

A template for recapitalising too-big-to-fail banks¹

A proposed creditor-funded recapitalisation mechanism for too-big-to-fail banks that reach the point of failure ensures that shareholders and uninsured private sector creditors of such banks, rather than taxpayers, bear the cost of resolution. The template is simple, fully respects the existing creditor hierarchy and can be applied to any failing entity within a banking group. The mechanism partially writes off creditors to recapitalise the bank over a weekend, providing them with immediate certainty on their maximum loss. The bank is subsequently sold in a manner that enables the market to determine the ultimate losses to creditors. As such, the mechanism can eliminate moral hazard throughout a banking group in a cost-efficient way that also limits the risk to financial stability. The creditor-funded mechanism is contrasted with other recapitalisation approaches, including bail-in and “single point of entry” strategies.

JEL classification: G21, G28.

During the financial crisis, a number of financial institutions reached the point of failure or failed outright. The stated capital levels of these institutions typically exceeded minimum regulatory requirements, but the market doubted that those levels were enough to cover potential future losses. The suspicions of future insolvency brought these institutions down through a lack of current liquidity: depositors and other creditors demanded immediate repayment, and the institutions ran out of funds to satisfy the demands.

Governments considered many of the institutions that reached the point of failure to be “too big to fail” (TBTF). That is, they were so big, complex and interconnected with the rest of the financial system that the public cost of allowing them simply to go out of business was judged to be too high. In the absence of any alternative mechanism to restore their viability, governments themselves recapitalised these TBTF entities – using taxpayers’ funds.

Besides imposing direct costs on taxpayers, publicly funded bailouts generate significant moral hazard. Expectations of government support can amplify risk-taking, reduce market discipline and create competitive distortions, further increasing the probability of distress. These concerns have prompted efforts to reduce the likelihood that TBTF institutions will fail, mainly through requirements for them to maintain higher levels of capital and liquidity and through greater

¹ The views expressed in this article are those of the authors and do not necessarily reflect those of the BIS or those of the Basel Committee on Banking Supervision. The authors would like to thank Wayne Byres and Neil Esho for their support of this article, and Stephen Cecchetti, Claudio Borio and Christian Upper for their helpful comments and edits.

supervisory attention. But these measures do not answer the question of how to pay for recapitalisation if such entities reach the point of failure. If taxpayers are to avoid this cost, the shareholders and creditors of the failed institutions must bear it, but how?

In recent years, authorities have made significant efforts to improve resolution schemes. Their initial efforts have focused on obtaining legal authority to resolve domestic and global TBTF financial entities without the use of taxpayers' funds. These efforts include the requirements of the Basel Committee on Banking Supervision regarding the loss absorbency of capital "at the point of non-viability" and the key attributes of effective resolution schemes developed by the Financial Stability Board.² Resolution powers alone, however, are not enough. Indeed, uncertainty regarding their use may itself pose a threat to financial stability.

What has yet to be sufficiently developed is clarity on the rights of private sector claimants in the resolution of a failing TBTF bank: depositors and creditors must have a guarantee that, in any attempt to recapitalise a TBTF bank by imposing losses on shareholders and creditors, the hierarchy of claims will be respected. Depositors insured prior to resolution must continue to be insured afterwards; likewise, creditors whose claims were senior or ranked equally to other claims prior to resolution must be treated accordingly in resolution. In short, a resolution scheme for a TBTF bank must respect the hierarchy of claims that existed before the institution reached the point of failure.³

This article proposes a template for a simple approach – which we term a creditor-funded recapitalisation mechanism – that national authorities could employ to clarify the allocation of losses when a TBTF bank needs to be recapitalised. The proposed approach enables recapitalisation over the course of a weekend without the use of taxpayers' money. It uses a *temporary* holding company to ensure that these losses are allocated in a way that strictly follows the creditor hierarchy, and it uses the market itself to determine the losses creditors need to bear to recapitalise the bank.

The proposed mechanism includes elements of other resolution methods, such as bail-in and holding company resolution (described below). As such, it is offered not necessarily as a replacement for these other methods but as an additional approach that provides clear direction on the central issue of recapitalisation for TBTF banks that reach the point of failure. As with other approaches, various detailed operational and legal questions need to be answered before the creditor-funded recapitalisation mechanism could be implemented; this article focuses on the benefits of the proposed mechanism's overall structure and suggests a staged approach to settling the operational and legal issues.

² See Basel Committee, *Minimum requirements to ensure loss absorbency at the point of non-viability*, January 2011; and Financial Stability Board, *Key attributes of effective resolution regimes for financial institutions*, October 2011.

³ In response to events in Cyprus, ECB President Mario Draghi commented, "What makes a bail-in a problem? A bail-in in itself is not a problem: it is the lack of ex ante rules known to all parties [...] that may make a bail-in a disorderly event" (ECB, press conference, 4 April 2013, www.ecb.int/press/pressconf/2013/html/is130404.en.html%20).

