. If this decision cannot be made today, then banks need guidance as to the changes they must make to become resolvable.

This transparency will not only provide the clarity banks need to determine their optimal future operating models and structures, but will also indicate a point on the horizon when resolution authorities will be satisfied that the resolvability challenge has been addressed, and that a significant aspect of TBTF has been tackled in a credible and reasonable way.

Too-big-to-fail and bank resolution

The final hurdles in tackling TBTF

The financial market panic of 1890, triggered by the near insolvency of Baring Brothers, demonstrated the systemic impact that one of Britain's pre-eminent merchant banks could have when it incurred significant losses, in this case from bad Latin American loans. The Bank of England's quick action during that crisis – namely the split of Barings into a good and bad bank and the brokering of a private consortium of Barings' creditors to absorb its losses – was an instructive case of how bank resolution can promptly calm market turmoil, as it did then.

Dealing with systemically important banks during the recent financial crisis proved much more challenging. The difficulty of allowing banks to fail, or forcing their creditors to absorb losses, led G20 governments to identify the problem of TBTF banks* as one that needed to be solved urgently.

The global regulatory programme subsequently advanced by the FSB to address TBTF contained two broad work streams: strengthening capital and liquidity standards to reduce the likelihood of bank failure; and developing robust resolution regimes to ensure that bank failure, when it occurs, is more manageable and has less of a contagious effect on the broader financial market.

International standards for the latter were outlined by the FSB's *Key Attributes of Effective Resolution Regimes for Financial Institutions*, which set out a framework for the establishment of resolution authorities with appropriate powers to plan for, execute and attribute losses to creditors in resolution.[3]

These changes were re-enforced by requirements for banks to hold sufficient loss-absorbency, including the FSB's Total Loss Absorbing Capacity (TLAC) standards, which mandate that Global Systemically Important Banks (G-SIBs) hold TLAC-eligible liabilities of 16% of their risk weighted assets (RWA) by 2019 and 18% by 2022,[4] and the EU's similar Minimum Requirements for Own-Funds and Eligible Liabilities (MREL).

Resolvability assessments

The implementation of the *Key Attributes* is now well underway. Nevertheless, the realisation of their objective – to make banks both feasibly and credibly resolvable in crisis – represents the most important remaining test of whether or not the FSB's post-crisis regulatory reform program will prove to be effective in addressing the TBTF problem.

While total certainty over whether or not a systemic bank can be resolved will only be possible after the fact, the FSB expects resolution authorities to make a before the fact determination about their ability to resolve each bank in their remit. These assessments are meant to be based on a range of criteria that present difficult and sometimes qualitative goals to support the process of bank resolution. Some of these criteria also ask questions that cannot be objectively tested, and consequently invite considerable subjectivity in the assessment done by authorities.

Resolvability assessments, therefore, present a significant hurdle that banks will have to surmount in the coming years. There is also ambiguity about when "good" progress towards becoming resolvable will be accepted as "good enough" by resolution authorities.

Evidence so far from the US, where the process of resolvability assessments is more advanced than in Europe or Asia (albeit under a very different approach – see section overleaf) supports the expectation that being deemed resolvable remains an elusive goal that will not easily be reached.

* This paper defines "TBTF banks" broadly, as any bank that authorities in any relevant jurisdiction deem important enough to be resolved rather than to fail outside of resolution.

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Resolvability in the United States

Resolvability assessments in the United States are at a more advanced stage than in other jurisdictions and are based on the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act (DFA) which established a resolution regime designed to address the financial stability risks the failure of a major bank may pose.

The DFA created a new statutory resolution framework requiring US resolution authorities – the Federal Reserve Board (FRB) and the Federal Deposit Insurance Corporation (FDIC) – to regularly evaluate bank resolution plans or “living wills.”

In contrast to the EU’s approach, the DFA created two paths to resolution. Firstly, under the pre-existing US Bankruptcy Code (Title I); secondly, under a new Orderly Liquidation Authority (OLA) (Title II).

Resolution is expected to follow the first path, and resolution plans are required to be based on this approach. However, in the event this approach would result in serious adverse effects on financial stability, the second approach provides resolution authorities with additional back-up powers designed to mitigate the impact of bank failure.

The use of Title II resolution, however, is by no means assured, and would require two-thirds support from the boards of the Fed and the FDIC, as well as the consent of the US Treasury Secretary, in consultation with the President.

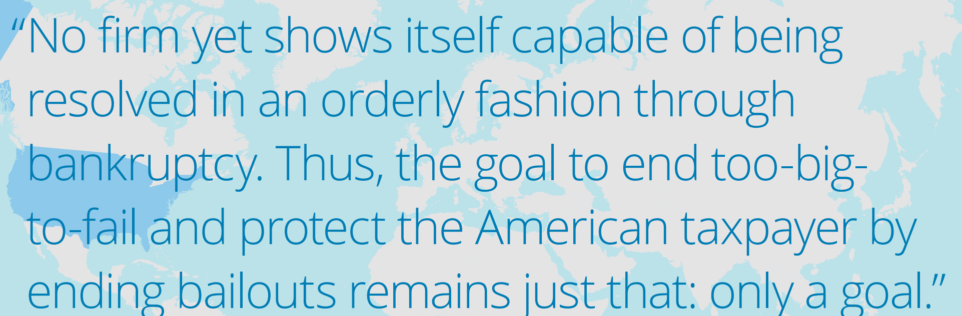
Feedback on banks’ living wills

The FRB and FDIC, which have to reach a joint agreement on whether a bank could facilitate an orderly resolution, have conducted several assessments of resolution plans submitted by so-called “first-wave filers” (generally those institutions with more than USD 250 bn in US non-bank assets, including the largest foreign banking organisations [FBOs]).

