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A Proposal for Efficiently Resolving Out-of-the-Money Swap Positions at Large Insolvent Banks

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ABSTRACT

Recent evidence suggests that bank regulators appear to be able to resolve insolvent large banks efficiently without either protecting uninsured deposits through invoking "too-big-to-fail" or causing serious harm to other banks or financial markets. But resolving swap positions at insolvent banks, particularly a bank's out-of-the-money positions, has received less attention. The FDIC can now either repudiate these contracts and treat the in-the-money counterparties as at-risk general creditors or transfer the contracts to a solvent bank. Both options have major drawbacks. Terminating contracts abruptly may result in large-fire sale losses and ignite defaults in other swap contracts. Transferring the contracts both is costly to the FDIC and protects the counterparties, who would otherwise be at-risk and monitor their banks. This paper proposes a third option that keeps the benefits of both options but eliminates the undesirable costs. It permits the contracts to be transferred, thus avoiding the potential for fire-sale losses and adverse spillover, but keeps the insolvent bank's in-the-money counterparties at-risk, thus maintaining discipline on banks by large and sophisticated creditors.

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I. Introduction

Recent research and experience suggest that federal bank regulators in the United States can resolve on-balance sheet activities of even large insolvent banks efficiently without either protecting uninsured deposits, so that their owners remain at-risk and monitor and discipline their banks, or causing serious harm to other banks or financial markets. In addition, the flexibility of regulators to protect uninsured depositors by invoking the systemic risk exemption (SRE) to the least cost resolution provision in the FDIC Improvement Act (FDICIA) - - formerly known as "too-big-to-fail" (TBTF) - - has been greatly reduced. But less attention has been devoted to resolving some other - - so called "off-balance sheet" - - activities of these banks, particularly their out-of-the-money swap positions.[1] These represent creditor claims on the bank.

Because there is widespread fear that rapid close-outs of swap contracts at large banks may result in large fire-sale losses that could trigger defaults on other swap contracts used to hedge the initial contracts and threaten the stability of financial markets, there is a perception that in resolving insolvent larger banks regulators will transfer such positions to

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[1] Another "off-balance sheet" activity that recently appears to have caused the FDIC a problem in resolutions is securitized credit card portfolios (Blackwell, 2002).

other, solvent banks rather than terminating the contracts. As a result, the insolvent bank's in-the-money counterparties would now have claims on the solvent banks and be protected against any losses charged other creditors of the insolvent bank. But, because such a strategy is likely to violate the requirements of least cost resolution, it may require invoking SRE. Moreover, if this occurs, an important group of large and sophisticated bank creditors are effectively removed from monitoring and disciplining banks. This paper develops a modest but realistic third option proposal for resolving these positions efficiently without requiring either abrupt terminations of the positions or protection of the bank's in-the-money counterparties. If adopted, the proposal should enhance the ability of regulators to resolve insolvent large banks efficiently.

Efficient resolution of insolvent large and complex banks involves resolving them at lowest direct cost to the FDIC and lowest indirect spillover cost to other banks or financial markets, i.e., minimize adverse externalities. Such a resolution structure should include two important features. One, it should provide sufficient time to unwind the activities of these banks, including their large portfolios of off-balance sheet futures, options, forwards and swap positions, in an orderly fashion by the date of resolution with sufficiently small, if any, fire-sale losses that would not unduly disrupt financial markets nor cause doubts about the financial health of otherwise solvent banks. Two, it should permit large, sophisticated uninsured depositors and other creditors, including uncollateralized off-balance sheet counterparties, to be put at-risk and share in any potential losses with the FDIC, so as to incentize market monitoring and discipline by these stakeholders. In recent statements, Federal Reserve Chairman Alan Greenspan has indicated that achieving a solution that satisfies both conditions is desirable. He has stated that:

> the issue is an organization that is very large is not too big to fail, it may be too big to allow to implode quickly. But certainly, none are too big to orderly liquidate…What you want to avoid is the quick reaction. And that we can do. But not to protect shareholders. And presumably, not to protect non-guaranteed deposits from loss (Greenspan, 2000, p. 14)… The potential for greater market discipline at large institutions is substantial (Greenspan, 2001, p. 7).