Overview of the proposed recapitalisation mechanism

By definition, a TBTF bank that reaches the point of failure must be recapitalised because the authorities have judged that the financial stability risks of liquidating the bank are unacceptably high. The creditor-funded recapitalisation mechanism proposed here provides for a forced recapitalisation of a TBTF bank *by its creditors* when the bank reaches the point of failure. It enables a TBTF bank to be recapitalised over a weekend without taxpayer support and to remain open for business. The mechanism is not designed to replace liquidation for non-TBTF banks that fail; instead, it is an alternative that is similar to liquidation in terms of its allocation of losses.⁴

The ownership of the bank is transferred to a newly created temporary holding company. The bank is immediately recapitalised by writing off sufficient claims of creditors over a weekend. The holding company then sells the recapitalised bank at market prices and distributes the proceeds from the sale to the written-off creditors by strictly following the hierarchy of their claims as it existed before the point of failure was reached. In the period between the recapitalisation and the sale of the bank, the management and board members responsible for the failure of the bank can be replaced, as appropriate. Insured deposits are fully protected from the effects of the write-off; instead, a charge is directly levied on the relevant national deposit insurance scheme.

Basic illustration of the mechanism: no insured deposits

The treatment of insured deposits is fundamentally important to any resolution mechanism that applies to banks. However, the essential features of the creditor-funded resolution mechanism can best be highlighted by first assuming that the bank has no insured deposits. The treatment of insured deposits set out below in the section “Extended illustration of the mechanism: with insured deposits”, is in effect an extension of the basic approach described here.

The balance sheets of the bank shown in the graphs and tables below are their accounting balance sheets. As noted in the introduction, many banks that reached the point of failure during the financial crisis had positive amounts of accounting equity. The problem was that the amount of equity was insufficient to cover market expectations of future losses. As such, the markets were not willing to lend to such banks; if the authorities were also unwilling, those banks failed. The following illustration does not show the actual occurrence of losses at the recapitalised bank because they are unknown at the point of recapitalisation. But the illustration does show that the proposed mechanism delivers an increase in equity to the level that is viewed as sufficient to cover anticipated losses.

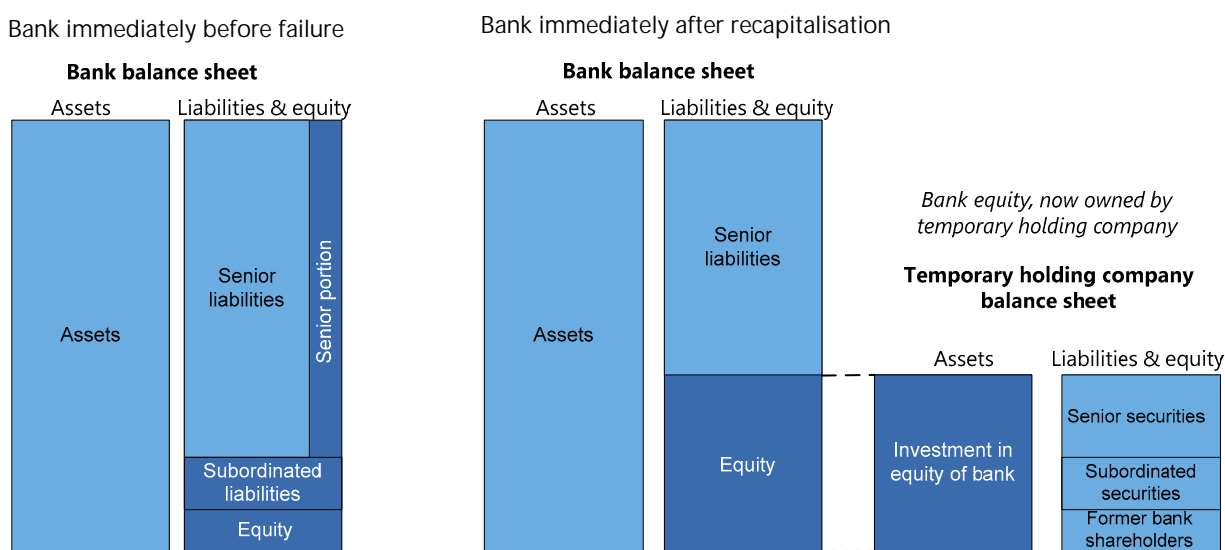
Step 1: Recapitalisation of the bank over the weekend

When a TBTF bank reaches the point of failure, over the weekend national authorities initiate an immediate forced transfer of its ownership to a newly created

⁴ The mechanism in principle could be applied to any bank at the point of failure, but the liquidation of a failed bank may remain the first choice of authorities when this can occur without severe financial stability consequences; however, to avoid any prospect of taxpayer support, authorities need to have in place the mechanisms that enable a forced creditor-funded recapitalisation should this become necessary.

Operation of the mechanism, no insured deposits: recapitalisation over the weekend

Graph 1



temporary holding company (ie the common shares of the bank become the assets of the holding company). In compensation, the former shareholders of the bank are given a residual claim on the holding company. The resolution authority is given the voting rights of the holding company.