In their April 2016 decisions, both agencies found the 2015 plans of five of the first-wave filers to be “not credible”.[5] They also publicly disclosed a range of deficiencies on a bank-by-bank basis, including with respect to liquidity, derivatives and trading, operational continuity, legal entity structure, governance and capital.

These five banks were given direct instructions to address certain deficiencies within six months, and further guidance was provided to enhance the quality of planning done by all banks for the next round of submissions in July 2017.

The expectation under the DFA that banks demonstrate their resolvability under Title I, even though their eventual resolution may be under Title II – an approach to resolution planning unique to the US system – has raised questions over how far the authorities will drive banks in order to make Title I resolution a realistic option. If pursued to the limit, the changes required to achieve resolvability without recourse to Title II powers may require banks to undertake deep restructuring and potentially exit certain products, business lines or geographies.



“No firm yet shows itself capable of being resolved in an orderly fashion through bankruptcy. Thus, the goal to end too-big-to-fail and protect the American taxpayer by ending bailouts remains just that: only a goal.”

Thomas Hoenig,
FDIC Vice Chairman, 2016

Assessing resolvability

Assessment criteria

To evaluate the resolvability of banks, the FSB's *Key Attributes* set out 19 criteria and five questions that frame the assessment process (Figure 1). Resolution authorities will also receive further direction from national legislation implementing the *Key Attributes*. In the EU, the Bank Recovery and Resolution Directive (BRRD) expands the FSB's points into a list of 28 criteria that resolution authorities should use to guide their determination of a bank's resolvability.[6] Other jurisdictions, including the US and the UK, have further developed this framework in their own regimes and communications with banks.

The resolvability criteria set out by the FSB centre the assessment on the ability of a bank to realistically undergo resolution while maintaining or transferring its critical activities and assigning losses without undue disruption. They focus on a bank's structural complexity, its operational contingency plans, internal and external interconnectedness, the quality of data and management information, its ability to maintain access to various payments and clearing infrastructures, its ability to access financing, legal impediments to resolution and the systemic impact that resolution could have on financial markets and the broader economy.

As a result, although resolvability assessments may be seen by some as a relatively discrete exercise, their scope captures a wide cross-section of a bank's strategy, operations and technical capabilities. When impediments are identified, authorities in most countries will have broad powers to demand that banks make changes in order to address them – and then to design their own solutions if banks fail to do so.

Feasibility and credibility

The FSB frames the methodology of resolvability assessments as one of ensuring that banks can be both *feasibly* and *credibly* resolved.

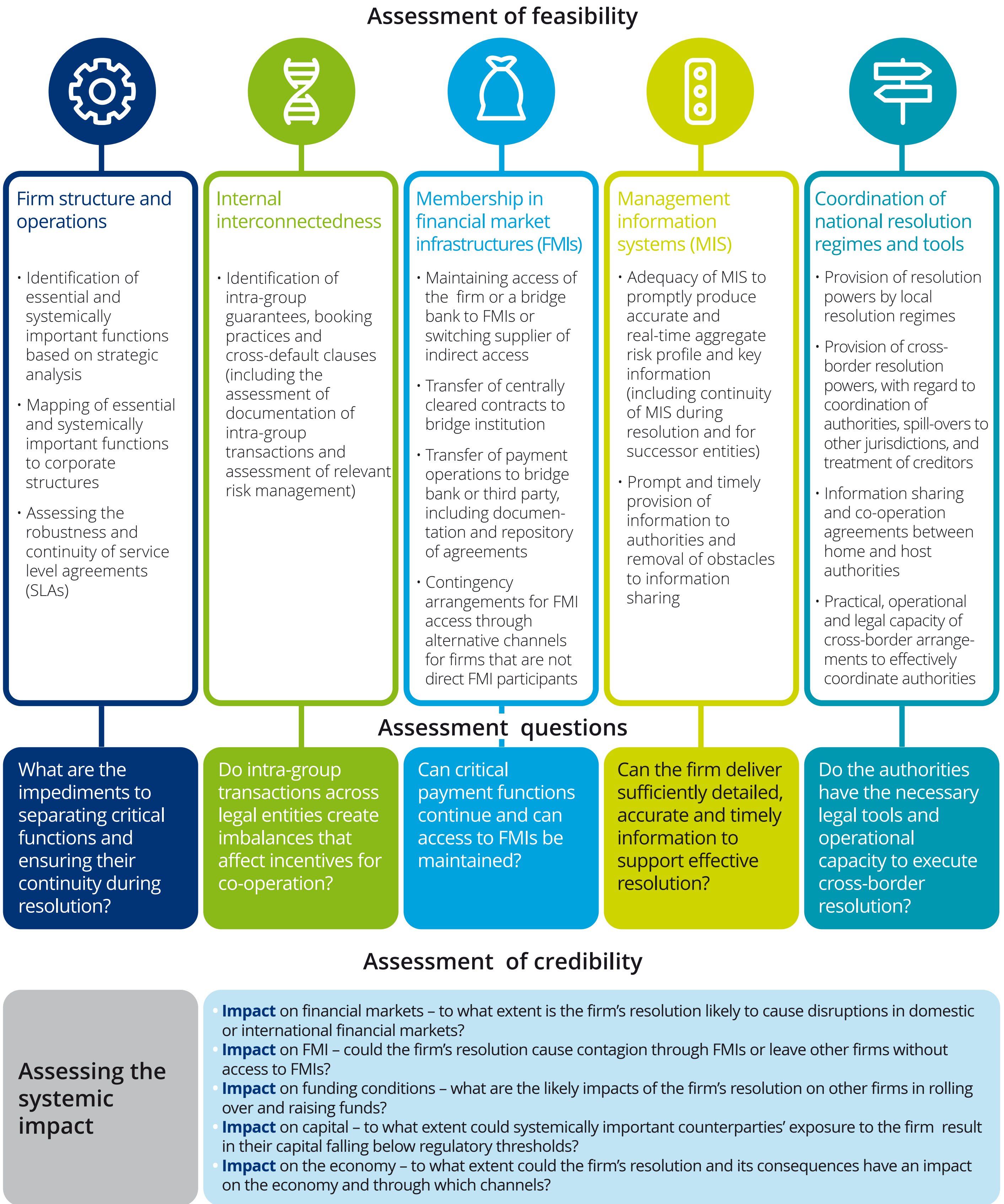
Feasibility means the ease with which authorities can apply resolution tools and the operational preparedness of a bank for them, such that they do not pose any impediments to the intervention. Credibility refers to the systemic impact that a bank's resolution is likely to have on financial markets, payment systems and other economic functions across the jurisdictions (and corresponding resolution regimes) in which it operates.

