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# 1. Too big to fail: A policy's beginning, middle and end (?)

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## 1.1 INTRODUCTION

Too big to fail is too costly to continue. It destroys the public finances, undermines competition and promotes risk taking. Indeed, it may even sow the seeds of the next crisis. So ending too big to fail has top priority on the regulatory agenda, and Mark Carney, Chairman of the Financial Stability Board (FSB) has declared that 2014 is 'the year to complete the job'.<sup>1</sup>

But how did such a policy come about, and why has it persisted? Briefly put, it originated as the lesser and less immediate of two evils. More moral hazard in the future seemed preferable to instant financial instability. Across the developed world authorities intervened in the case of large failing banks, such as Continental Illinois, Credit Lyonnais and various Japanese banks, to protect all creditors. Bail out appeared to become the norm, and rating agencies raised banks' overall rating to reflect this implicit government support.

On 15 September 2008 things changed abruptly. Instead of saving Lehmans as the market had expected, the US authorities forced Lehmans into bankruptcy. That in turn caused investors to reappraise risk and return. They flew to strong banks and ran from the weak, causing the latter to fail, markets to collapse and the real economy to contract. Financial instability was indeed the instant result of letting a big bank fail.<sup>2</sup>

So, as the world teetered on the verge of financial meltdown, policymakers reversed course. As a crisis measure, governments put massive amounts of support into major banks – a step that did indeed do much to contain the crisis.

But the step also highlighted the need for reform, the need to make banks resolvable, so that investors, not taxpayers, would bear the costs of bank failures, and so that banks in resolution could continue to perform critical economic functions even whilst in resolution, much the way that airlines can continue to fly even whilst they are in bankruptcy. In other words, policymakers are seeking to defuse the risk that banks pose to financial markets and to the economy at large. They are seeking to make banks 'safe to fail'. And, as this chapter demonstrates, they are on the verge of success.

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\* The chapter draws heavily on Huertas (2014) and represents the author's personal views.

<sup>1</sup> Carney (2014).

<sup>2</sup> Strictly speaking, Lehmans was not a bank (it did not take deposits in the US), but an 'investment bank', whose principal subsidiary was a non-bank broker-dealer registered in the US subject to supervision by the Securities Exchange Commission (SEC). For a discussion of Lehmans and the causes of its failure see Valukas, (2010). For a discussion of the knock-on effects of Lehmans' failure see Huertas (2011).

Table 1.1 *Too big to fail is a matter of expectations*

	Too big to fail	Safe to fail
Probability that bank will reach point of non-viability/require intervention	20%	20%
Loss given resolution	25%	25%
Probability of rescue	95%	5%
Expected loss	25bp	475bp

## 1.2 TOO BIG TO FAIL REMOVES MARKET DISCIPLINE

Ordinarily, as a firm's risk of default rises, so does the risk premium that the firm is required to pay on its debt – a fact which may also reduce the firm's capacity to raise debt. Together, the increase in the risk premium and the reduction in the firm's debt capacity constitute market discipline.

But in the case of banks, market discipline may not work effectively. The risk to the investor in bank debt depends heavily on the likelihood of the government bailing out the creditor, should the bank need to be resolved.

Table 1.1 illustrates the point. Take two banks, one 'too big to fail' and one 'safe to fail'. From a stand-alone perspective they are identical – for each the probability is 20 per cent that the bank will reach the point of non-viability so that intervention is required; for each, the investor would suffer a 25 per cent loss in principal, if the bank is resolved without taxpayer support. The only difference between the two banks is the market's expectation regarding the degree of support that the government would provide to the instrument in question or to the bank in general.

If the market judges that the bank is too big to fail, the market is effectively stating that there is a very high probability (say 95 per cent) that the government will rescue the bank (so that there is no loss to investors). In this case, the expected loss to investors is 25 basis points (bp). In contrast, if the market judges that there is a low probability (say 5 per cent) that the government will rescue the bank, the expected loss to investors in the 'safe to fail' bank is 475bp.

Debt providers will therefore look as much to the willingness and ability of the government to provide support to the bank as they will to the strength of the bank itself (see Table 1.2). If a weak bank is headquartered in a jurisdiction with a strong government, investors will factor the possibility that the government could support the bank and/or its creditors, if the bank entered or came close to resolution. In contrast, if the bank itself is in a strong condition, there is little additional immediate benefit from implied government support. And, if the government itself is weak, or would become so, if it had to support its banks, the implied government support has little value.

Indeed, the rating agencies have formalised this criterion. In rating a bank, they provide two ratings, the stand-alone rating without implicit government support, and the overall rating, that provides an assessment of the risk that the creditor will actually experience a loss. Generally, the overall rating is one or more notches above the stand-alone rating, with the difference between the two being a measure of the degree of support that the rating

Table 1.2 Impact on bank's overall credit rating of implied sovereign support

		Bank's stand-alone condition			
		Weak		Strong	
Government's credit condition	Weak	○	Impact limited as government is too weak to be a source of strength	○	Impact zero and possibly negative as bank is stronger credit than the sovereign
	Strong	↑	Impact positive as strong government can prop up weak bank	○	Impact limited as bank already has strong credit rating

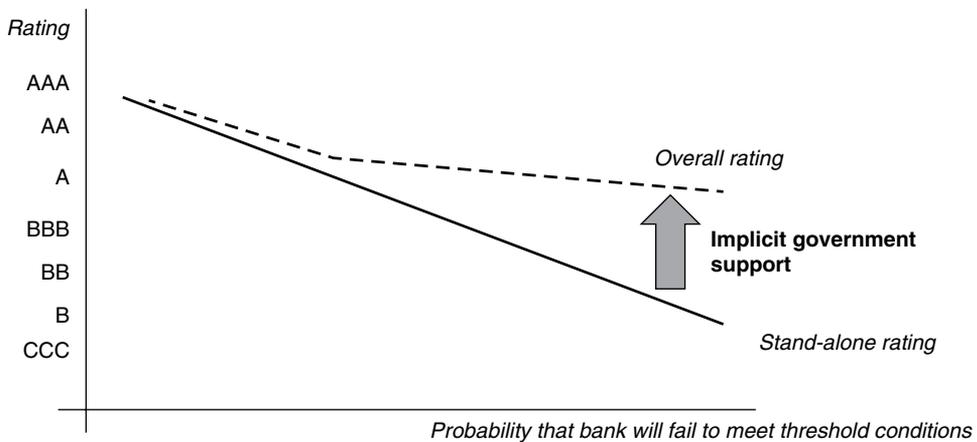


Figure 1.1 Implicit government support raises overall rating

agency expects the government to give the credit, should the bank fail to meet threshold conditions and require resolution (see Figure 1.1).<sup>3</sup>

In effect, too big to fail aligns the credit standing of banks within a jurisdiction with that of the government that could provide the backstop to the bank's liabilities. Weak banks headquartered in jurisdictions with highly rated governments may therefore be able to raise funds at a lower cost than would be the case if they had to raise funds purely on the basis of their stand-alone credit rating.