To recapitalise the bank over the weekend, the resolution authority simultaneously writes off all of the subordinated liabilities together with a proportion of all senior unsecured uninsured liabilities. Because equity is the difference between assets and liabilities, the decrease in liabilities correspondingly increases equity (Graph 1, left-hand and middle pairs of bars). At this stage, there has been no adjustment to the assets of the bank and so the size of the balance sheet remains unchanged; only the mix of liabilities and equity has changed.

The resolution authority will determine the proportion of senior liabilities written off. Their determination must be based on a generous estimate of the amount of equity that must be created if the bank is to sustain the full range of potential losses that it may still be expected to incur. That is, the authorities need to give both themselves and market participants comfort that the bank will remain sufficiently well capitalised as actual losses materialise. As explained later, the authorities can make a generous estimate because the size of the write-off does not determine the ultimate losses suffered by creditors.

The investors affected by the write-offs are given claims on the temporary holding company (in the form of securities) that are equal in size and rank to their written-off claims on the bank (Graph 1, right-hand pair of bars, "Senior securities" and "Subordinated securities").

The impact of step 1 can be shown with a numerical example. Assume that immediately before the point of failure (Graph 1, left-hand pair of bars) the balance sheet of the bank is as follows:

Bank balance sheet immediately before failure

Assets: \$100	Senior liabilities: \$91 Subordinated liabilities: \$5 Equity: \$4
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Although the bank has \$4 of accounting equity, the market does not believe that this amount is sufficient to cover potential future losses given the riskiness of this bank's assets. To resolve those doubts in the process of recapitalisation, the authorities estimate that the bank needs \$16 of equity to support itself as a going concern. To achieve this level of equity, \$7 of senior liabilities and all subordinated liabilities (\$5) are written off. After these write-offs (Graph 1, middle pair of bars), the balance sheet of the bank is as follows:

Bank balance sheet immediately after recapitalisation

Assets: \$100	Senior liabilities: \$84 Equity: \$16
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Step 1 also transfers ownership of the bank to a newly created holding company and includes the issuance of holding company securities to senior and subordinated investors and former bank shareholders in the amount of the write-offs they incurred. Therefore, the balance sheet of the holding company after step 1 is as follows:

Holding company balance sheet immediately after recapitalisation

Assets (the bank's equity): \$16	Senior securities: \$7 Subordinated securities: \$5 Former bank shareholders: \$4
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Step 2: Bank reopens for business after the weekend

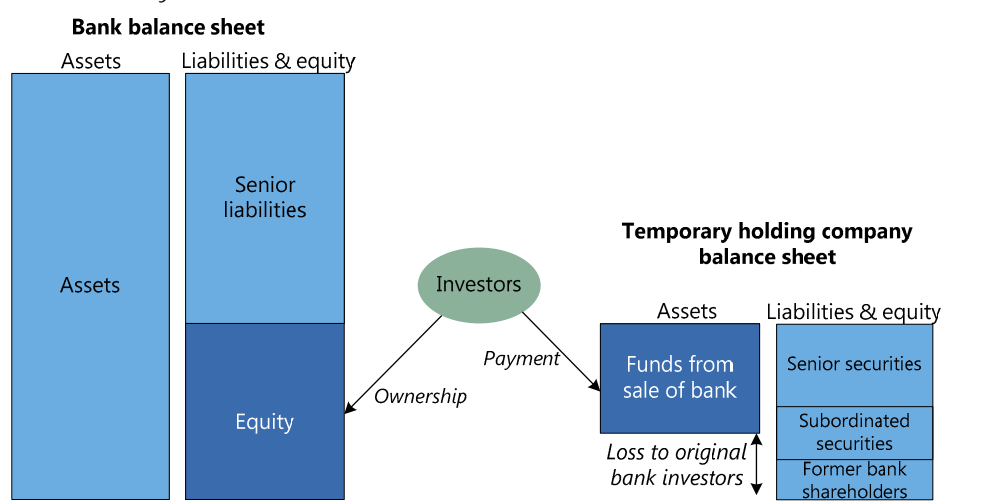
At the end of the weekend, the authorities announce that recapitalisation has provided the bank with substantial capital to protect the holders of the liabilities that remain on the bank's balance sheet. On Monday morning, the authorities reopen the bank and can provide it with any necessary and appropriate liquidity assistance because it is now well capitalised, that is, its equity is sufficient to cover expected future losses. Management and board members can be replaced as appropriate. Any overstated assets and understated liabilities can be revalued if necessary (revaluations not shown in graphs).

Step 3: Sale of the recapitalised bank

The temporary holding company is required to sell the bank in the months following its recapitalisation. After the sale, the holding company is liquidated by distributing the proceeds from the sale to the former investors in the bank according to the hierarchy of their claims.

Graph 2 illustrates a sale in which investors acquire the bank for an amount that is less than the value of the equity on its balance sheet. This amount reflects the investors' estimate of the bank's future profits and losses, which are not yet recognised on the accounting balance sheet. The difference between the payment

Sale by the holding company and distribution of proceeds to former creditors strictly according to the hierarchy of their claims



from the investors and the equity of the bank is the loss that will be suffered by former shareholders and written-off bank creditors.