Credibility therefore, can often depend as much on the actions of others as on those of banks themselves. It is also an area where the assessment of authorities is likely to be the most subjective given the difficulty of testing a scenario with so many variables. What steps are available to a large, even globally-systemic bank to limit the hypothetical market impact of its failure? And how can it assess this impact when it does not possess the same market-wide data as the authorities?

An important point here is that the credibility of resolution should not be considered separately from its feasibility, but rather seen as being re-enforced by it. This is because a bank that takes measures to improve the feasibility of its resolution may also improve its credibility (by reducing its systemic impact) in at least three ways:

- More feasible resolution may limit the perception of an implicit subsidy (see section overleaf) and encourage creditors to more accurately price for the risk of resolution and bail-in.
- It provides more clarity for creditors and enhances confidence that their claims in resolution will be treated as they have been led to expect.
- It improves the reliability (and perceived reliability) of a bank in or near resolution as a stable counterparty, deposit taker, and client for operational services.

Figure 1. The Financial Stability Board's resolvability criteria



Source: Deloitte, based on FSB *Key Attributes for the Effective Resolution of Financial Institutions*, 2014

Market perception and credibility

While resolution authorities have to make judgments on the "credibility" (their estimation of the market impact) of a bank's resolution, this assessment is tied to how markets perceive and react to resolution action. To arrive at a point where resolution causes limited disruption to the financial system, market actors will have to better anticipate and understand the process of resolution and price the risk of bail-in more appropriately when they fund banks.

The existence of an "implicit subsidy" (i.e. a funding advantage large banks may enjoy because of the assumed government support they would receive when in difficulty) might be viewed as evidence that markets are not pricing in the risk of bail-in and are potentially more likely to react with alarm to a bank's resolution. Resolution authorities may, therefore, come to view the continuing existence of such a "subsidy" as an impediment to the credibility of resolution and, as a result, have difficulty seeing a bank as resolvable.

Measuring the extent of any implicit subsidy is not easily done. Using 2011/2012 data, before most TBTF reforms began to be implemented, the International Monetary Fund (IMF) used both Credit Default Swap (CDS) spreads and sovereign-support uplifts in credit rating methodologies to estimate the global implicit subsidy for systemically important banks as high as USD 460 bn per annum.[7] While these findings from the IMF have been challenged, studies using more recent data attempting to measure how the implicit subsidy has responded to the implementation of regulatory reforms have generally showed a downward trend, but also produced mixed results. The abnormal risk-return environment in post-crisis markets has made estimates based on bond spreads particularly difficult to interpret.

Credit rating agencies tell a clearer story. Between 2014 and 2016, both Standard & Poor's and Moody's have moved to almost entirely eliminate the assumption of, and uplift for, state-support in their rating methodologies for European and US banks (uplifts in many APAC countries, however, continue to be in place).[8] Their analysis for the US and EU reflects not only legal changes making government support of banks more difficult, but also an institutional evolution that shifts the responsibility for dealing with failing banks increasingly towards more independent resolution authorities – particularly in the Eurozone, with the creation of the supra-national Single Resolution Board (SRB).

Resolution authorities also have an indispensable role to play in enhancing the credibility of resolution and reducing the perception of an implicit subsidy for large banks. By more transparently communicating their approach to resolvability assessments and the measures that they are asking banks to take, and by demonstrating their commitment to cross-border co-operation, authorities can send important signals to investors considering the practical likelihood of bail-in and how banks will be treated in resolution. More clarity in this respect could also encourage greater market discipline to be applied to banks when they borrow. Such discipline could even evolve to a point where shareholders and creditors penalise banks for being excessively complex or operationally unprepared for resolution.

Similarly, market actors possessing a better understanding of how a bank's resolution will unfold and how their claims will be treated should contribute to more orderly resolutions and make it less likely that bail-ins and restructuring processes will be value destroying. If so, this could serve to limit the haircut that authorities will need to apply when bailing-in creditors.

Resolvability drivers

What can banks do now?

Making resolution more feasible and credible must, ultimately, be supported by actions that banks take themselves. Many of these measures may indeed be difficult, costly and time consuming. Taking action now, however, can help banks reduce the likelihood of intervention by resolution authorities and maximise the time that they have to create solutions that support both their resolvability and broader business strategy.

Taking into account the various resolvability criteria set out by the FSB and in individual jurisdictions and feedback from the FSB's first Resolvability Assessment Process (RAP),[9] we have identified the following six resolvability drivers. In our view, these are areas where focused efforts to improve resolvability can result in the biggest (and often mutually re-enforcing) payoffs. The drivers also represent areas where the authorities' expectations of what "good" looks like could still benefit from more clarification.

