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RESOLVING INSOLVENT LARGE COMPLEX FINANCIAL INSTITUTIONS: A BETTER WAY

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This article develops a framework for a resolution regime that is specifically designed for resolving all large insolvent bank and nonbank financial institutions efficiently and in an orderly manner. It incorporates the more effective parts of the existing bank, corporate and new Dodd-Frank Wall Street Reform and Consumer Protection Act resolution regimes in a single regime that should achieve more efficient outcomes.

The financial crisis of 2007-09 has demonstrated that the resolution of troubled large nonbank financial firms can be messier and more costly than that of banks or nonfinancial firms. As a result, these financial firms may require a different resolution regime than do large nonfinancial firms. The Dodd-Frank Wall Street Reform and Consumer Protection Act ("DFA"),

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enacted in July 2010, establishes such a regime. The new regime is similar to that which applies to large federally insured depository institutions (banks) under the Federal Deposit Insurance Act ("FDIA") as amended by the FDIC Improvement Act ("FDICIA") in 1991. The Act extends the power of the Federal Deposit Insurance Corporation ("FDIC") to resolve in an "orderly" fashion most large nonbank financial companies ("NBFC"), including bank holding companies but excluding insurance companies and broker/dealers, whose failure are perceived by the regulators to have adverse effects on financial stability and therefore "too big to fail" ("TBTF"). Before DFA, these institutions were resolved through the corporate bankruptcy regime.

Primarily because it was both a major bank regulator and frequently the largest creditor of banks, the FDIC already had similar authority for banks. Other nonbank financial institutions, except insurance companies, are resolved under either Chapter 7 or 11 of the U.S. Federal Bankruptcy Code ("FBC"), with some modifications by their respective regulators, similar to nonfinancial corporations. Insurance companies are resolved by the state in which they are chartered. Although an improvement over the previous structure, the new DFA provisions as well as the existing FDIA and FBC provisions have weaknesses that make them less than optimal for resolving either large banks or other large complex financial institutions ("LFCIs") efficiently.

Resolution regimes matter. They spell out, among other things,

- when and by whom firms are put into the resolution process;
- whether they are liquidated or rehabilitated;
- which parties will bear the loss and the predictability of the priorities among stakeholders;
- whether contracts may be disavowed or modified;
- the availability of and process for appeals;
- the length of stays and to whom they apply;
- who has legal standing to participate in the process; and
- the weight, if any, assigned to adverse externalities in determining loss allocations.

These protocols affect both the direct and indirect (spillover) damage generated by the failure, the behavior of firms both before and during resolution, the cost of capital to both the insolvent and other firms, and the allocation of resources in the economy. That is, the details of the resolution regime in place importantly affect the performance of the economy. Different resolution regimes incentivize different economic behavior.

This article develops a framework for a resolution regime that is specifically designed for resolving all large bank and nonbank insolvent financial institutions efficiently and in an orderly manner. It incorporates the more effective parts of the existing bank, corporate and new DFA resolution regimes in a single regime that should achieve more efficient outcomes.

DODD-FRANK WALL STREET REFORM AND CONSUMER PROTECTION ACT

The DFA replaces the previous insolvency resolution regime under the federal bankruptcy code for nonbank LCFIs ("NBLCFI"), whose resolution under the code is perceived to threaten the financial stability of the United States. It brings the process closer to that under the FDIA for similarly viewed banks. On net, this represents an improvement over use of the FBC. However, the new process does not eliminate all inefficiencies and weaknesses in either regime. Nor does it eliminate TBTF. Indeed, it expands and likely institutionalizes it! As a result, dissatisfaction with the outcomes of resolutions under the new DFA regime is likely to occur in the future and may make policy-makers look for alternative procedures at that time and be receptive to proposals already sitting on the legislative shelf. In apparent preparation of such a reaction, the DFA mandates a number of studies that focus on enhancing the system.[1] The development of an optimal resolution regime for LCFIs that further minimizes, if not eliminates, the need for TBTF bailouts is probably the most important single challenge for financial reform. An insolvency resolution regime that successfully minimizes the need for TBTF reduces adverse moral hazard externalities, reduces the potential burden on taxpayers, and increases economic efficiency and welfare.

BANKS REQUIRE SPECIAL RESOLUTION REGIMES

Banks have long been widely perceived to be special for a large number of reasons, including:

- Banks are the largest and broadest financial institution;
- Bank deposits (debt) are held by a large proportion of the population, including households of limited financial means and expertise, and in a wide range of amounts, including very small amounts;
- Bank deposits collectively comprise the largest share of the country's money supply and are the primary medium of exchange;
- Bank deposits represent a significant portion of the public's most liquid assets;
- Banks have a large proportion of their liabilities in very short-term debt that is shorter on average than their assets and that can easily be withdrawn (run);
- Banks are major providers of credit to households, business firms, and governments;
- Banks operate much of the payments system;
- Some individual banks are large relative to GDP and individual bank size and market concentration has increased greatly through time;[2]
- Banks are closely interconnected with each other through interbank deposits, loans, and derivative transactions;
- Dealer banks are particularly closely interconnected with other LCFIs;
- Bank assets are widely perceived to be less transparent than assets of most non-bank firms;
- Large banks tend to have complex organizational structures and operate cross-border both nationally and internationally and are thus subject to different legal and regulatory jurisdictions; and
- Ownership and location of bank assets can be transferred quickly and at low cost.

As a result of these characteristics, the failure of banks may result in the interruption of the continuous provision of one or more of their critical activities and is likely to have more serious adverse effects on the economy of the affected banks' market areas and frequently beyond than the failure of comparable size nonbanks. The larger and more interconnected the bank, the stronger and wider the potential adverse externalities. For these reasons, banks have been widely perceived to require special resolution regimes that minimize such externalities by permitting regulators rather than creditors to place a bank in receivership and permitting the regulators to protect some or all stakeholders against loss. In the United States, most chartered banks have been subject to a special resolution regime since the National Bank Act of 1864.[3] More recently, a number of nonbank financial institutions, such as investment banks (broker-dealers), insurance companies, hedge funds, and finance companies, have developed rapidly and are now also widely perceived to be special like banks and to require a similar special resolution regime. These firms often:

- Offer bank-like products;
- Rely heavily on short-term funding of credit risky and/or longer term assets;
- Are closely interconnected with each other and with banks through derivative contracts, particularly if dealers;
- Have complex organizational structures;
- Operate across structural and geographic jurisdictions; and
- Have grown rapidly in size and market share.