The above numerical example is continued to illustrate the impact of Step 3. Assume that investors pay the holding company only \$10 to acquire all of the shares of the bank, which is less than the accounting value of the bank's equity of \$16.

The holding company is then liquidated and distributes its assets – the \$10 received from the sale of the bank – to its creditors and shareholders strictly according to the hierarchy of their claims. But the assets are insufficient to repay all of those claims. In this example, \$7 is given to the senior security holders (ie they are repaid in full), the remaining \$3 is given to the subordinated security holders (ie they get back only \$3 of their \$5 claim), and the former shareholders of the bank get nothing.⁵ The result can be seen in the following balance sheet:

Holding company balance sheet immediately after sale of the bank

Assets (cash from bank sale): \$10	Senior securities: \$7 (paid \$7)
	Subordinated securities: \$5 (paid \$3)
	Former bank shareholders: \$4 (paid \$0)

Extended illustration of the mechanism: with insured deposits

In reality, a bank's balance sheet includes both insured and uninsured deposits. However, the addition of insured deposits to the illustration does not alter the operation of the proposed mechanism. It treats *uninsured* deposits exactly as it did other senior liabilities in the above basic illustration: it subjects them to the same partial write-off that it applies to other senior creditors that have a claim of equal

⁵ Senior creditors would have suffered a loss only if the amount paid for the bank by the new investors had been less than the senior creditors' claims on the holding company.

rank and compensates them with securities issued by the holding company.⁶ However, authorities must provide unequivocal assurance that *insured* deposits are fully protected during the forced recapitalisation of a TBTF bank to avoid a bank run and to promote financial stability.

Such unequivocal assurance will not be forthcoming from a plan that first allocates some of the losses to insured depositors and then asks those depositors to reclaim their loss from the deposit insurance scheme. While consistent with the creditor hierarchy, that roundabout approach would reduce trust in the financial system and trigger withdrawals. It is also unnecessary. A more effective approach to maintaining the confidence of insured depositors in a creditor-funded recapitalisation plan is also a much simpler one: require deposit insurance schemes to bear losses directly, leaving insured deposits intact.

This approach works as follows. Rather than writing off some amount of insured deposits as part of the process of creating equity, the required equity would be obtained instead with a direct payment from the deposit insurance scheme to the bank (thereby increasing the bank's assets). The deposit insurance scheme would then have a claim on the holding company under step 3 of the basic illustration, along with the written-down uninsured creditors.

The three steps of the basic illustration are recapitulated here, but now in the context of a TBTF bank with insured deposits.

Step 1 with insured deposits: Recapitalisation of the bank over the weekend

This step is essentially the same as that described in the case without insured deposits. However, rather than writing off a portion of insured deposits to create equity, the deposit insurance scheme (DIS) is required to make a payment of equal size to the bank in lieu of this amount. Insured depositors are therefore completely unaffected by the write-off. However, along with other senior claimants, the DIS is given the most senior securities issued by the holding company⁷ (Graph 3). The DIS holds an amount of these securities equal to the portion of insured deposits of the bank which would have otherwise been written off.

Step 2 with insured deposits: Bank reopens for business after the weekend

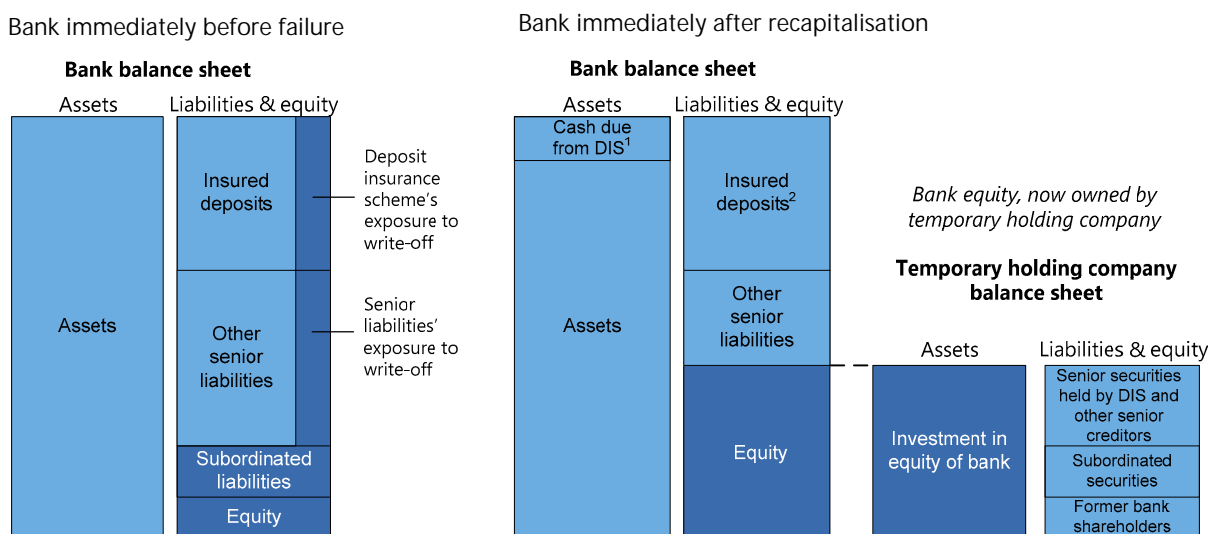
This step is essentially the same as that described in the case without insured deposits. However, in their communication, the authorities would also announce that insured deposits have been safeguarded by the DIS and that insured depositors' funds are unaffected.