The drawbacks of too big to fail are threefold:

1. *It undermines the public finances.* The prospect that governments could be called upon to provide assistance on a massive scale poses the threat that investors will simply

<sup>3</sup> Moody's Investors Service, 2007.

transfer their poor regard of a bank to the government of the jurisdiction in which the bank is headquartered. If a government backs its banks, the government's credit will suffer as the condition of its banks deteriorates.<sup>4</sup>

2. *It distorts competition.* If the market expects the government to be able and willing to bail out banks when they fail to meet threshold requirements for minimum capital and/or liquidity, then such banks can borrow at lower cost than they would be able to do strictly on the basis of their stand-alone rating (see Figure 1.1). This differential is effectively a subsidy to weak banks in jurisdictions with strong governments (see Table 1.2).<sup>5</sup> Banks likely to be bailed out receive an undue competitive advantage relative to institutions that are not likely to be bailed out.

This is particularly problematic within a single market environment, such as the EU. Left unchecked, a policy of too big to fail would differentially advantage banks headquartered in large Member States with strong credit ratings, for such Member States would have a greater capacity to come to the assistance of any bank that became troubled.

3. *It promotes risk taking.* If the market expects the government to bail out a bank, the market will not necessarily discipline the bank. This creates moral hazard, for it encourages risk-taking at the bank. This in turn may make the bank more likely to fail. Thus, bailing out banks could potentially sow the seeds of the next crisis.

Ending too big to fail therefore has top priority. But this cannot be done simply by passing a law. One has to convince the market that governments will refrain from using their sovereign powers to bail out banks. That in turn depends on creating confidence among policymakers and market participants alike that banks are 'safe to fail', that they can be put into resolution without significant disruption to financial markets or the economy at large. That will be the case, if and only if banks and governments have addressed the issues that prompted governments to resort to bail out in the first place.

### 1.3 THE BIRTH OF 'TOO BIG TO FAIL'

The term 'too big to fail' originated in 1984 in connection with the failure of Continental Illinois, then the seventh largest bank in the United States.<sup>6</sup> The US authorities (FDIC and

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<sup>4</sup> See Tucker (2012). Indeed, in the peripheral Eurozone countries, governments are hostage to the health of the banks in their jurisdiction. Should they have to rescue the banks, fiscal deficits would soar and the credit of the government would deteriorate – Ireland is Exhibit A for this. But banks are also hostage to the health of governments. Should governments default or reschedule banks that had invested heavily in government debt and that could fail and require resolution and/or recapitalisation – here Greece is Exhibit B. Breaking this so-called 'doom loop' is one of the primary motivations for banking union in the Eurozone. See Gros (2013).

<sup>5</sup> Haldane (2010, p. 25) estimated the subsidy to global banks to be approximately \$40 billion in 2007 prior to the crisis, but \$250 billion in 2009, as the stand-alone condition of banks weakened. More recently, the US General Accountability Office (2014) has estimated that the subsidy has declined as a result of an improvement in the stand-alone condition of banks as well as from the imposition of legislative restrictions on such support under the Dodd–Frank Act.

<sup>6</sup> FDIC 1997.

Federal Reserve System) resolved the bank in a manner that came to be known as ‘open bank assistance’. This not only protected uninsured depositors (rather than imposing losses on such depositors, as had been done in the case of smaller banks under the FDIC’s so-called ‘modified payoff’ policy) but also protected general creditors of the subsidiary bank and the parent holding company. The route to this result was a combination of liquidity guarantees, asset purchases and infusion of new preferred equity into the parent holding company for down-streaming to the subsidiary bank. The authorities also employed such methods in the case of Bank of New England Corporation in 1991.

Although FDICIA (1992) required the authorities to exercise prompt corrective action (rather than forbearance), the law also contained an exemption from that requirement (subject to stringent approval requirements), if the ordinary resolution would pose systemic risk. As the largest banks posed such systemic risks, FDICIA did not end too big to fail, but rather perpetuated it.

Outside the United States ‘too big to fail’ was also on the way to becoming the norm. In 1994, for example, the French government bailed out Credit Lyonnais after it had overextended credit,<sup>7</sup> and Japan resolved large bank failures in the 1990s in a manner that protected creditors and allowed banks to continue in operation.<sup>8</sup>

## 1.4 THE LESSER OF TWO EVILS

Policymakers were well aware of the risks involved in too big to fail, above all that it created moral hazard – the risk that protecting creditors could induce risk-taking at the largest institutions. But policymakers were also aware of the risks of simply putting a large bank into ordinary bankruptcy proceedings or into outright liquidation: such steps could cause financial market infrastructures to implode, create chaos in financial markets and wreak havoc in the real economy. Rather than run such risks, it seemed wiser to policymakers to prop up failing banks and/or protect creditors – at least until such time as policymakers could be sure that payment and securities settlement infrastructures could survive the failure of one of its largest participants.<sup>9</sup>

## 1.5 MAKING FINANCIAL MARKET INFRASTRUCTURES ROBUST

To reduce systemic risk, banks and the authorities engaged in extensive work to make financial market infrastructures more robust.<sup>10</sup> Payment systems either moved to real time gross settlement and to improved netting systems that assured finality to senders and receivers of payments. Foreign exchange settlements moved to a payment versus payment basis. Securities markets moved to delivery versus payment. In addition,

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<sup>7</sup> *The Economist* 1994.

<sup>8</sup> IMF 2000.

<sup>9</sup> See G-10 (2001) and G-10 (2002).