Similar to the failure of banks, the failure of NBLCFIs is now also widely believed to cause serious adverse externalities. But, in the U.S., until the enactment of DFA, these institutions were subject to resolution regimes that did not necessarily recognize their special nature, so that their failure was likely to interrupt provision of their more critical operations. Similar to large banks, the fear of these externalities happening at larger nonbank financial institutions at times led regulators or the government to fear officially recognizing all the losses and thus to fail these firms or permit them to be failed when

they became insolvent. Like large banks, these institutions were likely to be viewed and treated as "too big to fail" by their regulators or the government, e.g., AIG.

TOO BIG TO FAIL

In the U.S., from the enactment of FDICIA in 1991 until the enactment of DFA in 2010, TBTF was sanctioned by law only for large banks (depository institutions) whose insolvency threatened financial stability.[4] As noted earlier, these institutions are subject to a different insolvency resolution regime than were either other banks or large nonbank financial firms, the latter which were generally subject to the FBC. At least in the U.S., TBTF generally has not meant what it says. From the mid-1980s through the beginning of the current financial crisis, effectively all officially recognized insolvent banks were legally failed. In that period, when resolved, an insolvent perceived TBTF bank's charter was revoked and its or its parent holding company's shareholders' interest terminated, except for any residual value after final resolution.[5] Some or all of its uninsured depositors and/or creditors may have been protected. During the crisis, however, open bank assistance was provided to two TBTF banks — Citibank and Bank of America and their parent holding companies.[6] Shareholder interests were diluted but not eliminated totally.

Indeed, FDICIA in 1991 prohibited the FDIC from protecting not only shareholders in failed banks but also uninsured depositors and creditors from loss if such action increased the loss to the FDIC. That is, failures had to be resolved at least cost to the FDIC. However, FDICIA included a special systemic risk exemption ("SRE") override provision that permitted regulators to waive least cost resolution ("LCR") and protect some or all of a bank's uninsured depositors and general creditors against loss and/or delayed access to their eligible funds and not wipeout shareholder interest if regulators believed that the bank's failure resolution at least cost to the FDIC was likely to cause financial instability. Then shareholders and uninsured and secured depositors/creditors could be fully or partially protected at a loss to the FDIC. The bank became TBTF and open bank assistance could be provided. Thus, there are two resolution regimes for banks, one for most banks and one for large banks, whose resolution under

the usual process would ignite financial instability.

Who bears the losses not borne by the bank's protected counterparties in TBTF resolutions? Under FDIA, losses from the failure of TBTF banks that were not charged to unprotected creditors are required to be charged as fees to the bank if shareholders were not wiped out and the bank's charter was not terminated or, if wiped out, to other remaining banks through a special ex-post assessment based on a bank asset size.

A similar provision is included in the DFA for losses experienced by insolvent large nonbank financial companies perceived by the regulators as TBTF. Their resolution is withdrawn from the provisions of the FBC and instead subject to a new orderly resolution provision modeled after the systemic risk exemption process in the FDIA, but which does not allow shareholders to be protected under any circumstances. Losses that would otherwise have been borne by the protected creditors are shifted to other LCFIs through a special assessment.

TBTF has well-known potential costs. Full or even partial protection of some or all de-jure uninsured parties against loss reduces their incentive to monitor their institutions and encourages excessive risk taking moral hazard behavior by the institutions. It also reduces the cost of funds to the institution if the institution and protected counterparties are identified in advance or are perceived by the market to be so protected. This provides the TBTF institution with a competitive advantage. Lastly, TBTF opens the selection of both the banks and the depositor/creditors to be protected to political considerations.

The objective of TBTF should be an orderly resolution (market stability) without abandoning market discipline or at worst not reducing it significantly. To protect market discipline, the large majority, if not all, uninsured and unsecured claimants should share in any losses suffered by the insolvent institutions. The major ongoing policy debate centers on which if any creditors should be protected, who, if not them, should bear their losses, and whether those to be fully or partially protected should be identified in advance.

U.S. INSOLVENCY RESOLUTION REGIMES

As noted earlier, before DFA, the resolution regimes for different types of large financial institutions in the U.S. varied widely. Banks and other insured

depository institutions were subject to the FDIA as amended by the FDICIA of 1991. General corporations (including parent bank holding companies) were subject to Chapters 7 (liquidation) and 11 (rehabilitation) of the Federal Bankruptcy Code.[7] Local governments were subject to Chapter 9 of the Federal Bankruptcy Code. Broker-dealers were subject the Chapter 7 of the FBC, as modified by the Securities and Exchange Commission ("SEC") and Securities Investor Protection Corporation ("SIPC"), and futures commission merchants to Chapter 7, as modified by the Commodity Future Trading Corporations ("CFTC"). Insurance companies came under state bankruptcy regimes. This suggests that LCFIs, most of which are likely to have one or more bank, insurance, finance, dealer-broker and/or nonfinancial parents or subsidiaries, are subject to a large number of different jurisdictions and resolution regimes. Even banks and their parent holding companies are subject to different resolution regimes. A major difference among these regimes is who can initiate the failure process and when. These differences importantly affect the size of any losses in resolution and of any adverse externality. Moreover, if these institutions operate across geographic jurisdictions, both state and national, as almost all of them do, they encounter additional differences in resolution regimes.

This organizational and jurisdictional complexity serves to make current resolutions of nonbank LCFIs in practice complex, time consuming, uncertain, and expensive. U.S. financial regulators, as well as their counterparts in many other countries, have complained that the complex structures do not facilitate orderly resolutions. For example, in the Lehman bankruptcy in 2008, Secretary of the Treasury Henry Paulson worried about which entities would file for bankruptcy and which would not? Would the European and U.K. entities file before the New York holding company?[8] Likewise, would assets at foreign affiliates be immediately seized (ring fenced) by their respective domestic governments?[9]

In particular, Chapter 11 resolutions, which focus on reorganization and rehabilitation, were said to have the following disadvantages when applied to resolving LCFIs:

- Initiation of failure by creditors rather than regulators is too slow and clumsy;

- Numerous ex-ante appeals permitted that could delay the resolution;
- Control of resolution process by court, not by regulators (who have no standing);
- Consideration only of creditors, not of public interest externalities;
- Equal treatment of all creditors in given class (no flexibility to discriminate);
- Need to find debtor in possession ("DIP") financing for firm during reorganization;
- Generally no change of management, at least in the beginning of the reorganization (rehabilitation) process; and
- Insufficient flexibility to tailor solution to specific problem.