Step 3 with insured deposits: Sale of the recapitalised bank

This step is essentially the same as that described in the case without insured deposits. However, the proceeds from the sale of the bank will be paid to the DIS

⁶ For the sake of simplicity, this illustration assumes that there is no "depositor preference" in the jurisdiction in which the mechanism is being applied. That is, there is no legal requirement that makes depositors' claims senior to other senior claims in liquidation. If depositor preference were in place, then uninsured depositors' funds, and the deposit insurance scheme in respect of insured depositors' funds, should not suffer the effects of a write-off under the proposed mechanism unless all junior ranking claims have first been completely written off.

⁷ If a jurisdiction had depositor preference, only the DIS and uninsured depositors would receive the most senior securities of the holding company. Other senior bank creditors would receive securities which rank just below.



¹ Deposit insurance scheme (DIS) payment to bank to cover losses from depositors' share of write-off. ² Unaffected by write-off because of payment from DIS.

and to the holders of other equally ranking senior claims ahead of all other investors.

Treatment of secured funding under recapitalisation

For a resolution plan to be consistent with prior investor agreements, funding provided to a bank on a secured basis must remain protected. But the protection should extend only as far as the collateral covers the investors' claims. Any amounts of such funding that are unsecured because of insufficient collateral at the point of failure should be written down together with other unsecured claims.

Comparison with other recapitalisation approaches

The proposed mechanism includes elements of two broad types of established or contemplated recapitalisation approaches – bail-in and certain holding company resolution schemes – that aim to quickly recapitalise a failed bank or banking group (eg over a weekend):

- *Bail-in schemes.* These aim to achieve recapitalisation through a direct conversion of a bank's creditors' claims into newly issued common shares.⁸ Bail-in regimes that immediately issue common shares to bank creditors at the point of failure according to some predetermined formula are referred to here as direct bail-in schemes.

⁸ For details, see International Monetary Fund, "From bail-out to bail-in: mandatory debt restructuring of systemic financial institutions", *Staff Discussion Note 12/03*, Washington, April 2012.

- *Holding company resolution schemes (certain “single point of entry” schemes).*⁹ These generally apply to banks that, before reaching the point of failure, are owned by a non-operating holding company that has issued debt. If the banking group as a whole needs to be recapitalised, the holding company can be required to sell the bank or transfer it to the resolution authority, which has the effect of recapitalising the group by relieving it of the liabilities at the holding company level.

In practice, many other recapitalisation mechanisms exist, each with many potential variants. More particularly, some seek recapitalisation over a more extended period to allow national authorities the time necessary to make a detailed assessment of the failed bank’s recapitalisation needs; these are collectively referred to here as phased recapitalisation approaches. An example of a phased recapitalisation approach consists of a modified bail-in scheme that delays the conversion of a bank’s creditors’ claims pending the official assessment of its recapitalisation needs. A phased approach can also take the form of a “bridge bank” approach that splits the institution into a “good bank” and a “bad bank” on the basis of a detailed assessment of the capital needs of the good bank.

Although the mechanism proposed in this article includes elements of the above existing or contemplated recapitalisation approaches, it has been designed to avoid their main pitfalls. It may, therefore, represent the *only* approach which can simultaneously (i) respect the creditor hierarchy (maximising cost efficiency); (ii) achieve a recapitalisation over the weekend providing investors with immediate certainty on their maximum loss (limiting risks to financial stability); and (iii) be applied to all uninsured creditors throughout a TBTF group (fully addressing moral hazard).

Comparison with bail-in schemes

Respect for the creditor hierarchy

When a company is liquidated, the liquidator sells the company’s assets and returns the proceeds to senior creditors, subordinated creditors, and shareholders, in that strict order (ie according to their priority in the liability structure). The implication here for the shareholders is that they will receive nothing whenever a creditor takes a loss. Similarly, subordinated creditors will be wiped out if senior creditors take a loss.

Direct bail-in schemes, however, do not fully respect this creditor hierarchy. They work by converting a bank’s creditors’ claims directly to shares, which dilutes the claims of existing shareholders, but it does not wipe out shareholders even as it inflicts losses on existing creditors.¹⁰ This violation of the hierarchy does not occur

⁹ For the purposes of this article, holding company resolution refers to “single point of entry” as contemplated by the US authorities. The US approach to single point of entry focuses on recapitalising the banking group as a whole through the allocation of losses at the parent company level, where that parent company is a non-operating holding company of a TBTF banking group. For details on this and the Bank of England’s approach to “single point of entry” recapitalisation, see Federal Deposit Insurance Corporation and Bank of England, *Resolving globally active, systemically important, financial institutions*, December 2012.