<sup>10</sup> For a summary see Huertas (2006, pp. 11–16).

securities markets and their participants improved confirmation procedures and shortened the interval between trade and settlement dates. In the derivative markets, the industry developed, along with the authorities, standardised netting contracts that materially reduced counterparty risk. And, when industry participants allowed backlogs of unconfirmed transactions to accumulate and unauthorised assignments to occur, supervisors stepped in to stop the latter and to order the industry to clean up the former. Taken together, these efforts did much to make financial market infrastructures robust and to reduce the rationale to bail out a failing participant, lest the knock-on effects topple the financial system as a whole. However, events moved too rapidly for policymakers to move away from, and to convince the market that they had moved away from, 'too big to fail'.

## 1.6 RATING AGENCIES FORMALISE NOTION OF IMPLICIT SUPPORT

Indeed, the market took steps to make 'too big to fail' the expected norm. In March 2007 Moody's finalised the incorporation of its joint-default analysis into its bank rating methodology.<sup>11</sup> This formalised the notion of implicit support and explicitly made a bank's overall rating dependent on the likelihood that the government would in fact provide such support, if the bank were unable to meet its maturing obligations from its own resources.

Moody's judged that the likelihood of support depended on three factors: the willingness of the government to provide support; the capacity of the government to provide support; and the degree to which the failure of the bank is likely to be correlated with the failure of the government. In modelling the willingness to support the Moody's analysis attempted to replicate the deliberations that the authorities would conduct if confronted with the failure of the bank in question, including an assessment of the systemic impact of allowing the bank to default on its obligations to depositors and other clients. If the analysis suggested that the resolution authority would be willing to provide such support, Moody's then used the sovereign's debt rating as an initial indication of the sovereign's capacity to provide such support. As a final check, the rating agency estimated whether the support required would be so large as to put the sovereign itself into default.

## 1.7 CRISIS DEMONSTRATES NEED FOR REFORM

Then came the crisis.<sup>12</sup> Starting in July 2007 with the stabilisation of IKB in Germany, implicit support became actual support, delivered in various forms: liquidity support, credit guarantees, equity injections, asset protection schemes or merger assistance. A general rule seemed to be emerging that even if banks failed, they would be resolved in a manner that protected creditors. When the US authorities provided assistance in March 2008 to enable JPMorgan Chase to take over Bear Stearns, a distressed broker-dealer, many in the market concluded that this rule would also extend to large investment banks.

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<sup>11</sup> Moody's Investors Service, 2007.

<sup>12</sup> For a discussion of the crisis see Huertas (2011, pp.41–99) and sources cited therein.

On 15 September 2008 the rule suddenly and unexpectedly changed. The US authorities put Lehmans into bankruptcy. Creditors became exposed to loss. Outside the US clients lost access to their money and had no ability to trade securities held in their brokerage accounts. The market had to confront the fact that implicit support was not a guarantee, but in effect an option to protect creditors. And the US authorities had refused to exercise that option, even though they had the economic capacity to do so. Simply put, the US was economically able, but not politically able or willing to support the creditors of Lehmans.

Markets immediately drew the logical conclusion: too big to fail had been repealed: when it came time for governments to turn implicit support into actual support, they might choose not to do so. As a consequence, market participants looked much more intensively at the stand-alone financial strength of the financial institutions in which they placed their money. This resulted in an immediate flight to quality, to banks considered strong, away from banks considered weak, putting the latter under very significant liquidity pressure.

At the end of September 2008 this pressure intensified, following the resolution of Washington Mutual in a manner that imposed losses on unsecured senior creditors and following the rejection by the US Congress of the Bush Administration's initial proposal for a Troubled Asset Relief Programme (TARP). The financial markets headed toward meltdown.

To arrest this slide into the abyss, policymakers opted to make support explicit, to take 'whatever measures are necessary to ensure the stability of the financial system.'<sup>13</sup> Policymakers quickly followed words with deeds: during the course of October 2008 the authorities injected massive amounts of support into the banking system via equity injections, credit guarantees, asset purchases and various other means. Total assistance to the banking sector eventually amounted to over \$13 trillion. The gross amount involved was equivalent to nearly 75 per cent of GDP in the US and over 85 per cent of GDP in the UK.

## 1.8 REFORM GETS UNDER WAY

Together with macro-economic measures (reduction in interest rates, fiscal stimulus) the measures to stabilise the banking system were sufficient to avoid what might otherwise have become the Great(er) Depression. But policymakers also realised that reform was needed: banks had to become less likely to fail<sup>14</sup> and banks had to become resolvable, or 'safe to fail'. Too big to fail had to come to an end.

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<sup>13</sup> (PFUE 2008).

<sup>14</sup> To make banks less likely to fail, policymakers strengthened regulation and sharpened supervision. The Basel III accord (2010) increased capital requirements and introduced a global liquidity standard for the first time. Supervisors reinforced regulation by becoming more proactive and more forward looking – an attitude that took its most concrete expression in the form of stress tests. These assured that the bank currently had sufficient capital to survive the stresses that might arise over the three to five year horizon covered by the test. Those banks that did not, could not pay dividends or make distributions. And, for large shortfalls, the supervisor might require the bank to raise new capital. For details see Huertas (2014).

At the Pittsburgh summit in September 2009 G-20 leaders mandated the Financial Stability Board to address cross-border resolutions for systemically important financial institutions. In particular the G-20 leaders decided that

Systemically important financial firms should develop internationally-consistent firm-specific contingency and resolution plans. Our authorities should establish crisis management groups for the major cross-border firms and a legal framework for crisis intervention as well as improve information sharing in times of stress. We should develop resolution tools and frameworks for the effective resolution of financial groups to help mitigate the disruption of financial institution failures and reduce moral hazard in the future.<sup>15</sup>

## 1.9 THE FSB ESTABLISHES KEY ATTRIBUTES FOR RESOLUTION REGIMES

Building on work undertaken by the Basel Committee<sup>16</sup> and in various national jurisdictions, the FSB first developed criteria for resolvability before publishing a global standard for resolution regimes for cross-border banks.<sup>17</sup> This sets the framework under which bail outs can end. Unlike Lehman's, the approach is planned out in extensive detail, enshrined in law and regulation and advertised widely in advance, so that the presumption of market participants is turning from bail out to bail-in.