In its 2009 white paper outlining the Obama Administration's recommendations for financial reform, the U.S. Treasury argued:

> The federal government's responses to the impending bankruptcy of Bear Stearns, Lehman Brothers, and AIG were complicated by the lack of a statutory framework for avoiding the disorderly failure of nonbank financial firms, including affiliates of banks or other insured depository institutions. In the absence of such framework, the government's only avenue to avoid the disorderly failures of Bear Stearns and AIG was the use of the Federal Reserve's lending authority. And this mechanism was insufficient to prevent the bankruptcy of Lehman Brothers, an event which served to demonstrate how disruptive the disorderly failure of a nonbank financial firm can be to the financial system and the economy.[10]

What did the regulators want? It appears that they preferred a regime that would allow them to initiate and shape the resolution process and outcome for NBLCFIs that were TBTF institutions. This would include their ability to, among other things:

- Determine the timing of closure (i.e., place in receivership or bankruptcy) before action by creditors;

- Choose the form of resolution — rehabilitation (reorganization) or liquidation, e.g., sale bridge, liquidation, or pre-packaged resolution;
- Terminate shareholders' interest (except for residual value);
- Allocate losses or protection across and within uninsured creditor classes to achieve orderly resolution and maintain critical services uninterrupted;
- Determine validity of creditors' claims;
- Determine the timing of access to permissible funds for depositors, creditors, and loan customers through advance dividends;
- Select management while in resolution (reorganization/bridge) process;
- Clawback inappropriate recent fund transfers;
- Coordinate with other affected (cross-structural and cross-border) jurisdictions;
- Recover losses not allocated to uninsured depositor/creditors from an industry fund paid by LCFIs; and
- Not be second guessed by courts.

But there is considerable disagreement on how to achieve these objectives. One group, particularly the regulators, basically favored mimicking the bank resolution regime in the FDI Act. This was what was done to a considerable degree in DFA. Others basically favored using modifications of Chapter 11 of the Federal Bankruptcy Code. This difference in approach is vividly demonstrated in two recent conflicting statements by Ben Bernanke, Chairman of the Federal Reserve System, and Paul Singer, a hedge fund manager. Bernanke argued:

> A prototype for such a framework already exists — namely, the rules set forth in the Federal Deposit Insurance Corporation Improvement Act of 1991 for dealing with a failing bank.... The resolution agency should not be allowed to protect shareholders and other capital providers and it should have clear authority to impose losses on debt holders, override contracts, and replace management and directors as appropriate.[11]

Singer argued:

> We already have an incredibly robust time-tested "authority" to handle failing companies — the U.S. bankruptcy code. With decades of case law and precedent. It is sufficiently flexible to handle almost any type of insolvent company.... Congress should legislate specific fixes to the existing bankruptcy code.[12]

BANK AND CORPORATE RESOLUTION REGIMES

The bank and corporate resolution regimes differ substantially. The salient features of each are enumerated below:

- Bank (FDIA):
  - Administrative (regulators);
  - Effective liquidation — charter revoke, and management terminated. Bank sold as whole or in parts;
  - A new temporary bridge bank may be chartered to which selected assets and liabilities of the insolvent bank may be transferred to permit more orderly sale of assets (resolution);
  - No ex-ante appeals, limited ex-post appeals;
  - Creditors other than the FDIC have no standing;
  - Objective — minimize cost to FDIC fund, *except*
  - Systemic risk exception ("SRE") for externalities to override least cost resolution and protect some or all uninsured counterparties of banks perceived TBTF (prevent financial instability);
  - FDIC discretion to modify creditor priority (flexibility), if bank TBTF;
  - Bridge bank capitalized or guaranteed by FDIC, not private DIP;
  - Bridge bank management selected by FDIC;
  - Limited stays for qualified financial contracts only;

- Considerable opacity in deposit and asset dispositions;
- Considerable regulatory discretion if systemic risk exception is invoked; and
- Losses from SREs are charged to the banking system.

• Corporate (FBC), (Except for nonbank LCFIs declared subject to "orderly liquidation" under the Dodd-Frank Act):

- Judicial (bankruptcy court);
- Rehabilitation if viewed long-term viable (Chapter 11) or liquidation (Chapter 7);
- All creditors have standing;
- Transparent;
- Widespread automatic stays;
- Management generally maintained in Chapter 11 at least temporarily;
- Requires private DIP financing;
- Court approval of major actions and final resolution plan; and
- Absolute priority (seniority) in liquidation subject to negotiation among creditors.

Each regime has its advantages and disadvantages when applied to bank and nonbank LCFIs. Listed below are the more important advantages and disadvantages of Chapters 7 and 11 of the Federal Bankruptcy Code followed by the same for the bank resolution regime in the FDI Act.

• Chapters 7 and 11 Bankruptcy Resolution

Advantages:

- Long history — well established principles and experience (case law and precedent);
- Choice of rehabilitation (Chapter 11) or liquidation (Chapter 7);
- In Chapter 11, maintain existing business relationships;

- If Chapter 11, no loss of competitor;
- Legal standing for all direct stakeholders;
- Impartial bankruptcy court (judicial review);
- Stays — maintain funding;
- Right of ex-ante appeal by parties with legal standing;
- Pro-rata losses according to creditor legal priority and negotiation;
- Transparency;
- Prepackaged resolutions possible;
- Can renegotiate many costly contracts;
- Difficult to bailout/protect uninsured creditors;
- Minimum moral hazard; and
- Minimal scope for political pressure.

Disadvantages:

- Old (existing) management generally remains in control, at least initially;
- Venue shopping for favorable bankruptcy court;
- Stays — block creditor access to funds and interrupt service provision;
- Delay in initiating involuntary bankruptcy filing until actual major default has occurred;
- Resolution need not consider public interest/externalities;
- Usually lengthy process;
- Potential holdout by junior claimants;
- High legal costs to administrator;[13]
- Need to obtain DIP financing; and
- Difficult to protect uninsured creditors.