1. Legal entity structure

"When a resolution authority sees a bank in its current structure has nearly insurmountable obstacles to resolution or even recovery, and can mandate changes... management can, and most likely will, take action to change that structure."

Elke König
EU Single Resolution Board Chair, 2015

The complications of complexity

Legal entity structure is a natural starting point for thinking about resolvability. The clarity of a bank's legal structure underpins its ability to successfully make gains in almost all other areas of resolvability.

More rationalised legal structures facilitate the mapping of critical services and functions and help in the alignment of business activities with legal entities across a group. This further allows banks to simplify their intra-group financial transactions and re-enforces their ability to position liquid assets and LAC in such a way that strengthens the credibility of resolution.

Legal entity complexity is a particularly pressing concern from a cross-border perspective, given the various legal regimes and authorisations that may be involved in a single transaction or service. Indeed, many of the measures already taken by authorities to mitigate structural complexity have been focused on cross-border activities. The FRB's requirement that large foreign bank subsidiaries establish Intermediate Holding Companies (IHCs) for their US operations followed concerns about the ability of US authorities to feasibly apply resolution tools to these banks.

Resolution authorities in other jurisdictions may impose similar requirements to ring-fence local entities when they perceive the structure of a banking group as too complex for them to manage in resolution. Banks, therefore, should take the opportunity to assess and simplify the way they use legal entities, particularly from a cross-border and business line perspective.

Simplifying legal entity structures

Some banks are now adopting well defined structural strategies to rigorously assess the rationale for each of their legal entities and to centralise the use of subsidiaries and IHCs for various functions.

Such strategies must be supported by a bank's management setting out a clear policy in order to empower the processes of identifying and winding-up entities that no longer have an economic purpose. We have often found that the ownership of various legal entities by certain areas of the business can impede the ability to take a top-down view of their value, and gather the information necessary to assess alternative structures. The policy needs to cut through this.

The target for banks is to develop a legal structure that supports the separability of different functions in resolution, and provides the authorities with a greater range of re-structuring options. This structuring should also be done with the aim of facilitating the bank's funding position, the management of its LAC and intra-group financial transactions and its ability to quickly generate and report accurate data on its financial position.

The extensive powers most authorities will have to address any impediments to resolution presented by legal structure should create ample incentives for a bank's management to examine its legal complexity and design its own remedies. Since few rules exist to mandate a particular structure, each bank must create a tailored approach that best suits its business and geographical footprint.

2. Operational complexity

Maintaining operational continuity

In contrast to the other resolvability drivers, authorities have moved quickly to develop standards for the ability of banks to continue to perform critical economic functions in resolution. The FSB's 2015 consultative guidance[10] and early national-level rules, including the UK Prudential Regulation Authority's (PRA) framework principles,[11] all stress the need for banks to take measures to ensure that their ability to continue offering deposit-taking services, access payments systems and maintain basic operations, among other functions, is not interrupted while authorities work to stabilise the business.

The challenge here is notable. Even with authorities focusing on outcomes rather than particular structures, banks will have to map numerous services, functions, outsourcing contracts and the underlying assets and resources that facilitate them. Banks will also be expected to formalise these activities in SLAs to ensure that reliable arrangements are in place to guarantee their continuity. A centralised system for tracking and demonstrating the robustness of this mapping in rapidly changing circumstances will also need to be developed.

Banks further need to focus on better aligning critical services with their applicable legal entities – where resolution tools will be applied – rather than according to the business units and operational functions they support. This expectation hits at a fundamental mismatch between how many banks operate in business-as-usual conditions, and how authorities expect to find a bank in a resolution scenario. The solution to this disconnect is still far from clear.

Reducing operational complexity

Addressing any misalignment between reality and expectations will require more than just robust mapping. Our view is that banks should address this problem by reducing their own operational complexity in order to present a more workable picture of their critical service provision to resolution authorities. This should also, in turn, allow banks to better manage their internal services in such a way that facilitates how they do business.

Consistent with this, some firms are exploring operational subsidiarisation as an integrated way to achieve such simplification. This involves creating one or more stand-alone service companies within the group housing functions that have been deemed operationally critical. Such an entity would not typically carry out regulated financial services activities, but would own the assets and infrastructure necessary to deliver services for the rest of the group, and thereby reduce intra-group complexity and enhance the predictability of outcomes for resolution authorities.

A one-size-fits-all solution for operational continuity, however, does not exist. Many banks will find that service companies are not suitable, either for their present group structures or at all. Instead of seeking to find a quick fix, banks need to reflect on their business models, their preferred resolution strategy and local structural reform requirements (including ring-fencing) to develop bespoke, firm-specific solutions.

To do this, banks should conduct firm-wide reviews of their operational processes, in conjunction with their mapping activity, in order to uncover and eliminate superfluous organisational complexity. These reviews could also help to find "easy wins" in better aligning critical services and legal entity structures.

Given the nature of their business, banks will be unable to eliminate all complexity in how they structure their critical services. Where this is the case, and for continuity risks identified by the mapping process, a dedicated business continuity management team should be in place with a mandate to design organisational and legal solutions that can mitigate potential impediments to resolution. This team should also help to better manage the transparency of these efforts with resolution authorities.

3. Loss-absorbing capacity

The credibility of loss-absorbing capacity

Many banks are in the process of increasing their LAC to meet future minimum requirements, including TLAC and MREL. The biggest challenge, however, will be to ensure that loss-absorbency can be a credible mechanism for the transmission of losses within a banking group.