II. Current FDIC Resolution Procedures

Unlike other corporations, including bank holding companies, that file for bankruptcy under the bankruptcy code and are resolved by the bankruptcy courts, banks are declared insolvent by their chartering or primary federal regulatory agency and resolved by the FDIC, which is generally appointed as receiver or conservator, under the provisions of the Federal Deposit Insurance Act. FDICIA effectively requires that, among other things, examiners / supervisors / regulators become progressively more familiar with a bank's financial condition as its capital ratio declines through a series of five prespecified capital tripwires for implementing prompt corrective action (PCA). Thus, by the time or shortly after a bank reaches the lowest capital tranche and becomes classified as "critically undercapitalized" and requires resolution, the primary regulatory agency and the FDIC should, except in the cases of major fraud or misrepresentation, be sufficiently familiar with the bank both to identify the eligible insured depositors and to estimate the market or recovery value of its assets.[2] This arrangement also allows the regulators to prepare the necessary information for speedy distribution to potential bidders for the bank or its assets.

To gain additional time to complete the resolution and reduce discontinuities in the provision of banking services, U.S. banks are generally declared legally insolvent by their chartering or primary federal regulator at the end of business on Thursdays or Fridays. All

or some of the assets are then sold and the deposits either assumed by another bank upon payment by the FDIC or paid out on the following Monday. To the extent that the insolvent bank has remaining franchise value, all or most of the good assets are likely to be purchased and most employees retained by the bank that assumed, at least, the insured deposits. Thus, disruptions to customer-loan relationships are minimized.[3] In addition, unlike in most other countries, the FDIC frequently advances payment on both insured and uninsured deposits, at this time, particularly for larger banks. The accounts are not frozen. Insured deposits are available in full on Monday either in the form of a deposit at an assuming bank or paid out at a paying agent. At or about the same time, uninsured depositors and other creditors received receivership certificates specifying their claims on the recovery value of the assets. In cases where the bank's assets and liabilities can be valued reasonably accurately, the FDIC will frequently pay the depositors an advance dividend on the certificates of the approximate present value of the prorata share of the estimated recovery amount (Kaufman and Seelig, 2002).[4] Thus, there is little loss of liquidity to these depositors.[5] In addition, if necessary for large complex banks the FDIC can charter a temporary bridge bank to gain additional time to unwind the bank with minimum fire-sale losses and without disrupting ongoing banking relationships. Such a bank can assume whatever proportion of uninsured deposits and other liabilities as well as assets that the FDIC wishes to transfer to it. Thereafter, all liabilities are fully protected until the bridge bank is resolved (Bovenzi, 2002).

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[2] At the country's largest banks, the regulators maintain a permanent on-site supervisory presence.

[3] Berger and Udell (2002) report evidence that customer-loan relationships are as often with particular loan officers as with the bank. To the extent the loan officers are maintained by the successor bank, any disruption in loan servicing as a result of a bank failure is reduced.

[4] The uninsured depositors also receive a claim on the FDIC as receiver for the bank for any prorata amount that the actual recovery value realized exceeds the amount advanced. Additional payments occur frequently because the FDIC typically advances only a conservative estimate of the recovery value to reduce its chances of loss. If the FDIC overestimates the recovery value and advances too much in retrospect, it absorbs the loss.

Nevertheless, some liabilities of large banks, in particular swap and other derivative positions, present regulators with particularly challenging problems in resolutions. Hasty unwinding of the positions is widely perceived to both trigger large fire-sale losses and, because these positions are frequently hedged by the counterparties with other derivative positions with other counterparties, affect a large number of parties along a chain. For example, the potential widespread disorderly conditions resulting from rapid unwinding of such a large portfolio upon termination or close-out resulting from a default by a counterparty was a major reason underlying the Federal Reserve intervention in LTCM in 1998.[6]

Individual swap agreements with the same counterparty are provided special treatment as "qualified financial contracts" (QFCs) in the bank resolution code and permitted to be netted.[7] These contracts are typically incorporated in a master swap agreement and netted, so that only the net of the position with a single counterparty is at-risk. An insolvent bank may have net swap positions that are either or both in-the-money - - so that they are assets to the bank - - or out-of-the-money - - so that they are in-the-money to the bank's counterparties and a liability to the bank. If the net positions of the insolvent bank are in-the-money, they provide no special problem to the FDIC in resolution. Similar

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[5] In addition, as discussed later, the FDC sets off uninsured deposits against any outstanding performing loan amounts the respective depositor may have at the bank, so that these depositors effectively retain access to the par value of their deposits up to the amount of the outstanding loan.

[6] On the other hand, the rapid unwinding of Enron's complex derivative portfolio in 2001 did not appear to have major adverse effects on the market.