- FDIA Insolvency Resolution for Insured Depository Institutions

  Advantages:

  – Quick initiation (declaration) of insolvency and receivership by regulators for violation of pre-specified regulatory capital ratios (including those at positive values of equity) in PCA framework and other specified reasons;

  – Pre-insolvency intervention under PCA to attempt to prevent insolvency;

  – Quick termination of bank shareholders' interests and management;

  – For large banks, transfer most deposits, assets, and services to new bridge ("good") bank to maintain essential services and be wound down in an orderly manner. Remaining assets and liabilities left in receivership ("bad bank") for liquidation;

  – No need for private DIP financing; bridge bank is funded or guaranteed by FDIC;

  – If bridge bank, new management appointed by FDIC;

  – Protection of selected creditors if imposing losses on them is perceived to be a threat to macrofinancial stability;

  – Greater legal certainty regarding depositor/creditor legal priority (no negotiation);

  – Pro-rata allocation of losses to uninsured deposits and other unsecured creditor claims, except if protection is consistent with LCR;

  – If concern about adverse externalities, permit partial or total protection ("bailouts") of some or all uninsured depositors/creditors through invoking systemic risk exemption to LCR — bank TBTF;

  – Insured and protected depositors paid quickly;

  – Advance dividends to unprotected depositors/creditors based on estimated recovery values; and

  – Low deadweight legal costs for receiver.

Disadvantages:

- FDIC is a major creditor of banks, not an impartial uninvolved party;
- Least cost resolution ("LCR") applies only to FDIC, not to other creditors, and may be overridden by systemic risk exemption;
- Less concern about unsecured general creditors than uninsured depositors due to depositor preference;
- No ex-ante appeals;
- Limited judicial review for fairness;
- No rehabilitation (loss of ongoing business relationships);
- Eliminates competitor in concentrated market;
- Lack of transparency for FDIC actions;
- No legal standing of interested parties other than FDIC;
- Need for quick determination of what to transfer to bridge or other acquiring bank;
- Excessive regulator flexibility and power, particularly when systemic risk exemption is invoked and can differentiate (cherry pick) among similarly situated creditors;[14]
- Inefficient, if overly hasty sales of assets results in fire sale losses;
- Bridge bank provides unfair competition as it is exempt from federal taxes and private capital requirements. FDIC assumes bridge bank losses;
- LCR override and TBTF protection too easy to invoke; and
- Subject to political pressure.

LCFI RESOLUTION UNDER DFA

Troubled nonbank financial companies are basically resolved through the FBC. But, in response to realized and feared messy resolutions of a number of large nonbank financial firms during the recent financial crisis, the DFA introduced a new regime for some of these firms modeled on the bank reso-

lution regime introduced in FDICIA.[15] The FDIA includes provisions that generally make bank resolutions more efficient than they would be under the FBC. The DFA attempts to borrow some of these features. As in FDICIA, upon the recommendation of two-thirds of the Board of Governors of the Federal Reserve System and of the Board of Directors of the FDIC, the Secretary of the Treasury ("SOT"), after consultation with the president, may classify a LCFI that is either in default or in danger of default and endangers financial stability in the U.S. if resolved otherwise as a Covered Financial Company ("CFC").[16] The CFC is then placed in receivership by the appropriate regulators, rather than its creditors, as under FBC, and resolved under an orderly liquidation authority administered by the FDIC as receiver rather than the FBC.[17] The terms "default" or "danger of default" includes likely depletion of the firm's capital and inability to pay its obligations, including funding, and gives regulators considerable leeway.

The systemic risk determination to classify a company as a CFC is based on a finding by the Secretary of the Treasury that its failure would have serious adverse effects on U.S. financial stability, that no private remedies would prevent default, and that actions under the Act would avoid or mitigate the adverse effects. Among other things, for example, the FDIC can protect some or all creditors partially or fully against loss or delayed access to their eligible funds, if doing so would avoid or mitigate the adverse effects. But, unlike FDICIA for TBTF banks, the FDIC cannot protect shareholders and provide open institution assistance. The bank must be liquidated. Shareholders cannot receive "any payment until after all other claims and the fund are fully paid."[18] Thus, the TBTF bank and its shareholders may have been killed and left for dead, but some or all of its providers of nonequity funds could be kept alive and healthy. The FDIC can, however, also establish a temporary bridge bank to avoid abrupt liquidation. The resolution regimes of all other nonbank financial firms are not affected.

Unlike for banks, under the FDIA, there is a provision for ex-ante appeal. The board of directors of the targeted CFC can object to the appointment of the FDIC as receiver. If so, the SOT must petition the U.S. District Court for consent to make the appointment, which the court may deny within 24 hours. Otherwise, the FDIC is appointed. Except for being prohibited from protecting shareholders, the FDIC as receiver has basically the same powers as it has

under the FDIA. The DFA, like the FDIA, requires the FDIC to assess LCFIs for losses not charged to any protected creditors and other counterparties.

The DFA corrects some but not all of the disadvantages listed above for resolving bank and nonbank LCFIs effectively. Most importantly, it removes the protection of shareholders beyond any residual value after all other claimants are paid in full. But, instead of eliminating TBTF, by explicitly permitting the protection of nonshareholder counterparties, it may institutionalize it.[19] DFA also substitutes the firm closure rule in FDICIA at two percent capital ratio for the more subjective "danger of default" criterion, which permits the regulators to put the institution into receivership either hastily or belatedly. In addition, many of the limitations listed above for the FDIA bank resolution process are maintained. These include limited creditor standing, uncertainty resulting from arbitrary ability to protect some selected creditors "to maintain essential operations or maximize recoveries" regardless of their standing in liquidation, potential loss of a large competitor when few such institutions remain, limited judicial review for equity, and considerable opaqueness.[20] Moreover, why is the FDIC selected as the receiver for many nonbank financial companies? For banks, the FDIC makes sense. It is a major bank regulator and is the major creditor for most banks. But for nonbank financial companies it is less clear. The FDIC is neither their regulator nor a major creditor. Nor does it necessarily have great knowledge of the firm or industry alive or dead. This would be a new area for them with an expected long and difficult learning curve.