There are several questions related to loss-absorbency that are not yet fully addressed. These include the internal positioning of loss-absorbing instruments, legal impediments to bail-in (including the No-Creditor-Worse-Off [NCWO] rule), and the impact of greater transparency through the public disclosure of loss-eligibility. All of these factors influence the market demand for LAC instruments and the market's reaction to a future bail-in event, when it occurs.

Unsurprisingly, this resolvability driver is the one most directly linked to the credibility of resolution (while nevertheless essential to its feasibility) and likely to attract the most concern from authorities regarding the volatility and contagion that resolution might trigger.

Finding the right market

It is unclear who will be targeted to buy loss-absorbing instruments. An emerging consensus among public authorities is that large banks holding other banks' LAC instruments would lead to bail-in having a "strong contagion effect" and present a clear barrier to resolution.[12]

Some have questioned whether it is ever appropriate for retail investors to buy LAC instruments from a consumer protection perspective. Others have expressed concerns that widespread retail ownership of such instruments would curtail the political will to bail them in (or that they would be exempted outright ahead of resolution).

The Basel Committee on Banking Supervision's (BCBS) forthcoming standards on TLAC holdings,[13] and other national developments, will establish important ground rules for the market which will have to absorb a large amount of issuance in the coming years.

Internal loss-absorbency management

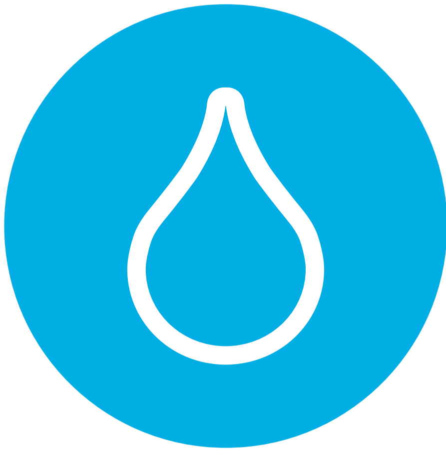
Once a bank has raised sufficient external LAC (from the right buyers) at its consolidated level, the internal arrangement and management of its loss-absorbency will present further challenges.

Most banks will have to pre-position internal LAC in material subsidiaries (down-streamed from the group-level) to facilitate bail-in by upstreaming any losses through a write-down and having resolution tools applied only to the consolidated (or resolution) entity. Doing so, however, will require a complex architecture of triggers (some to be negotiated jointly between home and host resolution authorities) in order to ensure that loses can be moved efficiently enough throughout the group.[14]

For TLAC, internal instruments must be subordinated to senior debt in operating bank entities in order to avoid NCWO issues. Banking groups with a Non-Operating Holding Company (NOHC) as the resolution entity at the top of their group have the advantage of structural subordination of TLAC-eligible senior debt. As such, resolution authorities may push some banks to adopt NOHC structures to mitigate impediments to the credibility of internal loss-absorbency.

We believe banks should consider their loss-absorbency and legal entity strategies in tandem and assess how a simplified legal structure could better facilitate the internal management of loss-absorbing instruments. This should enhance the credibility of resolution. Further, by reducing organisational complexity, this should also allow for more practicable investments to be made in augmenting the treasury, data and reporting capabilities a bank needs to support the efficient management of its LAC.

4. Liquidity management



The liquidity conundrum

Ensuring that bank failure is orderly and that contagion is limited will require that banks continue to be able to access sources of funding – especially at material operating entities – during resolution. This, however, presents a complex challenge as banks will often have to enter resolution because they have exhausted, or will imminently exhaust, their liquidity. Private lenders also tend to hoard liquidity in periods of stress, and public funding mechanisms may be unable to commit to providing support.

The FSB's 2015 consultative guidance on temporary funding in resolution[15] makes clear that a bank should first maximise its ability to rely on its own liquid assets and private sources of liquidity in resolution. Where public funding must nevertheless be used, banks are still expected to take *ex ante* measures to minimise and facilitate this assistance.

In the US, under a title, bankruptcy assesment, the authorities found liquidity planning to be among banks' most widespread deficiencies. In one respect, the expectation underlying this finding is surprising given stressed banks will typically be incentivised to use all their liquidity in the hope of avoiding having to declare bankruptcy. Access to liquidity may also be seen as an impediment under non-bankruptcy strategies in other jurisdictions.

Even if a bank expects to have access to temporary funding, deficiencies in its ability to anticipate its liquidity needs in resolution, shift liquidity around its group and identify assets eligible for use as collateral, could complicate the provision of public lending and increase the amount of support a bank ultimately needs. It could also further delay the point at which private lenders will feel comfortable funding a post-resolution entity.

Enhancing liquidity management

As a starting point, banks should develop models to better understand their liquidity needs at or near the point of resolution. This modelling should include an assessment of how liquidity outflows across different entities will be affected by the bank's resolution strategy. Evaluating the interaction between internal sources and uses of liquidity (e.g. banking subsidiaries and broker-dealers respectively) should be a part of this exercise.

Banks should also draw-up contingency plans for managing liquidity stress in resolution, including identifying the location of high quality liquid assets that could be rapidly sold or pledged under stress. This must also take into account possible action by supervisors to ring-fence liquidity, trapping it in a particular jurisdiction. Where liquid assets are expected to be scarce, banks can further identify other assets that may be eligible to be used as collateral with either private or public lenders.

To this end, we have found the banks that most successfully manage their collateral are those that develop a central function that supports its identification, tracks its encumbrance and facilitates its timely valuation, as well as one that helps to assess legal impediments to its transfer and use. Banks must also gain a stronger understanding of likely counterparty collateralisation requirements in a resolution scenario, particularly from FMIs. Doing this will require heightened data capabilities and banks should include this in their consideration of enhancing data management.

Clarifying expectations

Where banks cannot rely on the availability of public funding in resolution, there is an open question around how much liquidity they will be expected to hold at the point they cease to be going concerns.