¹⁰ Creditors will suffer a loss if the value of the shares they receive is less than the amount by which their former claims are reduced, an outcome which will be unavoidable if the recapitalisation needs of the bank are significant. It could be argued that if creditors agree to the possibility of suffering a loss before the shareholders of the bank are wiped out (eg by purchasing a debt instrument in

under the proposed creditor-funded recapitalisation mechanism because shareholders will receive some compensation only if creditors are repaid in full. Similarly, subordinated creditors will receive some compensation only if senior creditors are repaid in full.

Compensation of creditors

Any mechanism that involves writing off creditors in order to recapitalise a failed bank puts the authorities in a difficult position. On the one hand, write-offs should be large enough to ensure that the recapitalised bank is able to survive without taxpayer support. On the other hand, to treat creditors fairly and limit financial instability, the authorities do not want to allocate larger losses to creditors than is necessary. Furthermore, any delay in the decision on the level of the write-off perpetuates uncertainty on the losses that may be borne by creditors and may have serious repercussions on financial stability.

The recapitalisation mechanism proposed here allows authorities to strike a good balance between stability and fairness. They can take a prudent and timely approach to the size of the creditor write-off needed to recapitalise the bank over the weekend. This provides *immediate* certainty to creditors on their *maximum* loss – thus limiting risks to financial stability. Creditors also remain assured that, regardless of the amount of this write-off, they will ultimately be compensated fairly. This is because the amount received from the market for the sale of the recapitalised bank in step 3 of the process supersedes the amount written off in step 1.¹¹

To illustrate this point, imagine that the authorities decide to write off a significant proportion of the claims of senior creditors to ensure that the bank is left very well capitalised and unquestionably able to honour the claims of all its remaining creditors. This would increase the value of the recapitalised bank and thus lead to a higher price paid when the bank is sold. The higher price in turn means that there are more funds to distribute to those same senior creditors to compensate them for the write-off that they have suffered. This self-correcting dynamic delivers market value to the creditors and protects the authorities from accusations of penalising (or favouring) creditors in their pursuit of restoring financial stability in short order.

The use of market valuation to determine the allocation of losses to creditors contrasts sharply with the approach to loss allocation under a *direct* bail-in scheme. Direct bail-in schemes seek to provide clarity on the loss that will be suffered by creditors by converting debt to equity in short order. But in doing so, they set the number of shares issued to creditors before the post-recapitalisation market value

which this possibility is mentioned in its terms and conditions – so-called “contractual bail-in”), then a new creditor hierarchy has been created. However, this article considers whether resolution approaches respect the *existing* established creditor hierarchy that applies in liquidation. It argues that respect for this hierarchy is key in limiting uncertainty and attracting the significant existing pool of debt investors (see the section “Depth of market access and liquidity” below).

¹¹ The use of the market valuation of the bank and its respect for the creditor hierarchy make the mechanism very similar to a standard liquidation procedure in terms of the allocation of losses. When a company fails and enters liquidation, the normal rights of shareholders and creditors are replaced by claims on the sale of the company's assets. When the proposed mechanism is used to recapitalise a bank, the temporary holding company is effectively acting as the liquidator; however, instead of selling the individual assets of the bank, it sells the bank as a whole as a going concern. Because maintenance of the going-concern status of the bank retains its franchise value, the sale of the whole bank should generally preserve more value for creditors than liquidation.

of the bank is known. Therefore, a direct bail-in scheme distributes an unknown amount of value to creditors and, as a consequence, is likely to either over- or undercompensate them for the loss of their prior claims. When buying bail-in debt, investors will want to be paid for taking on this uncertainty, and so direct bail-in debt has a cost that is not present in the recapitalisation mechanism proposed here. (Certain modified bail-in schemes, however, do attempt to address this compensation issue by delaying the conversion of a bank's creditors' claims. These are covered in the section "Comparison with phased recapitalisation approaches" below.)

Depth of market access and liquidity

An important additional factor in the cost of funding for a bank is the depth and liquidity of markets for the debt instruments that it issues. In practice, many investors in bank debt have mandates forbidding them from investing in shares. As a result, bail-in debt, which has the potential to be converted into shares (without certainty on the adequacy of compensation received), is less likely to be acceptable to current debt investors and therefore is likely to be less liquid than a pure debt instrument.

In contrast, debt subject to the proposed recapitalisation mechanism does not require investors to be capable of receiving shares and ensures adequacy of compensation in full accordance with the hierarchy of claims. Debt investors receive cash from the sale of the bank in much the same way they would receive cash from the sale of a bank's assets in liquidation. Such debt is therefore more likely to be liquid because it is more likely to be rated like debt, be incorporated into bond indices, and be appropriate for existing domestic and global debt investors.

In other words, relative to direct bail-in, the proposed mechanism is likely to maximise depth of credit market access and liquidity by respecting the structure of *existing* investment markets rather than by attempting to alter them to create new markets for significant amounts of hybrid debt-equity instruments.