[7] Unlike the bankruptcy code, which generally prohibits netting, netting is explicitly authorized for depository institutions for off-balance sheet securities legally declared "qualified financial contracts" in the Financial Institutions Reform, Recovery and Enforcement Act (FIRREA) of 1989, which amended the FDI Act. The authority was broadened and enforcement strengthened in FDICIA in 1991. Somewhat weaker provisions for swap agreements were authorized for nonbanks in a 1990 amendment to the bankruptcy code and proposal for bringing them into line with those for banks have been introduced in Congress and are awaiting enactment. Netting provisions are strongly supported by the Federal Reserve and other bank regulators. The major argument for netting is that it will reduce systemic risk (Bliss, 2002; FDICIA, 1991; and Ireland, 1999.) The major argument against netting is that it violates the usual priorities in liquidation, as it fails to reduce the value of the claim on the failed counterparty by the prorata loss. The solvent counterparties are effectively protected against loss up to the nettable amounts. Thus, they move up in priority. Any losses incurred are shifted to the remaining unsecured counterparties, including uninsured depositors and the FDIC.

to other assets, the FDIC can sell the net positions to other (third party) solvent counterparties at market value. But, if the positions are out-of-the-money, the solvent counterparties have claims on the bank and the FDIC needs to consider how to treat these claims in resolution. And this may not be independent of the way the FDIC disposes of the positions.

The FDIC may currently pursue one of two options in resolving the counterparties' in-the-money swap positions of insolvent large banks. It receives an automatic one business day stay after its appointment as receiver to make a determination of its actions.[8] It can repudiate the net contracts, effectively terminating and closing them out.[9] If the net positions are not collateralized, the in-the-money claimants are treated as general creditors of the insolvent bank and subject to potential pro-rata losses (haircuts) on their claim based on the recovery value of the bank's assets. They receive no special treatment. But, as noted above, abrupt closeouts may set off an undesirable chain reaction. Thus, there may be strong incentive for the FDIC to avoid a rapid closeout of an insolvent bank's swap positions. Instead, it has the legal authority during the stay to transfer the bank's out-of-the-money portfolio of each counterparty to a solvent bank counterparty. The contracts are not close out.[10] The in-the-money counterparties now have a claim on the new out-of-the-money counterparty. This protects the insolvent bank's in-the-money swap counterparties against loss and treats them differently than other creditors. Because, the bank's positions are out-of-the-money, the FDIC will assume the loss in the transfer and need to pay the assuming party the current market value of the net position. Thus, depending on what other

[8] The appointment of a receiver does not, per se, represent a default and cause for contract termination. If the FDIC does not act on the contracts within the stay period, the solvent counterparties can terminate the contracts. (Krimminger, 1998, Simmons, 2001). If the FDIC is appointed as a conservator, the stay for termination by the counterparty for contracts not repudiated or transferred is longer.

[9] Methods for valuing terminated contracts are discussed in Ronalds, 2002. If valued incorrectly because of haste, remedies exist for later correction.

[10] As Krimminger (1998, p.10) notes, transfer "allows the conservator or receiver the opportunity to preserve the value of such contracts, while permitting counterparties to maintain valuable hedge transactions."

parties the FDIC protects, at least part of the loss is shifted to the FDIC and represents a "bailout." This resolution is not a LCR and can require invoking SRE.[11]

Although avoiding potential adverse spillover, by not putting these counterparties at risk, an important group of large and sophisticated creditors is removed from monitoring the credit risk of their banks and potentially disciplining them in support of the uninsured depositors. In addition, if their solvent swap counterparties do not view themselves at risk, the ability of insolvent or near-insolvent banks to increase their risk exposure quickly and gamble for resurrection is greatly facilitated. Thus, neither the close-out nor the bailout resolution strategy appears optimal.

III. A Proposed Third Alternative

If there is serious concern about major adverse externalities both from a rapid unwinding of large bank out-of-the-money swap and other similar liability positions in a closeout and from protecting bank in-the-money swap counterparties, so that neither of the above two options appear optimal, a third resolution option - - a simulated closeout - - may be preferable. In this strategy, as in the full protection option, the net swap positions are not closed out at resolution, but are transferred by the FDIC to a solvent assuming party with compensation at market value. But, unlike in the full protection option, the net in-the-money counterparties are charged a fee (haircut) by the FDIC equivalent to the loss rate applied to other at-risk stakeholders of the insolvent bank of the same priority class.[12] The payment is made concurrently in a separate transaction. If the bank's assets are sold at their booked market values, this is the same loss rate as the in-the-money counterparties

[11] In a SRE resolution, the FDIC can protect the bank's in-the-money swap counterparties without having to protect other, even higher priority classes of uninsured claims, such as uninsured deposits (Bovenzi, 2002). Because the counterparties are protected against loss, it is unlikely that they will choose to terminate their contracts after the stay has ended. The computation of LCR involves assumptions about losses from fire-sales and may provide wiggle room for regulators to defend protecting swap counterparties when they want to. (Bennett, 2001).