Ultimately, greater clarity is needed between banks and their resolution authorities on this question to enable banks to understand the outcomes they are expected to reach in terms of liquidity management.

5. Booking models

Complexity in global booking models

Booking models, which set out how and where a banking group transacts, and how the resulting risks are managed, are increasingly under scrutiny as regulators and supervisors try to get to grips with the complexity of banks' intra-group transactions.

Many banks' booking models have developed organically over long periods of time. The result can be a complex web of intra-group arrangements, with transactions criss-crossing legal entities, operational infrastructure, and geographies.

These arrangements can present problems for resolution. Some banks use "back-to-back" booking models (whereby one legal entity faces off to the market, but the risk is then passed off internally to a separate entity via an intra-group transaction). Banks often do this to centralise risk management in global or regional hubs, which allows for hedging and capital efficiency. But the resulting large intra-group exposures generated can be problematic in resolution scenarios – for instance, the failure of one group entity could leave another with a large unhedged risk that would need to be re-hedged in the market.

Booking model transparency is inherent to resolution planning. Resolution authorities will ask for extensive information on booking models, particularly in relation to intra-group exposures, risk management procedures and collateral arrangements. But some banks do not have sufficiently robust documentation. Indeed, it is not unheard of to receive different accounts of the same processes from various parts of a banking group.[16]

If a resolution authority does not have confidence in a group to manage risks without creating material impediments to resolvability, it could require changes to the ways in which trades are booked. These could lead to pressure to reduce or even cease back-to-backing risks through the group, to stop engaging in remote booking, or to other restrictions on cross-border booking practices.

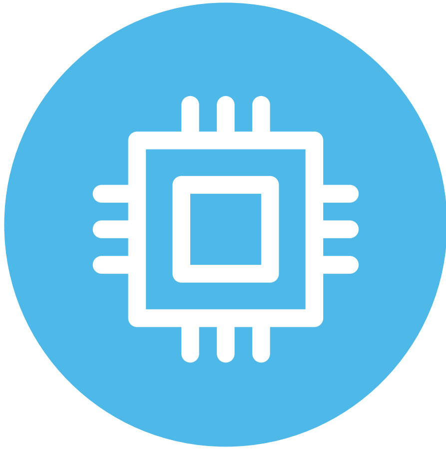
Rationalising booking models

The easiest way for banks to avoid this outcome is to review and document their own practices. This means sourcing a range of information from the business about existing processes, and analysing it in order to identify issues that could be problematic from a resolution perspective.

More broadly, booking model reviews can also shine a light on other inefficiencies in the way that a bank conducts its business. The complexity disliked by resolution authorities does not always have a clear business rationale either, and finding ways to reduce it can lead to greater efficiencies. For instance, there may be inconsistencies in booking processes for particular products across multiple business lines. There may be collateral efficiencies that can be realised, or a more efficient distribution of regulatory model approvals. In some cases there may even be entire legal entities which can be wound down, where there is no longer a clear rationale for them.

Booking model reviews can expose such inefficiencies, and banks can work to eliminate them for their own reasons, without being forced by resolution authorities. Banks should also explore using solvent wind-down analyses as a way of identifying transactions and exposures that resolution authorities might consider difficult to unwind in resolution. Demonstrating ongoing efforts to re-structure or otherwise mitigate potential impediments should be a focus and must be clearly communicated to resolution authorities. The resulting transparency will then go a long way towards meeting their expectations.

6. Data quality, reporting and valuation



Using data to support resolution

Having the capability to produce and report robust and credible information is an indispensable part of supporting the feasibility and timeliness of resolution. Authorities will expect banks to report on a wide range of topics to facilitate *ex ante* resolution planning, including legal entity structures, the location of assets and liabilities, lists of key personnel and integrated views of depositors and clients.

Re-generating some of this information at the point of resolution – providing a full view of a bank's balance sheet and a credible valuation of its assets – will be a much more serious challenge for banks to execute in a timely and accurate manner.

At present, hundreds of employees across various teams can often spend weeks or months pulling and collating this data from multiple systems. Furthermore, much of this work often relies on manual spreadsheet-based analysis.

Besides seeing a lack of timeliness or consistency in reporting as an impediment to resolution, doubts over a bank's ability to accurately provide a rapid view of its losses may lead authorities to err on the side of caution and subject creditors to a larger bail-in than might otherwise be necessary. We think that this could, in turn, make for a more volatile resolution process.

Enhancing data capabilities

Poor data management in banks is more widely felt than just for resolvability or regulatory concerns. Recent Deloitte UK research has found that 62% of financial services executives considered data quality to be a significant problem in their organisations (rising to 82% when executive commitment to improving data management was lacking).[17]

Some banks considering how to meet their resolvability expectations have focused on developing data analysis and visualisation systems that can quickly give a snapshot of their financial position. Our experience, however, has been that addressing deficiencies and inconsistencies in the underlying quality of data, and how it is initially collected, can be a far more difficult task. If these deficiencies are not tackled, the credibility of any output or valuation based on the data will be undermined.

Weak MIS can also impede a bank's ability to identify and track loss-absorbing instruments and liquid assets throughout their group, frustrating efforts to tackle problems related to the other resolvability drivers in this paper.

Addressing the data challenge will not be a straightforward task, and requires more than investment in technology. Banks need to consider how to improve their culture and governance structure around data management in such a way that facilitates its standardisation, centralisation and ultimate reliability.

To do this, a clear commitment is needed from management to allocate the resources to enhance data infrastructure and change firm-wide behaviours. Often the range of stakeholders involved in generating and owning data relevant to resolution makes it difficult to change established practices without unambiguous direction being set from the top.