A PROPOSED OPTIMAL RESOLUTION REGIME FOR LCFIS

An analysis of the differences in the two regimes before DFA as well as the new DFA regime suggests that one may be able to develop a resolution scheme that is more likely to achieve the objective of an efficient ("orderly") and equitable resolution of insolvent nonbank LCFIs than is likely to be achieved under DFA, without sacrificing market discipline.[21] This may be done by selecting and combining appropriate parts of the bank (FDIA), corporate (FBC), and DFA regimes.[22] A listing of important objectives for resolving insolvent LCFIs should include:

- A stable and efficient financial sector in both the short and long term;
- Impartial and experienced receiver/administrator;
- Legal standing for all interested direct parties:
  - Depositors, creditors, loan customers, other private stakeholders of institution at insolvency; and
  - Regulators acting in public interest.
- Early initiation of the legal process for resolving troubled and insolvent institutions by regulators according to existing PCA powers/authority in FDIA and DFA;
- Treatment of all parties according to their contracts. Maintain legal priorities;
- Maximizing value of assets/firm for all stakeholders;
- Maximize transparency;
- Maximize predictability;
- Subject to ex-ante appeal by parties with standing, except for closure;
- Minimize moral hazard by restricting payments on all claims to their recovery values according to their legal priority but consider adverse potential externalities in treatment of short-term nonsubordinated uninsured/unsecured depositors/creditors. However, maximum protection for these claimants should be only partial, e.g., 98 percent of par value;
- Maintain critical services uninterrupted;
- Minimize cost to taxpayers;
- Free from political influences; and
- Permit prepackaging and similar remedies under PCA.

Using the three alternative regimes as "Chinese menus," one can pick and choose those components that in sum and with the possible addition of other provisions appear most likely to achieve the above objectives for resolving the designated LCFIs efficiently and fairly. The result is basically a hybrid or modified Chapter 11 in which the regulators have legal standing

and, using powers similar to those under PCA in both the FDIA and DFA, can act quickly to put a troubled institution in administration, receivership, conservatorship (bridge), or liquidation. But their actions are subject to limited speedy judicial oversight and final approval. The main elements of such an "optimal" resolution regime are:

- Structure — legal court assisted by experts or masters (judicial);
- Trustee — independent expert appointed by court;
- Choice of Chapter 11 rehabilitation (not terminate charter nor eliminate a major competitor) or Chapter 7 liquidation;
- Initiation of filing for bankruptcy/insolvency/receivership extended to regulators using PCA triggers for minimum capital or danger of default included in the FDIA and DFA. Limited but reasonable ex-ante appeals;
- Legal standing — regulators for public; private direct stakeholders;
- Oversight — court;
- Final authority — court;
- Insolvency prevention — regulators using PCA and DFA provisions;
- Advance dividends to creditors before proceeds from sale of assets (no freezing of recovery values);
- Externality (systemic risk) exemption — Regulators provided with authority to protect some short-term creditors by and within class but on a more limited basis than in FDCIA and DFA;[23]
- Where provided, protection should be only partial, e.g., 98 percent of par or original value. The maximum loss should be small enough to protect creditors and counterparties against their own failure, yet reduce moral hazard behavior. Maintains market discipline by ex-ante threat of run, but with reasonably limited risk taking incentive and relatively small ex-post damage;
- If reorganize/rehabilitate, less need for bridge institutions;
- Losses — pro-rata for noninsured depositor/creditor classes according to priority with negotiation. If externality exemption (systemic risk or

orderly resolution) is invoked and some parties partially protected, additional loss charged to pool paid by LCFIs (Questions of ex-ante or ex-post premiums TBD);

- Management during rehabilitation — new management approved by court; old management generally terminated;
- Stays — to be determined;
- DIP — by government or private;
- Payment of not protected uninsured claims to maintain activities (no freezing) by advance dividends on estimated present value recovery values for creditor class; and
- Clawback — recent non-normal course of business cross-jurisdiction payments.

CONCLUSION

The article examined the pros and cons of the current major alternate resolution regimes in the United States applied to financial companies. Banks are resolved by the provisions of the administratively-based FDI Act with special provisions for select large banks, whose resolution under this regime may promote financial instability if there are losses. Until the enactment of DFA in July 2010, most nonbank financial corporations were resolved basically by the provisions of the judicially-based Federal Bankruptcy Act. The DFA brings large nonbank financial institutions that are viewed as "too big to fail" by regulators under a special FDIA-like resolution process, when there is a default or danger of default. But although an improvement over both the FDIA and the FBC, the new DFA resolution regime is still not optimal for resolving large insolvent NBLCFIs and can be improved.

The article argues that the goals of efficient resolution of NBLCFIs may be achieved better than in the DFA by selecting the appropriate elements of all three current regimes to construct a hybrid or modified Chapter 11-type regime.[24] The regime outlined in this article encapsulates the current FDIA bank resolution process, which is driven by the regulators, within a judicial framework, borrowed primarily from Chapter 11 of the Federal Bankruptcy

Act. It would have an independent expert trustee appointed by the bankruptcy court rather than the FDIC, which for bank creditors has conflicts of interest that question its impartiality and for NBLCFIs little knowledge of the industry. It would permit regulators to fail these institutions and do so earlier than most creditors could. The proposed regime would also enhance transparency and certainty, not reduce the number of large competitors, and reduce the need for bridge institutions that have unfair competitive advantages over solvent institutions. Moreover, by limiting protection of uninsured/unsecured short-term counterparties to less than the full loss in most cases, but also less than is likely to drive them into insolvency, the proposal helps preserve market discipline without sacrificing orderly resolution and sets both an economic and political base for effectively limiting TBTF and possibly even ending it, rather than expanding and institutionalizing it.

The analysis is consistent with the spirit of the studies mandated by the DFA for identifying ways of enhancing the efficiency and fairness of the resolution regimes for LCFIs. Although Congress is unlikely to make major changes in the DFA so soon after its enactment, having a framework for such a proposal, albeit preliminary, lying on the legislative shelf when and if dissatisfaction with the new DFA resolutions process develops, should expedite enacting a more efficient insolvency regime over time.

NOTES

[1] The mandated studies apply both to large nonbank financial companies, whose failure are not viewed as "posing a threat to the financial stability of the United States" and are thus resolved through the existing bankruptcy courts, and those whose failure would pose such a threat and would now be resolved by the FDIC under the new regime. These studies are to be done by the Administrative Office of the United States Courts, the Comptroller General of the United States and the Board of Governors of the Federal Reserve System (U.S. House of Representatives, 2010, pp. 75, 147).