In July 2011 the FSB issued a paper that defined the aims of resolution reform, namely to make feasible the resolution of financial institutions without severe systemic disruption and without exposing taxpayers to loss, while protecting vital economic functions through mechanisms which make it possible for shareholders and unsecured and uninsured creditors to absorb losses in a manner that respects the hierarchy of claims in liquidation.<sup>18</sup>

An institution is therefore resolvable, if three conditions are met:

1. The institution can be readily recapitalised without recourse to taxpayer money;
2. The institution in resolution can continue to conduct normal<sup>19</sup> transactions with customers, ideally from the opening of business on the business day following the initiation of the resolution; and
3. The resolution process itself does not significantly disrupt financial markets or the economy at large.

In October 2011 the FSB followed with a paper that defined the key attributes that resolution regimes would have to possess, if the jurisdiction were to meet the criteria set out in the July paper. First of all, the regime must have the proper scope: it must cover not

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<sup>15</sup> G-20 (2009b).

<sup>16</sup> BCBS (2009).

<sup>17</sup> FSB (2011a).

<sup>18</sup> FSB (2011b).

<sup>19</sup> Normal transactions would include payments and settlement of securities trades and various other 'non-investment' transactions with both individual and institutional customers. In contrast, investment obligations would be subject to a stay (e.g. on the payment of interest and dividends or the repayment of capital instruments) as outlined below.

only banks, but also banking groups, including parent holding companies and non-bank affiliates – a vital precondition for the so-called single point of entry approach to resolution (see below). The regime must require institutions covered by the regime to prepare and keep up-to-date recovery and resolution plans.

Second, the resolution regime must create or designate a resolution authority. The resolution authority should be a public body with operational independence, sound governance and transparent processes. It should have responsibility for implementing the resolution of the failed bank in line with the provisions of the resolution statute, in the same sense that an administrator or insolvency practitioner takes responsibility for a non-financial corporation upon the commencement of bankruptcy proceedings.

Resolution regimes should mandate that resolution authorities have the objectives outlined above. Resolution authorities should also coordinate and cooperate with one another, both within and across jurisdictions, under the overall guidance of the group resolution authority.

Third, the resolution regime should define the point at which resolution begins. This should be ‘when a firm is no longer viable or likely to be no longer viable, and has no reasonable prospect of becoming so.’<sup>20</sup> Generally this will be a point where the bank is still balance sheet solvent: forbearance is discouraged; prompt corrective action, encouraged. This prevents the bank from gambling for resurrection, reduces the loss that creditors are likely to incur and raises the probability that bail-in of investor obligations will be sufficient to recapitalise the bank.

Once resolution begins, the resolution authority should be able to employ, singly or in combination, one or more of the following resolution tools:

- (i) liquidation and pay-off of insured deposits;
- (ii) asset-transfer to a third-party and/or to a bridge bank;
- (iii) deposit or insured deposit transfer to a third party and/or to a bridge bank;
- (iv) sale of the business/bank as a whole to a third party;
- (v) ‘bail-in’ of liabilities issued by the bank and/or its parent holding company; and
- (vi) ‘temporary public ownership’.

To resolve a global systemically important bank (G-SIB) it is particularly important that the resolution authority have the bail-in tool.

Fourth, the resolution regime should assure that the entry into resolution does not itself trigger default in qualified financial contracts such as repurchase agreements and derivative contracts. At a minimum there should be a stay on such contracts pending their assumption by the bank-in-resolution (as long as the bank continues to meet payments to counterparties when due). Such an arrangement avoids the losses that would result, both at the failed firm and across the market generally, if counterparties to the failed bank were to conduct a fire sale of the collateral posted by the failed bank.

Fifth, the resolution regime should assure that losses are allocated in accordance with the creditor hierarchy. To the extent that a creditor suffers losses greater than it would have suffered under liquidation, the regime should assure that the investor receives

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<sup>20</sup> FSB (2011a, p. 7).

compensation for the difference, a principle called ‘no creditor worse off than under liquidation’ (NCWOL).<sup>21</sup>

Sixth, the resolution regime should assure that mechanisms are in place to avoid reliance on taxpayer support. Where public authorities provide temporary financing to facilitate resolution, provision should be made to recover from the industry any losses the authorities might incur. The resolution regime should also set the basis for such a fund, including the purposes for which such a fund might be used, who should be liable for contributions to the fund, whether funding should be *ex ante* or *ex post*, how such a fund would interact with the deposit guarantee scheme and any bank levy, how such a fund should be structured and what claims, if any, does the resolution fund have on the estate of the failed bank.

Seventh, resolution regimes should make provision to facilitate cross-border cooperation among resolution authorities. To accomplish such cooperation (including the sharing of information) authorities should form institution-specific Crisis Management Groups (CMGs) that would draw up institution-specific cooperation agreements outlining how they would handle the resolution of the institution in question, if it were to reach the point of non-viability. The CMG would also be responsible for assessing the institution’s resolvability and making recommendations to remove barriers to resolution.

Eighth, resolution regimes should require – as a minimum – that systemically important financial institutions submit recovery and resolution plans. The recovery plan should outline the steps the institution would take in order to restore its capital and maintain its liquidity, were the firm to come under extreme stress. Thus, the recovery plan can be thought of as a financial continuity plan, and it is the responsibility of the firm to produce the plan for review by its CMG. In contrast, the resolution plan is the responsibility of the authorities – they need to develop the approach that they would take to resolving the firm, if it did reach the point of non-viability and were put into resolution. To facilitate their work, the authorities may require the firm to submit information or to suggest ways in which the firm could be resolved, but the ultimate responsibility for the resolution plan lies with the authorities.

## 1.10 IMPLEMENTING THE KEY ATTRIBUTES

The G-20 countries are making considerable progress toward implementation of the FSB Key Attributes (see Table 1.3), particularly in jurisdictions in which G-SIBs have their headquarters. The US, Switzerland and Japan already have legislation in place that meet practically all of the FSB standards. Most recently, the EU completed the Banking Recovery and Resolution Directive (BRRD) that will apply across all 28 Member States.<sup>22</sup> It has also put the finishing touches to banking union for the Eurozone. The BRRD will establish a statutory bail-in regime, and banking union will establish a Single Resolution

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<sup>21</sup> The FSB paper precludes taxpayer money as the source of compensation to creditors with a claim under NCWOL, but does not provide a source for such compensation. Although the resolution fund is one possible source for any compensation due, this is not required by the FSB, nor is it foreseen in the EU under the BRRD.