A full-scale digital transformation of accounting systems would be extremely costly for almost any bank. However, the sheer volume of data-driven regulatory initiatives that banks are currently facing (including risk management and stress-testing) means that banks have to consider where they can find synergies between resolution reporting and other lines of regulatory work.

This situation also presents an opportunity for banks to assess how they can use change to improve the quality of their broader MIS, or how they harness automation for accounting processes – and consider how these enhancements can support their ability to better operate under business-as-usual conditions.

The case for taking action now

Taking steps to become more resolvable will be unavoidably costly and time-consuming for banks. Nevertheless, we believe that there is a strong business case for them to get on the front foot and strategically invest in improving their own resolvability.

The case for taking action now is supported by benefits for banks associated with:

- **Having the opportunity to self-assess their resolvability and demonstrate improved capabilities**
- **Using resolvability transformations to become more efficient and competitive**
- **The prospect of a resolvable bank being eligible for less stringent supervision and regulation**

Showing progress towards resolvability

As a member of a bank's board, one challenge in considering the expectations and responsibilities around resolvability is, as noted earlier, the highly qualitative nature of most of the criteria used. This will inevitably lead to differences of views between resolution authorities and a bank's senior officers when it comes to evaluating impediments to their resolvability. In this respect, resolvability is indeed in the eye of the beholder.

For instance, from our analysis of the EU BRRD's 28 resolvability criteria, at least 11 of them ask questions that cannot be objectively tested or quantified.

This element of subjectivity underlines the importance for a bank's board and management to find ways to understand the scale of their resolvability challenge and to make their resolvability gains both tangible and demonstrable – and doing so sooner rather than later.

Various tests can help ensure that banks focus their efforts on those areas that are most in need of attention and prove subsequently that the efforts taken have been comprehensive and well integrated into the organisation.

UK authorities have recently asked banks to undertake resolvability self-assessments. Such exercises can help banks anticipate the findings of the authorities' own reviews, identify gaps and thereby focus their efforts on those areas most in need of investment and change.

These self-assessments differ depending on the area of resolvability being tested. For example, those looking at operational continuity will have to assess the quality and validity of the documentation (for instance, through sampling SLAs) and the bank's capability to maintain an up-to-date view of services on which critical functions rely. The exercise can also verify that detailed roles and responsibilities have been established to manage the functionality of continuity plans.

Testing how services and functions react to a resolution scenario will help spot critical interdependencies and weaknesses that need to be addressed beforehand. Such "operating model stress tests" can be validated over time if multiple exercises repeatedly identify the same weaknesses in a bank.

"War games" represent a further step towards translating the theory of resolvability into tangible procedures for bank staff. They can simulate crisis management situations and test the response of the bank to multiple scenarios, representing the one envisaged by the resolution plan and variants of it. These simulations can then be used to refine internal governance processes relating to resolution, particularly by updating "playbooks" that codify the actions and decisions (and their triggers) that a bank's board and management must take as it nears non-viability. These playbooks can also set out the procedures that have to be followed by a bank's business continuity team after resolution is triggered.

Such exercises can also be used to build confidence with a wide range of stakeholders involved in the resolution process – including various supervisory and regulatory authorities that can be invited to observe or participate in the simulation.

Various tests can help ensure that banks focus their efforts on those areas that are most in need of attention and prove subsequently that the efforts taken have been comprehensive and well integrated into the organisation.

A more efficient and competitive bank

It would be short-sighted to regard the process of becoming resolvable as solely a compliance exercise, or to believe that the interests of industry and resolution authorities will always be at odds.

Rather, we see the breadth of operational, financial and structural changes that banks will have to pursue in order to become resolvable as a significant opportunity for them to ensure those measures also improve their efficiency and client-facing capabilities.

This point should not be misunderstood. Becoming resolvable stands to be very costly for most banks over the coming years, but insofar as these costs are unavoidable, synergies that can be found between these changes and improving business-as-usual functions are too important to ignore.

Whether a more resolvable bank can also be a more efficient and competitive one will largely depend on how integrated resolvability transformation programmes are with the refinement of end-to-end product delivery and how the organisation strategically repositions itself to improve returns in light of changing market realities.

There are numerous possibilities to achieve synergies between resolvability change and business competitiveness. From capital, liquidity and collateral efficiencies resulting from the streamlining of legal entity structures, to making better resource allocation decisions supported by higher quality and more timely management information.

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Generally, creating a simpler and more easily understood organisational structure can have a complementary effect on the ability to manage information, processes and costs throughout the business.

The re-organisation of internal services under SLAs in line with operational continuity requirements, and recording the pricing of such services on a commercial arm's length basis, will shine a spotlight on inefficient internal service provision and identify areas where banks can rationalise their operational activities and reduce their cost base.

Investment in operational continuity mapping and procedures meant for a gone-concern scenario can also improve management's understanding of organisational vulnerabilities and strengthen a bank's operational resilience in business-as-usual times. This could improve its ability to recover from, and maintain services, during unexpected non-financial disruptions such as information technology failures or cyber-attacks.

More broadly, given that a resolution authority's view of a bank will respond to its organisational evolution, banks that deeply integrate resolvability thinking into their actions stand to be better able to meet the scrutiny of authorities when they make significant strategic decisions, including entering new markets or making acquisitions.

Can resolvability reduce the need for supervisory scrutiny?

Since bank resolution is principally about making bank failure less of a systemic event for financial markets, some will ask if a resolvable bank should benefit from a reduction in prudential and structural requirements as a result.

While this is sometimes accepted in theory, its demonstration in practice has been more limited. Policymakers have, however, already signalled some appetite for trade-offs here.