[2] This is particularly true for some relatively small industrial countries, such as Switzerland, the Netherlands, and, until recently, Iceland. In the United States, large banks increased in size significantly after the introduction of interstate banking in 1994 and rescue mergers during the 2007-09 financial crisis.

[3] Banks were nearly always perceived as special. They required special charters and the special treatment for resolving insolvent national banks predates the enactment

of a lasting federal bankruptcy code in 1898 (Bliss and Kaufman, 2006 and 2007).

[4] A number of large nonbank financial firms have received government financial aid on an ad-hoc basis, such as AIG, and a number of large nonfinancial firms have received preferential treatment through government intervention, such as General Motors, Chrysler (twice), and Lockheed.

[5] This article considers only the relationship of the FDIC and TBTF. Other bank regulatory agencies, in particular the Federal Reserve through its discount window and payments systems operations and the Treasury Department, also have provided financial assistance to prevent large financial institutions from either becoming insolvent, or if insolvent, from being resolved in a "disorderly" manner. A good review of all aspects of the federal safety net under large financial institutions during the 2007-09 financial crisis appears in Financial Crisis Inquiry Commission (2010). A history of TBTF for banks appears in Kaufman (2004).

[6] In the 2007-09 crisis, shareholders of both Citigroup and Bank of America Corp were not terminated when the SRE was invoked. Open bank assistance was provided (GAO, 2010 and SIGTARP, 2011). From 1992 through 2010, SRE was invoked five times, all in 2008 and 2009, but effectively affected individual banks only twice.

[7] An analysis of the differences between the bank and corporate insolvency resolution regimes appears in Bliss and Kaufman (2007) and Gibson Dunn (2010).

[8] Paulson (2010), p 216.

[9] This was immediately done in the Lehman bankruptcy by the U.K. bankruptcy administrator, Paulson 2010, p. 230. The U.S. had earlier done this for the U.S. assets of the failed BCCI bank in 1991 (Herring, 2003 and 2010).

[10] U.S. Treasury (2009). p.76.

[11] Bernanke (2010), p. 3.

[12] Singer (2010), p. A21.

[13] As of November 2010, fees associated with the bankruptcy of Lehman Brothers Holdings in September 2008 exceeded $1 billion (Moyer, 2010).

[14] GAO (2010).

[15] Skeel argues that many Congressmen preferred a bankruptcy approach to NBLCFIs, but this would have involved moving the design of the legislation from the banking committees in the House and Senate to the judiciary committees, a move that the banking committees were reluctant to do. Skeel (2011) pp. 53-54.

[16] For dealers and brokers, the SEC replaces the FDIC and for insurance companies the Director of the new Federal Insurance Office replaces the FDIC.

[17] Except for insurance companies, which are resolved at the state level, and broker-dealers which are resolved primarily by the SIPC.

[18] U.S. House of Representatives (2010), p.86.

[19] In its interim final rule for orderly resolution under DFA, the FDIC will consider

protecting some unsecured creditors whose claims have maturities of less than 360 days from date of issue and whose continued provision of funding is perceived essential, but will not protect any longer term claims (Federal Register, 2011).

[20] As the designated receiver, the FDIC has proposed rules that spell out its powers for implementing its new resolution (orderly liquidation) authority under DFA, FDIC Chairman Sheila Bair has stated that: "…the FDIC regularly carries out a prompt and orderly resolution process using its receivership authority for insured banks and thrifts." The Dodd-Frank Act for the first time gives the FDIC a similar set of receivership powers to close and liquidate systemically-important financial firms that are failing.

The FDIC recently issued a proposed rule clarifying how we would handle the claims process under this new authority. The law gives us discretion to pay certain creditors more than others when necessary to maintain essential operations or to maximize recoveries. But our proposed rule makes clear that shareholders and holders of subordinated and senior unsecured debt will never qualify to receive additional payments above the liquidation value of assets under the statutory priority of claims." (Bair, 2010).

[21] It may also be desirable to extend this proposed regime to banks so that, among other things, all bank and nonbank LCFIs, including bank holding companies, would be treated alike.

[22] Other proposals for an optimum Chapter 11-type bankruptcy code for LCFIs appear in Jackson (2010) and Skeel (2011).

[23] Use and misuse of the systemic risk exemption under FDICIA is discussed in GAO (2010).

[24] For a contrary view, *see* Morrison, 2009.

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Papers

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 in the US 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 both the contracts is costly to the FDIC and thus may be inconsistent with least-cost resolution 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. The proposed simulated closeout 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 by charging them the same prorata losses as other general creditors and thus maintaining discipline on banks by large and sophisticated creditors and satisfying least-cost resolution.

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INTRODUCTION

Recent research and experience suggest that federal bank regulators in the United States can resolve most of the 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. But less certainty exists about the ability of regulators to

efficiently resolve some activities important at least at the largest banks, such as derivative contracts, particularly the banks' out-of-the-money (counterparty in-the-money) swap positions.[1,2] These represent creditor claims on the bank and, as other general creditors, share in the recovery value of an insolvent bank's assets after all depositors have been paid in full. At the same time, the flexibility of regulators to protect uninsured depositors and other creditors by invoking the systemic risk exemption (SRE) to the least cost resolution (LCR) provision in the FDIC Improvement Act (FDICIA) — formerly known as 'too-big-to-fail' (TBTF) — has been greatly reduced.

There is widespread fear that abrupt close-outs of swap contracts at large banks may result in fire-sale losses and disruptions not only in replacing these swap contracts under adverse market conditions but also down a chain of such contracts used to hedge the initial contracts and threaten the stability of financial markets.[3] If so, there is a perception that in resolving insolvent larger banks regulators will transfer the banks' out-of-the-money positions to other, solvent banks rather than terminating or closing out the contracts. As a result, the insolvent bank's in-the-money counterparties would have claims on solvent banks and be protected against any losses charged other creditors of the insolvent bank. Because such a strategy is likely to violate the requirements of LCR, 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 large banks. This paper develops a third option for resolving out-of-the-money swap positions at insolvent banks efficiently without requiring either abrupt terminations of the positions or protection of the bank's in-the-money counterparties. The proposal represents a simulated closeout. 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 at lowest indirect spillover cost to other banks or financial markets, that is, minimise 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 uncollateralised off-balance sheet counterparties, such as holders of in-the-money swap positions, to be put at-risk and share in any potential losses with the FDIC, so as to incentise 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[4] … The potential for greater market discipline at large institutions is substantial.[5]

CURRENT FDIC RESOLUTION PROCEDURES

Unlike most other corporations, including bank holding companies, that file for bankruptcy under the federal 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 (FDIA).[6,7] As

amended by FDICIA, FDIA 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 undercapitalised' 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.[8] This arrangement also allows the regulators to prepare the necessary information for speedy distribution to potential bidders for the bank or its assets to maximise recovery values and thus also the distributions to the insolvent bank's depositors and other creditors.