<sup>22</sup> For text of the BRRD see EU (2014a).

Table 1.3 Resolution regimes: Implementation of FSB key attributes

Jurisdiction	Scope	Resolution authority	Resolution powers	Contract clarity	Creditor safeguards	Resolution funding	Cross-border	Resolvability assessment	RRPs	Info-sharing
G-SIB home										
USA		✓	✓	✓	✓	✓		✓	✓	✓
EU		✓	✓	✓	✓	✓	✓	✓	✓	✓
Switzerland	✓	✓	✓	✓	✓		✓	✓	✓	✓
Japan	✓	✓	✓		✓	✓	✓	✓	✓	✓
China		✓						✓	✓	
Other FSB										
Hong Kong		✓	✓							✓
Singapore		✓	✓				✓	✓	✓	✓
Australia		✓	✓		✓					✓
India		✓								
South Korea	✓	✓	✓					✓		✓
Indonesia		✓	✓					✓		✓
Canada		✓	✓	✓	✓			✓		✓
Mexico		✓								✓
Argentina		✓				✓		✓		
Brazil	✓	✓	✓							
South Africa		✓							✓	
Turkey	✓	✓	✓					✓		✓
Saudi Arabia	✓	✓	✓		✓			✓		✓
Russia	✓	✓	✓							

Source: Huertas (2014, p. 85) based on FSB 2013 and EU 2013.

Mechanism (SRM) for the Eurozone.<sup>23</sup> Progress in other jurisdictions has been slower, but can be anticipated to accelerate, now that the EU has enacted its legislation.

## 1.11 MAKING THE KEY ATTRIBUTES OPERATIONAL

Authorities and banks have also made considerable progress in making the key attributes operational. In particular, systemically important banks have developed recovery plans. Together with the authorities, banks have initiated resolution planning, and each iteration leads to further improvements in resolvability, as barriers to resolution are identified and removed.

In this work banks and the authorities split the resolution process into three stages: (1) pulling the trigger; (2) stabilising; and (3) restructuring the bank-in-resolution. In effect, resolution for a G-SIB is a process whereby the authorities can put an institution that has fallen into a state of paralysis at the close of business on a Friday night: (i) back on its feet by the opening of business on Monday so that it can conduct normal business operations; and (ii) back to full health some months later.

### 1.11.1 Pulling the Trigger

Resolution regimes generally allocate to the supervisor the responsibility to ‘pull the trigger’ (i.e. make the determination that the bank should enter resolution). Where the resolution authority differs from the supervisory authority, the resolution authority

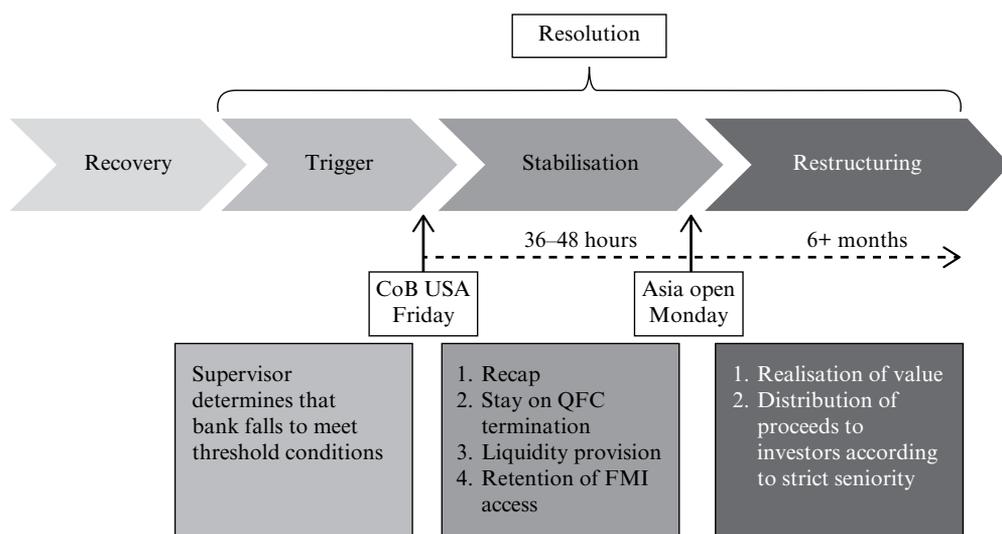


Figure 1.2 *Resolution: Tight time frames dictate advance planning*

<sup>23</sup> For the text of the Single Resolution Mechanism see EU (2014b).

generally has the right to provide its opinion (particularly with respect to the availability of a private sector solution). In some jurisdictions (e.g. in the EU under the BRRD) the resolution authority may have an independent right to pull the trigger.

As a practical matter, pulling the trigger should be a short and certain process. Steps requiring judicial review or prior approval should be kept to a minimum, so that the authorities can move immediately to the stabilisation phase. If continuity of critical economic functions is to be maintained, stabilisation has to be achieved as a practical matter within the very narrow window between the close of business one day (for a G-SIB this is likely to be at the end of the business day in the United States) and the opening of business the following business day (at the start of the business day in Asia). This interval has at most 36 to 48 hours (if resolution is initiated at the close of business on Friday). It is simply impractical to use large portions of that short interval in review procedures. For the resolution authority to stabilise the bank-in-resolution, it must be free to act quickly.