[12] The solvent in-the-money counterparties can, of course, protect themselves against loss by maintaining a zero net position or overcollateralizing their positions.

would suffer in a closeout and they should be no worse off. The out-of-the-money QFC portfolio is transferred at its non-credit impaired market value either to a solvent assuming bank or, if additional time is required to resolve the bank, to a newly chartered bridge bank. The loss charged the affected in-the-money counterparties would be paid directly to the FDIC at the date of resolution in a separate payment and is effectively passed through to the assuming out-of-the money party. There is no FDIC bailout. Because the FDIC does not incur a cost and the counterparties are not protected, SRE need not be invoked.

This treatment of solvent net in-the-money insolvent bank swap counterparties is effectively comparable to the treatment of the on-balance sheet uninsured depositors at insolvent banks, except that for them the loss reduces the value of their claim rather than generating a separate payment. The same provisions for over-and under-estimates currently applied by the FDIC to advance dividend payments to uninsured depositors could be applied to the payments made by to the FDIC by the in-the-money swap counterparties. If the loss charged was, in retrospect, too large - - the FDIC underestimated the recovery value - -, the FDIC reimburses the counterparties. If the loss charged was too small, the FDIC absorbs the loss. Thus, the FDIC is likely to make a conservative estimate and overcharge the counterparties until the final settlement. But closeout prices are also likely to go against the in-the-money counterparties at the termination date and, if there are disagreements, the final prices are typically settled at a later date. As there is no close-out, the entire swap portfolio is maintained intact and is either not unwound until maturity or unwound earlier in an orderly and nondisruptive fashion. Any potential adverse affects of unwinding a portfolio quickly would be removed, but market discipline by these large and assumed sophisticated counterparties is maintained. This procedure appears to be consistent with the requirement of least cost resolution that

> the total amount of expenditures by the Corporation…(including any…contingent liability for future payment by the Corporation)…is the least costly to the deposit insurance fund of all possible methods (FDICIA 1991, p.41).

IV. The T-Account Basics of the Three Strategies

The basic operation of the above proposal as well as the differences with those of resolving swap positions either through immediate closeout liquidation or by protecting an insolvent bank's in-the-money counterparties fully against loss can be demonstrated with the help of simple T accounts. Assume initially that at the date of resolution large Bank A has assets valued at market at $80, insured deposits valued at par at $40, uninsured deposits valued at par at $50, and counterparties' net in-the-money uncollateralized swap liabilities valued at market at $10. There are no other creditors. Thus, the bank's net worth is $–20 and it is, at least, market value insolvent. This balance sheet is shown in Figure 1. Assume also the existence of depositor preference, so that depositors and the FDIC have legal preference over the swap counterparties, who are general creditors. The FDIC is appointed receiver.

1. Bank sale or liquidation and swap closeouts with no protection to uninsured claimants

The FDIC sells the assets of the bank at their booked market value of $80 and closes out (repudiates) the out-of-the-money swap position without further loss. Insured depositors are paid in full. Uninsured depositors and the in-the-money swap counterparties receive receivership certificates. The first $10 loss is charged to the swap counterparties, totally eliminating their claim. The remaining $10 loss is charged against deposits, both the uninsured and insured, with the FDIC standing in the shoes of the insured depositors. This amounts to an 11 percent ($10/90) loss rate for both classes of deposits. The

uninsured deposits lose $5.55 and the FDIC, $4.45 to protect the insured deposits. Shareholders receive nothing. The resulting balance sheet is shown in Figure 2. For the sake of simplicity, the FDIC's loss is shown as a cash infusion.

This is a LCR strategy. It also has the advantage that all uninsured claimants are ex-ante at-risk and therefore incentized to monitor and discipline their banks. The strategy has the disadvantage that the abrupt closeout of the swap position could cause a fire-sale loss to the counterparties that may ignite adverse spillover effects in financial markets as other positions are forced to be closed out with potential fire-sale losses.

2. Bank sale or liquidation and swap sales with full protection to uninsured claimants.

The FDIC is permitted to invoke SRE and protect some or all uninsured depositor and creditor claims, including the net in-the-money swap positions. The assets are again sold at their booked values. But, the out-of-the-money swap positions are not closed out. The entire portfolio is transferred to solvent assuming parties. The assuming out-of-the-money counterparties are paid the $10 market price by the FDIC to assume the liability. The in-the-money counterparties now have a claim on the new solvent out-of-the-money counterparties and are thus protected against the insolvency loss. In this strategy, the entire $20 loss is shifted to the uninsured depositors and the FDIC.