To gain additional time to complete the resolution and reduce discontinuities in the provision of banking services, US banks are generally declared legally insolvent by their chartering or primary federal regulator at the end of business on Thursdays or Fridays. The banks' assets are sold either immediately or through time and the depositors and other creditors paid in full or in part on Monday. Nonshareholder claimants on banks encounter two risks — (1) a credit risk that the recovery value of the assets at insolvent banks fall short of the par value of their claims and (2) a liquidity risk that these claimants are not paid their legally owed amounts immediately upon the bank's resolution but only through time as the bank's assets are sold and an efficient secondary market for these claims does not exist.

The FDIC generally pays insured depositors at insolvent banks in full on Mondays by paying other banks to assume these deposits, by paying the depositors at a paying agent, or by mailing checks directly. Thus, insured depositors in the US currently encounter neither credit nor liquidity risk. Uninsured deposits and other creditors are handled in a number of ways depending on the recovery value of the assets, the speed of sale, and the perceived consequences of imposing losses from shortfalls in recovery values for other institutions and financial stability. If the bank is sold as a whole immediately, the deposits are transferred to the acquiring bank and are immediately available in full if there is no loss and at the prorata recovery value if there is a loss.[9,10] There is a possible credit but no liquidity loss. If the bank or its assets are not sold immediately, the uninsured depositors and creditors receive receivership certificates that are paid as the proceeds from the sale are collected. There is both credit and liquidity loss. If the bank assets can be valued reasonably accurately at the time of resolution however, the FDIC will frequently pay the uninsured depositors and other creditors advance dividends on the certificates equal to the approximate present value of the prorata share of the estimated recovery amount.[11–13] Thus, these depositors frequently have immediate access to the market value of their deposits and experience credit loss but effectively no liquidity loss. They will encounter little banking interruption from the bank insolvency.

If the FDIC, along with the Federal Reserve and the Secretary of the Treasury believe that imposing losses on uninsured depositors or creditors would threaten aggregate financial stability, it could invoke SRE and protect all or some nonshareholder claimants fully or partially.[14] If the FDIC requires additional time to unwind large, complex banks with minimum fire-sale losses and without disturbing depositor access to their funds or borrower access to their credit lines, it can charter a temporary FDIC-operated bridge bank. Such a bank can assume whatever assets, deposits, and other liabilities the FDIC wishes to transfer to it. Thereafter, all liabilities are fully protected against further loss by the FDIC until the bridge bank is resolved.[15]

But resolving some liabilities primarily at large insolvent banks present regulators with particularly challenging problems as both imposing losses and protecting their value are

perceived to have serious negative externalities. This is particularly perceived to be true for a bank's net out-of-the-money swap positions. As noted earlier, hasty unwinding of these positions, if sufficiently large, is widely perceived to trigger significant disruptions and fire-sale losses and, because the positions are frequently hedged by the counterparties with derivative positions with other counterparties, adversely affect a larger number of parties along a chain. For example, the threat of contagion in the form of potential widespread disorderly conditions resulting from rapid unwinding of such a large portfolio upon termination or closeout resulting from a default by a counterparty was a major reason underlying the Federal Reserve's intervention in LTCM in 1998.[16]

Individual swap agreements with the same counterparty are provided special treatment as 'qualified financial contracts' (QFCs) in the bank resolution code and, unlike other accounts, are permitted to be netted.[3,7,17 21] Individual contracts with a single counterparty are typically netted by incorporation in a standardised single master swap agreement developed by the International Swap and Derivative Association (ISDA), so that only the net rather than the gross position is at risk.[3,18] 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 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' net 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.[22 24] On the one hand, the FDIC can repudiate the net contracts, effectively terminating and closing them out at current market value.[25,26] If the net positions are not collateralised, the in-the-money claimants are treated as general creditors of the insolvent bank, who since the Depositor Preference Act of 1993, have lower legal priority than domestic depositors and are subject to potential prorata losses (haircuts) on their claim based on the recovery value of the bank's assets.[27] They receive no special treatment.

On the other hand, as noted above, abrupt closeouts may set off an undesirable chain reaction. Thus, there may be strong incentive for the FDIC to avoid an abrupt closeout of an insolvent bank's swap positions. The FDIC 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 closed out.[23,28] The in-the-money counterparties now have a claim on the new solvent out-of-the-money counterparty. This protects the insolvent bank's in-the-money swap counterparties against loss and treats them differently than other general creditors and possibly even uninsured depositors. The swap counterparties are bailed out. Because the bank's positions are out-of-the-money, the FDIC needs to pay the assuming party the current market value of the net position. This generates a loss equal to the amount of the payment minus any recovery value of the claim on the insolvent bank. If this loss exceeds any remaining value of the other general creditors' claims, the differential needs to be charged against deposits and is partially borne by the FDIC. This resolution is not an LCR and thus appears to require invoking SRE.[14,15,29,30]

Although avoiding potential adverse spillover, by not putting these counterparties at risk, this strategy effectively removes an important group of large and sophisticated creditors from monitoring the credit risk of

their banks and potentially disciplining them in support of the uninsured depositors. 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 closeout nor the bailout resolution strategy appears optimal.

A PROPOSED THIRD ALTERNATIVE — SIMULATED CLOSEOUT

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.[31] 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 would suffer as general creditors in a closeout and they should be no worse off. The out-of-the-money QFC portfolio is transferred at its noncredit impaired market value either to a solvent assuming bank or, if additional time is required to resolve the bank, to a newly chartered, fully guaranteed 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. The FDIC does not incur a loss, and SRE need not be invoked. The procedure combines the advantages of not closing out and the advantages of potential creditor haircuts without the associated disadvantages of either. The closeout is effectively simulated.