Most resolution regimes allow for this. They mandate that judicial review be conducted *ex post* and limit any claims by creditors of the bank to the difference between what they did receive and what they would have received, had the bank gone into liquidation ('no creditor worse off' principle).<sup>24</sup>

However, procedural requirements can be cumbersome and can potentially take up a large portion of the time available for stabilisation.<sup>25</sup> To avoid this, considerable advance planning is required. This includes lining up whatever approvals are required as well as identifying and dealing with objections that participants in the process might raise.<sup>26</sup>

### 1.11.2 Stabilising the Bank-in-Resolution

Once the supervisor has pulled the trigger the resolution process moves on to its next and most critical phase: stabilisation. In the case of a bank, this means above all five things: (i) recapitalising the failed bank; (ii) assuring that the bank has adequate liquidity when it reopens for business; (iii) assuring that the bank retains or renews all relevant authorisations in the jurisdictions in which it does business; (iv) assuring that the bank retains access to relevant financial market infrastructures; and (v) the authorities' communicating

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<sup>24</sup> Indeed, seeking injunctive relief against the initiation of resolution proceedings is likely to be futile, as it merely publicises that the authorities think the institution has reached the point of non-viability. That in turn is likely to aggravate liquidity pressure on the firm without forcing the central bank or the resolution authority to provide liquidity to the troubled bank whilst the injunction is in force. So the market is likely to remove swiftly any doubt that the institution should enter resolution.

<sup>25</sup> For example, under the BRRD there is a 24-hour period in which objections to the resolution plan may be raised. In the United States, a so-called 'triple-key' process must be employed to open the door to using the Orderly Liquidation Authority (Title II) to resolve a failing US banking organisation.

<sup>26</sup> If possible, the resolution authority should conduct any preliminary analysis as well as complete a draft recommendation to use the tool before or at the point at which the decision is taken to pull the trigger and put the bank into resolution. With such preparation, the decision to pull the trigger and the decision to use the tool can be taken immediately one after another or practically simultaneously so that the resolution authority can devote the bulk of the real time in the interval between pulling the trigger and the reopening of the markets on the next business day to the many tasks necessary to assure successful stabilization.

effectively with each other, with depositors, creditors and investors of the failed bank and with the public at large.

### **1.11.3 Recapitalising the Failed Bank**

The first step toward stabilising the bank-in-resolution is the most important. This is to recapitalise the failed bank. Without such a recapitalisation, resolution will fail, at least for a G-SIB. That is likely to disrupt financial markets and damage the economy at large.

For resolution to succeed, recapitalisation of the failed bank must be done without recourse to public money. For systemically important banks recapitalisation of the bank is likely to succeed if and only if the resources for recapitalisation are already in the bank. This will be the case if enough of the bank's liabilities can be 'bailed-in', that is written down or converted into equity of the bank.

For bail-in to work effectively within the time frame relevant for preservation of continuity, a number of conditions have to hold: (i) the resolution authority has to have the statutory authority to implement bail-in immediately;<sup>27</sup> (ii) bail-in has to respect the creditor hierarchy;<sup>28</sup> (iii) bail-in of investor instruments should be sufficient to recapitalise the bank; and (iv) bail-in of investor instruments should not trigger cross default clauses.

### **1.11.4 Assuring Adequate Liquidity**

Recapitalising the bank-in-resolution through bail-in of investor obligations is necessary but not sufficient to stabilise the bank-in-resolution. Continuity of operation can only be assured if the bank-in-resolution has access to adequate liquidity.<sup>29</sup>

The framework for such a liquidity facility should be put in place well in advance, and should be aligned with the overall resolution strategy for the institution. It should assure that such a facility is: (i) 'super-senior' (i.e. have a first claim on any income the bank may generate and have priority in liquidation over all unsecured creditors); and (ii) collateralised by a charge over the unencumbered assets of the bank-in-resolution, including without limitation the investments of the parent bank in its subsidiaries. In addition, the framework should make clear how losses, if any, would be allocated, including recourse to resolution fund(s).

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<sup>27</sup> Bail-in is an essential resolution tool, if losses are to be allocated to investors rather than borne by taxpayers. Accordingly, the resolution regime should give the resolution authority the power to bail-in liabilities issued by the bank. This so-called statutory bail-in should ideally be reinforced by contractual provisions in the instruments themselves as well as disclosure to investors that the instrument is subject to bail-in, if the bank enters resolution.

<sup>28</sup> This can be done by issuing what amounts to receivership certificates to the holders of liabilities that are bailed-in. Any cash realised is distributed to the holders of the receivership certificates in accordance with strict seniority. Proceeds go first to holders of certificates (senior proceeds note) representing the claims of holders of senior debt subject to bail-in. Once these claims have been fully satisfied, any remaining proceeds are distributed to more junior creditors, again according to strict seniority. To the extent that a creditor receives less than it would have done had the bank been liquidated, the creditor has a claim for compensation for the difference. See Huertas (2014, pp.96–8) and Gracie (2014).

<sup>29</sup> For further details see Huertas (2014, pp.98–102).

### 1.11.5 Assuring Authorisations are Maintained

The entry of the bank into resolution should not result in the revocation of the bank's license and a requirement for the bank-in-resolution to reapply for a license. Instead, a process should be in place to treat the entry into resolution as a change in control process, with control passing from the owner of the bank to the resolution authority and pre-approval of the resolution authority as 'fit and proper' to run the bank-in-resolution.

### 1.11.6 Assuring Access to Financial Market Infrastructures

The resolution authority should also assure that the bank-in-resolution continues to have access to financial market infrastructures (FMIs), such as payment systems, securities settlement systems and central counterparties. If the bank-in-resolution is to function normally upon reopening for business on Monday, it will certainly need access to FMIs. Otherwise, it will not be able to make or receive payments, settle securities transactions or conduct derivative transactions.

To assure that continuity is preserved, the resolution regimes for banks should be coordinated with those for the FMIs. In particular, the FMI should not be allowed to exclude a bank from the FMI solely on the basis that the bank has gone into resolution. Provided the bank-in-resolution has continued to make payments as due to the FMI (i.e. there has been no default on a cash obligation by the bank), the FMI should delay excluding the bank-in-resolution from the FMI as well as delay initiating loss allocation mechanisms within the FMI (the 'waterfall') for a period to allow the resolution authority to indicate that it has: (a) recapitalised the bank; and (b) assured adequate liquidity for the bank. With such assurance the FMI can keep in force the membership of the bank in the FMI. That will not only facilitate the resolution of the failed bank, but help assure that the FMI remains robust.<sup>30</sup>

### 1.11.7 Assuring Effective Communication

Last but by no means least, the resolution authority has to assure that communication is effective: between the bank-in-resolution and the authorities; between the bank-in-resolution and its clients and counterparties; between the bank-in-resolution and the FMIs to which it belongs as well as among the authorities. However, communication also has to strike a delicate balance between the need to keep material matters confidential until the authorities have reached a decision with the requirement to disclose broadly to all investors the instant a decision has been reached.