Shareholder base

Under direct bail-in schemes, the post-bail-in shareholders of the bank are a mixture of the pre-bail-in shareholders and creditors. By contrast, under the recapitalisation mechanism, the shareholders are new and willing equity investors that have actively chosen to acquire the recapitalised bank. The proposed mechanism therefore avoids the situation in which credit investors can unexpectedly become shareholders and thus be unprepared to perform key duties such as voting for new management to run the bank. Also, under the recapitalisation mechanism the new investors in the shares of the bank can be subject to all the usual screening procedures regulatory authorities apply to potential new owners of banks, which may not be possible under a direct bail-in scheme that immediately issues shares to converted creditors.

Comparison with holding company ("single point of entry") resolution

Cost efficiency

The proposed recapitalisation mechanism focuses on loss absorption at the bank level (ie the operating company level), but can also be applied to any entity in a banking group. This contrasts with a scheme focusing on allocating losses to debt

issued by a pre-existing holding company that owns the bank. The latter is likely to entail an unnecessary cost arising from “structural subordination”. In essence, debt issued by the holding company is de facto junior in the credit hierarchy to any debt issued by the operating bank subsidiary – and is therefore more expensive.

By way of a simple example, consider a banking group that consists of a holding company that owns just one bank subsidiary. Assume that, to improve the resolvability of this group, the authorities require the issuance of a large amount of debt capable of absorbing losses in resolution. Is it most efficient to issue this large amount of debt from the holding company or from the operating bank subsidiary? The answer is, from the subsidiary.

Debt issued at the holding company level is “structurally subordinated” to debt issued at the operating bank level because it depends on the common dividends paid by the bank to the holding company for the payment of accrued interest. The operating bank’s board or management has the ability to halt the payment of share dividends; moreover, under stress conditions, regulatory authorities also have the ability to reduce or halt such dividends. Therefore, structural subordination brings management and regulatory discretion into the picture; it creates uncertainty that will put upward pressure both on the cost of debt issued at the holding company level and on the banking group’s overall cost of funding.¹²

By contrast, debt issued at the bank level is not reliant on the payment of discretionary dividends. It is dependent only on the bank avoiding failure. Furthermore, a reduction in dividends to rebuild common equity actually improves the protection of debt issued by the bank, as this debt now has a greater cushion of common equity to protect it. In practice, rating agencies, including the two largest global rating agencies for banks, have historically rated debt issued by a non-operating holding company at least one notch lower than debt issued by its operating bank because of structural subordination and other considerations. For poorly rated groups or groups under stress, the relative down-rating can be even lower. Furthermore, these long-established practices have recently been reconfirmed in the context of the Dodd-Frank Act and holding company resolution strategies.¹³

Moral hazard

The proposed recapitalisation mechanism is designed to address moral hazard more fully than a holding company (or “single point of entry”) resolution approach. It does this by allocating losses to *all* uninsured creditors of the bank rather than to only a subset of debt securities issued by the holding company.

One obvious problem with limiting the allocation of losses to only holding company creditors (or to only certain classes of operating bank creditors) is that the total amount that may be written down may prove to be insufficient to recapitalise the bank. In addition, the remaining creditors may believe that they continue to be

¹² Structural subordination is independent of jurisdiction, but its impact can be magnified when the regulator of the holding company is different from the regulator of the operating bank subsidiary, and even more so when the two regulators are from different jurisdictions.

¹³ For rating agency methodologies, see eg Standard & Poor’s, *Reassessing US non-operating financial holding company creditworthiness under the Dodd-Frank Act*, 10 December 2012; Standard & Poor’s, *Criteria: financial institutions: general: analytical approach to assessing non-operating holding companies*, 17 March 2009; and Moody’s Investors Service, *Reassessing systemic support in US bank ratings – an update and FAQs*, 27 March 2013.

guaranteed if there is no mechanism by which they can be allocated losses if a recapitalisation becomes necessary.

Wider problems also exist when debt issued by a holding company, or certain limited categories of debt issued by the bank, are earmarked to be the primary source of funding that bears the cost of recapitalisation. Because it is much easier to allocate losses to simpler senior creditor claims (eg debt securities issued to external investors) than to more complex ones (eg derivatives), resolution strategies seeking to ensure a sufficient amount of funding to cover feasible losses gravitate towards allocating losses to the simple claims first. A similar situation may also occur when authorities seek to protect short-term funding from bearing a loss in resolution or recapitalisation. The downside of such approaches is that the creditor hierarchy is not respected and the most complex and shortest-duration senior claims are effectively subsidised by those that are less complex and longer in duration. This outcome can counter recent regulatory efforts to reduce complexity and increase funding duration, and it thus risks reducing the resilience of the global financial system over time.

The proposed recapitalisation mechanism is applicable to any uninsured creditor of any legal entity that is part of a financial group (eg whether a banking, broker-dealer, insurance or other group) for which authorities wish to have an alternative to a taxpayer-funded bailout. It can be targeted at the specific TBTF operating entity that is failing within the group, whether that is the holding company or a subsidiary. This universal applicability is attributable to the fact that the temporary holding company is established only when the recapitalisation mechanism is triggered. As the temporary holding company is external to the existing group's structure, it can be used to recapitalise any entity of a TBTF group. This contrasts with using a single point of entry, which by design relies solely on allocating losses to debt issued by the parent entity of the group, limiting that approach's capacity to address moral hazard across group entities.