SRE appears to grant the FDIC the authority to protect all uninsured depositors and creditors or either uninsured depositors or creditors, regardless of depositor preference requirements. In Figure 3A, unsecured creditors (swap counterparties) are protected fully and insured depositors are not. The $20 loss is thus shared proportionately between the uninsured depositors and the FDIC. Both suffer a loss rate of 22 percent. The $10 FDIC payment to the new solvent bank swap counterparty is shown as a decline in the insolvent bank's initial assets and the FDIC share of the loss as a $9 cash infusion. In Figure 3B, both creditors and insured depositors are protected and the entire $20 insolvency loss is

borne by the FDIC. The larger FDIC losses in both examples relative to Figure 2 reflects the permissible violation of LCR.

The primary advantage of this strategy is that the swap positions are not abruptly closed out with potential adverse spillover or systemic risk effects. The primary disadvantage is that, if the bailout is anticipated, there might be a larger loss to the FDIC because large, presumed sophisticated swap creditors and possibly even uninsured depositors are not put at ex-ante risk and encouraged to monitor and discipline their banks. Thus, this strategy is likely to increase moral hazard risk taking by banks.

3. Bank sale or liquidation and swap sales with no protection to uninsured claimants.

As in Alternative 1, the FDIC sells the bank's assets at their booked price. But, unlike in Alternative 1, the out-of-the-money swap positions are not repudiated and closed out. Rather, as in Alternative 2, they are transferred to a solvent assuming third party at the existing market price at a loss to the FDIC. However, neither the in-the-money counterparties nor the depositors are protected. The swap counterparties are charged the $10 loss which is collected in a separate payment, and the insured and uninsured deposits are charged the remaining $10 loss proportionately. This is shown in Figure 4. The liabilities and losses are the same as in Alternative 1 (Figure 2), but the asset side shows the $10 FDIC payment to the new solvent out-of-the-money bank swap counterparties as a decline in the insolvent bank's initial assets and cash infusions of $10 by the in-the-money counterparties and $5 by the FDIC to protect the insured deposits. The resolution is a LCR.

The advantages of this alternative are that, unlike Alternative 2, the swap counterparties and other uninsured claimants remain at ex-ante risk, but adverse spillovers from abrupt termination of the swap positions are avoided. Yet the FDIC suffers no loss. Both the FDIC and the in-the-money counterparties are no worse off than in Alternative 1. The primary disadvantage of this strategy may be that its introduction may require new

legislation to require bank swap counterparties to enter into the master agreement with the FDIC.

Figure 1

Bank A

Initial Balance Sheet

Assets	**$80**	**$40**	**Insured deposits**
		50	**Uninsured deposits**
		10	**Net swaps**
		-20	**Net worth**
Total	**80**	**80**	**Total**

Figure 2

Balance Sheet after Terminating Swap Contracts and Loss-Sharing by All

Initial assets	**$80**	**$40**	**Insured deposits**
FDIC cash	**5**	**45**	**Uninsured deposits**
		0	**Net swaps**
Total	**85**	**85**	

Losses

Swap contracts	**$10.00**
Uninsured deposits	**5.55**
FDIC	**4.45**
Total	**$20.00**

Figure 3A

Balance Sheet after Transfer of Swap Contracts and
Loss-Sharing by Uninsured Depositors and FDIC

Initial assets	**$70**	**$40**	**Insured deposits**
FDIC cash	**9**	**39**	**Uninsured deposits**
		0	**Net swaps**
Total	**79**	**79**	**Total**

Losses

Swap contracts	**$ 0**
Uninsured deposits	**11.10**
FDIC	**8.90**
Total	**$20.00**

Figure 3B

Balance Sheet after Transfer of Swap Contracts and Total Loss Borne by FDIC

Initial assets	**$70**	**$40**	**Insured deposits**
FDIC cash	**20**	**50**	**Uninsured deposits**
		0	**Net swaps**
Total	**90**	**90**	**Total**

Losses

Swap contracts	**$ 0**
Uninsured deposits	**0**
FDIC	**20.00**
Total	**$20.00**

Figure 4

Balance Sheet after Swap Transfer and Loss-Sharing by All
(No SRE)

Initial Assets	**$70**	**$40**	**Insured deposits**
Swap cash	**10**	**45**	**Uninsured deposits**
FDIC cash	**5**	**0**	**Net swaps**
Total	**85**	**85**	**Total**

Losses

Swap contracts	**$10.00**
Uninsured deposits	**5.55**
FDIC	**4.45**
Total	**$20.00**

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