Communication in crisis is easier if the resolution framework is clearly understood, not only by responsible officials, but also by key journalists across all media types. That allows officials to present steps, such as putting the bank into resolution, in their broader policy context and to explain how the resolution process will preserve continuity of customer functions at the failed institution as well as maintain stability in financial markets and the economy at large.

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<sup>30</sup> See Huertas (2014, pp. 103–104).

### 1.11.8 Restructuring the Bank-in-Resolution

Stabilising the bank-in-resolution is the first and most important step toward assuring that the failure of the bank will not significantly disrupt financial markets or the economy at large. But stabilisation is not the end of the story. The resolution authority must then proceed to restructure the bank-in-resolution.

The goal of the resolution authority in the restructuring phase is to work itself out of a job: either to sell the bank to a third party, to return the bank to the private sector or to wind the bank down. This has to be done in a manner that maximises the value of the bank-in-resolution whilst respecting the creditor hierarchy.<sup>31</sup>

### 1.11.9 Resolvability: What Remains to be Done?

In translating the ‘architect’s sketch’ of resolution painted above into detailed blueprints for how specific G-SIB could actually be resolved, policymakers and banks have identified and are dealing with three issues, or barriers to resolution, namely: (i) how to handle qualified financial contracts; (ii) how to assure banks have adequate amounts of reserve, or back-up capital (‘gone-concern loss-absorbing capacity’ [GLAC]) available to be bailed-in, if the bank enters resolution; and (iii) how to assure the bank-in-resolution has access to adequate liquidity. With solutions to these issues, it should be possible to develop institution-specific resolution plans.

### 1.11.10 Qualified Financial Contracts

Certain obligations, known as qualified financial contracts (QFCs), may pose a barrier to resolution.<sup>32</sup> Upon an event of default, the claim under a QFC becomes immediately due and payable (it is exempt from the stay on payments to creditors). If the claim is not repaid, the holder of such obligations has the right to liquidate any collateral that the bank may have pledged to it and to keep the proceeds of such sale in satisfaction of the obligation.<sup>33</sup>

The two principal types of qualified financial contracts are repurchase agreements<sup>34</sup> and derivative contracts. Together these instruments account for a significant share of a

<sup>31</sup> For a further discussion of the role that creditors could play in restructuring the bank see Huertas (2014, pp. 105–109).

<sup>32</sup> For a discussion of the impact of QFCs on resolution see Roe (2011), Gracie (2014) and Huertas (2014, pp. 109–12).

<sup>33</sup> If the proceeds of the sale are insufficient to repay the obligation, the holder has an unsecured claim on the bank in default for the difference. If the proceeds of the sale are greater than the amount of the obligation, the holder must return the excess to the bank in default.

<sup>34</sup> Under a repurchase agreement the lender buys securities from the borrower, who enters into a commitment to repurchase at the maturity of the agreement the securities at a fixed (and somewhat higher) price than the lender originally paid to the borrower. This difference in price is the economic equivalent of interest on a loan.

The securities transferred to the lender by the borrower are the economic equivalent of collateral. The price paid by the lender for the securities is at a discount or ‘haircut’ to market value. This haircut serves to protect the lender against loss in the event that the borrower fails to repurchase

bank's balance sheet, particularly for banks with heavy involvement in trading activities. The obstacle to resolution stems from the fact that the non-defaulting counterparty (NDC) has the right to sell the securities upon an event of default by the bank-in-resolution. When selling the securities, the NDC is primarily interested in getting a price that will generate proceeds sufficient to repay its claim. Beyond that point any proceeds belong to the bank-in-resolution. As a result, the NDC may be inclined to accept offers for the securities that effectively give up much if not all of the haircut.

The loss of the haircut has two effects – first, it increases the loss that the bank-in-resolution has to incur and increases the probability that bail-in will have to extend beyond investor obligations to unsecured customer obligations such as deposits. That would compromise continuity. Second, the sale of the securities pledged under QFCs is a source of contagion from the bank-in-resolution to financial markets and potentially to the economy as a whole. If the sale results in the loss of the haircut, it may imply a decline in the market price and a fall in income and capital at all the institutions in the market that hold such securities in their trading (mark-to-market) book or use such securities as a reference point to value other assets.

In the case of derivative contracts this effect is amplified, for the close-out calculation that establishes the claim of the NDC on the bank-in-resolution is based on the NDC's replacement cost. In other words, the NDC makes the calculation not at the mid-market rate that the bank-in-resolution had used to value its contracts, but at the end of the bid-offer spread that favours the NDC. This increases the amount due to the NDC, and this large(r) amount becomes immediately due and payable upon an event of default by the bank-in-resolution.

To avoid these problems, resolution regimes envision placing a stay on the ability of lenders under repurchase agreements and counterparties to derivative contracts to exercise their rights of termination. The purpose of the stay is to allow the resolution authority to arrange for the bank-in-resolution to be in the position to meet its obligations under the contracts. Either the bank-in-resolution is recapitalised via bail-in, or the resolution authority transfers the contracts to a bridge bank that will continue in operation.

This is at best a partial solution. The stay may not be enforceable in foreign jurisdictions or for transactions concluded under foreign law. Nor does the stay alone cure the complications that arise, if a bank's parent holding company has guaranteed the performance of the bank subsidiary under such contracts. In such cases, the entry of the parent holding company into resolution or bankruptcy can trigger termination of repurchase agreements and/or derivative contracts under the cross-default provisions usually found in such contracts. This gives rise to the adverse effects described above and may obviate the so-called single point of entry approach to resolution (see below).

Perhaps the simplest way to overcome the barriers to resolution posed by qualified financial contracts is to limit the right to terminate to the actual failure by the bank-in-resolution to meet a cash obligation due in full and on time. In any event, steps should be taken to eliminate the ability to terminate contracts at the bank level unless there is a default at the bank level. The entry of a parent holding company into resolution or

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the securities at the agreed price upon maturity. In effect, the haircut protects the lender against a possible fall in the price of the securities purchased from the borrower.

bankruptcy should not trigger cross-default provisions in qualified financial contracts at the bank level.