Market signalling

Aside from moral hazard issues, using a single point of entry may also suffer from a market signalling problem. Consider a large banking group – consisting of a holding company and many international bank subsidiaries – that market participants judge to be too big to fail. Under a holding company resolution model, the debt issued by the holding company is the source of funding that will bear a loss if the group needs to be recapitalised. This debt, therefore, effectively acts as a source of capital to protect the creditors of the subsidiary banks. This means that if a particular subsidiary takes excessive risks, the cost of the holding company's debt should increase, acting as a market signal and imposing some market discipline on the group. However, under this model it is not possible, with any certainty, to attribute this increased cost of funding at the holding company level to the risks taken by a particular subsidiary: the source of the market signal is hidden.

Under the proposed recapitalisation mechanism, the creditors of the banking subsidiaries themselves will bear the cost of recapitalisation. This means that if a subsidiary takes excessive risks, the funding cost of that specific subsidiary should increase. In turn, the source of the market signal is clear and market discipline is imposed on the legal entity actually taking the excessive risks. These clearer market signals under the proposed mechanism should enable supervisors, risk managers and management to more accurately track sources of market concerns about risk-

taking across a complex group. This in turn should help with the efficient allocation of capital across the group.

Comparison with phased recapitalisation approaches

Phased recapitalisation approaches, which as defined above include modified bail-in schemes and bridge bank structures, delay the decision on the amount and, potentially, the allocation of losses to creditors pending the outcome of a detailed valuation of the failed bank. This valuation may be conducted by the authorities themselves or by independent consultants. The authorities use this valuation to determine the level of losses to be allocated to shareholders and creditors to recapitalise the bank. The aim is a more accurate assessment of the value of the bank than is possible to achieve over a weekend and an allocation of losses to creditors that attempts to respect the hierarchy of their claims.

However, aside from the problem of the significant subjectivity of any valuation assessment, a downside of phased recapitalisation approaches is that they do not provide creditors with immediate certainty on their maximum loss. They instead extend the period of uncertainty to the *full amount* of all creditors' funds that may ultimately be allocated a loss as a result of the assessment. This extended uncertainty has the potential to magnify financial instability, exacerbate negative news flow, and damage the franchise value of the bank, ultimately leading to unnecessary further losses to creditors. In contrast, the proposed recapitalisation mechanism enables authorities to rapidly cap the uncertainty, through limiting creditor losses to the amount of creditors' funds that is immediately written off in step 1. This should achieve the critical financial stability goal of ending the significant uncertainty which exists prior to the announcement of the bank's recapitalisation.

In summary, direct bail-in tends to limit risks to financial stability (through rapidly allocating losses to creditors to achieve recapitalisation) whereas phased recapitalisation seeks to allocate losses to creditors in a way that respects the creditor hierarchy by more accurately taking account of the value of the recapitalised bank. The proposed recapitalisation mechanism is designed to achieve *both* benefits simultaneously.

Implementation

This article has focused on the high-level design benefits of its proposed recapitalisation mechanism. However, as with other recapitalisation approaches, various operational and legal aspects of this proposal would need to be detailed and clearly communicated to stakeholders before its implementation could begin; these include the detailed treatment of various types of senior creditor claims, including all those that are complex. Therefore a pragmatic, staged approach to implementation is recommended.

In its first stage, the proposed creditor-funded recapitalisation mechanism would be applied to all shareholders' and subordinated creditors' claims. Authorities would require large banks to maintain sufficient amounts of subordinated debt outstanding to cover most recapitalisation needs (a requirement that could be relaxed following the completion of the second stage).

After the detailed treatment of senior claims has been set out, and the significant legal and operational issues addressed, the second stage would then apply the write-off mechanism in a proportionate way to all uninsured senior claims simultaneously, no matter how complex these claims may be. The potential for uninsured depositors to suffer a loss in this stage means that authorities would need to think carefully about the appropriate level of deposit insurance and the issue of depositor preference (ie whether legislation is used to give depositors seniority relative to other senior claims).

Conclusions

This article proposes a simple recapitalisation mechanism that is consistent with the rights of creditors and enables recapitalisation of a TBTF bank over a weekend without the use of taxpayers' money. It includes elements of existing recapitalisation strategies in a way that retains their respective advantages and avoids their main pitfalls. It uses the market itself to determine the losses that creditors need to bear to recapitalise the bank and uses a temporary holding company to ensure that these losses are allocated in a way that strictly follows the creditor hierarchy. Compared with other approaches, the proposed mechanism may be the *only* approach that can simultaneously (i) respect the existing creditor hierarchy (maximising cost efficiency); (ii) achieve a recapitalisation over the weekend providing investors with immediate certainty on their maximum loss (limiting risks to financial stability); and (iii) be applied to all uninsured creditors throughout a TBTF group (fully addressing moral hazard).