When identifying the desired level of going-concern capital for the banking system, the UK Financial Policy Committee noted that the development of an effective recovery and resolution regime was worth a (hypothetical) five percentage point reduction in the need for Tier 1 capital on a risk-weighted basis.[18]

Similarly in Switzerland, while setting out the structure of their TLAC requirements, the authorities there acknowledged that the two Swiss G-SIBs would be eligible for a rebate on their gone-concern loss absorbency needs if they were judged to have improved their resolvability.[19]

From the opposite perspective, resolution authorities in Europe and the US have emphasised their discretion to raise a bank's loss-absorbency requirements in response to impediments they identify to that bank's resolvability – particularly those relating to the credibility of existing LAC.

Beyond micro-prudential easing, however, there is perhaps a more fundamental question of whether a resolvable bank should still be considered too-big-to-fail and what this in turn means for supplementary structural reform measures currently being debated. While resolvability can indeed be thought of as more of a "sliding scale" than a binary yes/no designation, a sufficiently resolvable bank should not exhibit the same negative externalities as those which materialised during the crisis.

Getting resolution and resolvability right means that authorities are confident that the idiosyncratic failure of a large systemic bank can be dealt with in an orderly way without causing unacceptable disruption to financial markets and the broader economy.

The realisation of this is critical to understanding whether or not the FSB's post-crisis programme of regulatory reforms can be seen as having successfully addressed the problem of TBTF banking.

Creating this confidence should provide a level of certainty that the regulatory framework has done what it was designed to achieve, and is robust enough to be relied upon going forward.

More recent TBTF regulatory proposals that sit outside the FSB's programme may therefore find the problem they are targeting has already been adequately addressed. This may be particularly relevant for the debate around newer initiatives to limit or separate certain banking activities (such as the current EU bank structural reform proposal), or to substantially increase bank capital requirements beyond those set out in the Basel framework.[20]

There is perhaps a more fundamental question of whether a resolvable bank should still be considered too-big-to-fail.

Is being resolvable enough?

The need for cross-border co-operation among resolution authorities

Even if a bank is "resolvable" in its own right, the feasibility and credibility of applying resolution tools to systemic banks will not be possible without effective cross-border cooperation between resolution authorities.

Given that nearly all systemically important banks have significant cross-border activities, their resolution cannot avoid difficult questions around dividing losses, agreeing to consistent resolution plans, coordinated action and the speed of joint decision-making. A lack of co-ordination and co-operation between authorities, especially at the resolution execution stage, stands to complicate an already complex process even further.

Such co-operation is essential, in particular, for the practical effectiveness of the Single Point of Entry (SPE) resolution strategy employed by most banks around the world. The level of co-ordination and co-operation between home and host authorities observed in their work so far – with some beginning to treat subsidiaries of foreign banks as local resolution entities – could cast considerable doubt over banks' resolution plans, pushing some towards a *de-facto* Multiple Point of Entry (MPE) approach and multiplying the resolvability expectations they are expected to meet.

The level of co-ordination and co-operation between home and host authorities observed in their work so far could cast considerable doubt over banks' resolution plans.

The existence of significant differences in the treatment of creditors on the grounds of their nationality, the location of their claim or the jurisdiction where it is payable, in contravention of the FSB's *Key Attributes*, also continues to be a problem. Where such differences exist, they could hinder and complicate resolution, for example by incentivising authorities in host jurisdictions to impose ring-fences around the branches of banks whose home jurisdictions apply such differentiated treatment.

Developing reliable cross-border co-operation on resolution is a long-term task, and one more in the remit of public authorities than banks. Indeed, whether or not such co-operation exists may not become fully apparent until the cross-border resolution and crisis management framework has its first real test.

In the meantime, resolution authorities need to come off the fence, particularly for those banks which are currently pursuing a SPE resolution strategy. If such a strategy is unlikely to be realised in practice, and some host authorities are preparing to apply their own resolution tools to local entities, the sooner this is made clear to banks the better.

That said, banks are not powerless. Those that take the opportunity to become more resolvable in such a way that rationalises their structure and operations can reduce the kind of cross-border complexities that frustrate the interaction of regulators, resolution authorities and supervisors across their jurisdictions. In so doing, the banks may find that their operations become more efficient, to the benefit of them and their shareholders.

As the single most important outstanding element of the FSB's TBTF programme, a successful drive to make banks resolvable in a prompt and credible way should increase investor confidence that another milestone has been reached in the implementation of the post-crisis reform agenda.

Conclusion

Although important progress has already been made, achieving resolvability – and maintaining it as the bank and financial markets evolve – will be a significant task for both banks and resolution authorities over the coming years. The ongoing process in the United States, similar processes already underway in Europe and on the cards for Asia Pacific countries will be complex, prolonged, unavoidably costly and, in some cases, likely carry transformational implications for a bank's strategy, structure and operational capabilities.

It is therefore critical for banks to ensure that this transformation is well integrated into their business strategy and is done – where possible – on their own terms, delivering parallel efficiency improvements. Getting ahead of the assessment of authorities, and the potential interventions arising from it, is likely to be worth the investment.

How a bank can practically get ahead, however, still remains an area of significant uncertainty. The six resolvability drivers set out in this paper propose a framework for how this transformation can be considered. But good planning needs to be informed by increased clarity between banks and their resolution authorities on where those authorities intend to draw the line of "good enough".

As the single most important outstanding element of the FSB's TBTF programme, a successful drive to make banks resolvable in a prompt and credible way should increase investor confidence that another milestone has been reached in the implementation of the post-crisis reform agenda. Given the broad public desire in most countries to see the TBTF problem tackled, this milestone is as important for the global community of regulators and resolution authorities as it is for the banks themselves.

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