### **1.11.11 Gone-concern Loss-absorbing Capacity**

For bail-in to be effective as a resolution tool, measures need to be taken to ensure that banks are likely to have enough ‘back-up’ capital in place to absorb loss, if the bank enters resolution. The FSB is trying to hammer out an agreement that will do just that. This will require banks to maintain a minimum amount of gone-concern loss-absorbing capacity (GLAC). Once written down or converted into Common Equity Tier 1 (CET1) capital, the bank’s GLAC should be sufficient to restore its CET1 ratio to the required minimum.

The open questions are what should count toward the GLAC requirement and where the GLAC should be issued. Some contend that excess CET1 capital should count as GLAC, on the theory that resolution should be initiated at a point where the bank is at or above the minimum requirement (4.5 per cent of RWA). Others counter that by the time a bank gets to resolution, practically all of its CET1 capital (and certainly any excess CET1) is likely to have evaporated. If the first view is to prevail, measures (such as assuring prudent and prompt valuation) may have to be introduced to assure that the authorities avoid forbearance and trigger resolution promptly.

A consensus is also needed on what other instruments should or should *not* count as GLAC. Some contend that any liability legally subject to bail-in (including uninsured deposits) should count as GLAC. Others maintain that GLAC should be a subset of the instruments subject to bail-in, namely those that investors can expect to be bailed in, if the bank reaches the point of non-viability. At a minimum therefore GLAC would include (in addition to any excess equity that counts toward the definition) the full amount of Additional Tier I and Tier II capital (because this is subject to conversion or write down at the point of non-viability). Extending GLAC beyond subordinated instruments qualifying as Tier II capital may imply either compromising the creditor hierarchy (if senior debt is bailed in ahead of instruments *pari passu* with such debt) or compromising continuity (if deposits are bailed in alongside the senior debt). Although granting deposits preference partially addresses the problem (effectively this transforms senior debt into a ‘mezzanine’ obligation), for GLAC to be fully effective in assuring continuity the bank has to have issued instruments subject to immediate bail-in in sufficient quantity to recapitalise the failed bank completely, even if the bank’s equity is fully exhausted.

As to where GLAC should be issued, some contend that it is sufficient for the parent holding to issue GLAC, while others argue that GLAC should be ‘pre-positioned’, that is that the operating bank subsidiary should be the issuer. If the first approach is adopted, questions will arise as to how the operating bank that had incurred the loss will be recapitalised. Conversion of the GLAC (e.g. subordinated debt) issued by the parent into equity in the parent doesn’t change the picture at the subsidiary bank level (where the critical economic functions are actually performed). Unless the parent has cash or assets that it can and actually does inject into the failed bank subsidiary as new CET1 capital, the operating bank will not be recapitalised. As a consequence, continuity cannot be assured. There remains a significant probability of disruption in the financial markets and of damage to the economy at large.

### 1.11.12 Adequate Access to Liquidity

Presuming policymakers reach agreement on GLAC, the next step is to decide on how to assure that the bank-in-resolution has adequate access to liquidity, so that it can meet the demands for cash that are likely to materialise as soon as it opens its doors for business in Asia on the Monday following its ‘resolution weekend’.

Finalising the requirements for GLAC should help to open the door to using normal central bank facilities, such as the discount window, to provide liquidity to the bank-in-resolution. The conversion or write-down of GLAC should assure that the bank is solvent and go a long way toward assuring that the bank is viable. Actually getting cash from the central bank(s) or alternative liquidity providers then becomes a question of how much and what type of collateral the bank can pledge to the liquidity providers in question.

### 1.11.13 Finalise Institution-specific Resolution Plans

The final task is for the authorities to complete institution-specific resolution plans for each of the global systemically important banks (G-SIBs). This task falls to the G-SIB’s crisis management group (CMG). This consists of the relevant authorities (supervisor, central bank, resolution authority) in each of the jurisdictions in which the group has a material subsidiary or systemically important branch. Each CMG should draw up a plan for its respective G-SIB that outlines how, once the trigger to resolution has been pulled, the CMG would conduct the resolution. Such a plan would tackle the issues outlined above as well as establish the basis on which the authorities would cooperate with one another to assure financial stability.

This would result in what might be called ‘constructive certainty’, so that the market, the bank and its investors would know in advance the general principles under which the authorities would consider resolving the bank (if it did fail at some point in the future).<sup>35</sup> Specifically, the authorities should indicate whether they anticipate resolving an institution under:

- *a single point of entry approach* in which the home country resolution authority effectively acts as a dealer/manager of a global syndicate of the resolution authorities from the principal jurisdictions in which the failed entity had done business; or
- *a multiple point of entry approach* in which each of the group’s subsidiaries would be resolved separately.

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<sup>35</sup> For an example of such a ‘general-principle’ approach, see Federal Deposit Insurance Corporation (2013). This envisions that the FDIC, as US resolution authority, would employ the single point of entry (SPOE) approach to resolve a failed US-headquartered G-SIB under Title II of the Dodd–Frank Act. Note, however, that certain conditions must be fulfilled before the FDIC could employ Title II. These include a determination that the bank in question could not be resolved under normal bankruptcy procedures and a determination by the boards of the FDIC and Federal Reserve Board as well as the approval of the Secretary of the Treasury (in consultation with the President) that recourse to Title II is necessary in order to preserve financial stability in the US. For further discussion of the SPOE approach see Bovenzi, Guynn and Jackson (2013).

Such ‘constructive certainty’ would underline to investors that they would be at risk in the event the bank fails as well as enable them to form an estimate of the recoveries they might make over time. That in turn should align pricing and risk of instruments counting toward GLAC. This will promote efficiency, as riskier banks will have to pay more to attract investors into instruments such as subordinated debt.

Taken together, the steps outlined above would in fact complete the design job for a new resolution regime. But the job will not be fully complete, until the new resolution regime passes what might be called a ‘use test’, that is until a major bank enters resolution and the new regime demonstrates that the bank is indeed ‘safe to fail’. Such a use test may however, be some considerable way into the future, for stronger regulation and sharper supervision are making banks less likely to fail. But, if the time does come when a major bank has to be resolved, the authorities will be able to implement a regime that ends ‘too big to fail’ and begins ‘safe to fail’.

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