This simulated closeout treatment of solvent net in-the-money insolvent bank swap counterparties is effectively comparable to the treatment of the 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 abruptly 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.[20]

The FDIC can encourage simulated closeouts at its insured banks by requiring all swap market participants, who wish to enter into swap counterparty agreements with any insured

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

Figure 1 Bank A, initial balance sheet

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 2 Balance sheet and loss allocation after terminating swap contracts and loss-sharing by all

bank, to agree to permit such resolutions across-the-board if the banks become insolvent.

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 domestic deposits valued at par at $50, and counterparties' net in-the-money uncollateralised swap liabilities valued at market at $10. These counterparties are general creditors of the bank. There are no other creditors. The bank's net worth is $−20 and it is, at least, market value insolvent. This balance sheet is shown in Figure 1. The FDIC is appointed receiver.

Bank sale or liquidation and swap closeouts with no protection for uninsured claimants

The FDIC sells the assets of the bank at their booked market value of $80 and closes out (repudiates) the net out-of-the-money uncollateralised swap position without further loss. Insured depositors are paid in full. Uninsured depositors and the in-the-money swap counterparties receive receivership certificates. Under US depositor preference rules, the first $10 loss is charged to the swap counterparties as general creditors, totally eliminating their claim.[32] 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 per cent ($10/90) loss rate for both classes of deposits. The uninsured deposits lose $5.55 and the FDIC losses $4.45 to protect the insured deposits. Shareholders receive nothing. The resulting balance sheet is shown in Figure 2 (dollar figures are rounded for simplicity). The FDIC's loss in keeping insured depositors whole is shown as a cash infusion to the bank.

This is an LCR strategy. The FDIC's loss arises only from protecting the insured depositors. It also has the advantage that all uninsured claimants are *ex ante* at risk and therefore incentised to monitor and discipline their banks. The strategy has the disadvantage that the abrupt closeout of the swap position could impose transaction costs and even fire-sale losses on the solvent counterparties that may ignite adverse spillover effects in financial

markets as other positions are forced to be closed out with further potential transaction costs and fire-sale losses down the line.

Bank sale or liquidation and swap transfer with full protection of uninsured claimants

The FDIC is permitted to invoke SRE to protect some or all uninsured depositor and creditor claims, including the net in-the-money swap positions. SRE in FDICIA appears to grant the FDIC the authority to protect all uninsured depositors and all creditors or either all uninsured depositors or all creditors, regardless of depositor preference requirements. The assets are again sold at their booked values. But, the bank's out-of-the-money swap positions are not closed out. The entire swap portfolio is transferred by the FDIC to solvent assuming parties. The assuming out-of-the-money counterparties are paid the $10 market price by the FDIC to assume the liability. It is removed from the bank's balance sheet. The in-the-money counterparties now

Figure 3 Balance sheet and loss allocation after (a) transfer of swap contracts and loss-sharing by uninsured depositors and (b) transfer of swap contracts and total loss borne by FDIC

have a claim on the new solvent out-of-the-money counterparties and are thus protected against the insolvency loss.[33] They are better off than if the contract was repudiated by the FDIC and are unlikely to force closeout. In Figure 3a, unsecured creditors (swap counterparties) are protected fully and uninsured depositors are not. The entire $20 loss is shifted to the uninsured depositors and the FDIC and shared proportionately. Both suffer a loss rate of 22 per cent. The $10 FDIC payment to the new solvent bank swap counterparty is shown as a decline in the insolvent bank's assets offset by the removal of the $10 swap liability and the FDIC share of the loss is shown as a $9 cash infusion to protect the insured depositors.

But it may not be equitable to protect the swap creditors and not the uninsured depositors, who have higher standing. In Figure 3b, both creditors and insured depositors are protected under SRE and the entire $20 insolvency loss is borne by the FDIC through a cash infusion. The larger FDIC losses in both examples relative to strategy 1 in Figure 2 reflect the permissible violation of LCR.

The primary advantage of these two strategies 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 even larger eventual losses to the FDIC because large, presumed sophisticated swap creditors and possibly also 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.

Bank sale or liquidation and swap transfer with no protection for 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 solvent assuming third parties at the existing $10 market price with payment to these parties by the FDIC from the bank's assets. Neither the in-the-money counterparties nor the depositors are, however, protected. SRE is not invoked. Instead, the swap counterparties are charged the $10 loss, by the FDIC, which is collected in a separate payment, and the insured and uninsured deposits are charged the remaining $10 loss proportionately.[34] 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 assets and cash infusions of $10 by the in-the-money swap counterparties and $5 by the FDIC to protect the insured deposits. The resolution satisfies LCR.

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

Figure 4 Balance sheet and loss allocation after swap transfer and loss-sharing by all (No SRE)

CONCLUSION

This paper discusses the disadvantages of the two methods currently available to the FDIC to resolve out-of-the-money swap positions of insolvent banks. In contrast both to swap transfers that fully protect the in-the-money counterparties and to swap closeouts that may

ignite contagious fire-sale losses, the paper proposes a third method — simulated closeouts. The primary advantage of the simulated closeout alternative is that, unlike in swap transfers, the swap counterparties and other uninsured claimants remain at *ex ante* risk, but any adverse spillovers from abrupt termination of the swap positions are avoided. The FDIC suffers no loss and the process is consistent with least-cost resolution. Although suffering a loss, the in-the-money counterparties are no worse off than in swap closeouts. The primary disadvantage of this strategy may be that its introduction may require new legislation to require bank swap counterparties to enter into a master agreement with the FDIC to be subject to prorata loss sharing in exchange for entering into swap agreements with FDIC insured banks.

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References

(1) Another 'off-balance sheet' activity that recently appears to have caused the FDIC a problem in resolutions is securitised credit card portfolios.[2]

(2) Blackwell, R. (2002) 'The resolution of NextBank: Did FDIC make costly blunder?' *American Banker*, December 26, pp. 1, 4.

(3) Bliss, R. R. and Kaufman, G. G. (2006) 'Derivatives and systemic risk: Netting, collateral and closeout', *Journal of Financial Stability*, Vol. 2, pp. 55–76.

(4) Greenspan, A. (2000) 'Banking Evolution', *The Changing Financial Industry Structure and Regulation*', Chicago: Federal Reserve Bank of Chicago, May, pp. 1–14.

(5) Greenspan, A. (2001) 'The Financial Safety Net', *The Financial Safety Net*', Chicago: Federal Reserve Bank of Chicago, May, pp. 1–8.

(6) See Bliss and Kaufman.[7]

(7) Bliss, R. R. and Kaufman, G. G. (2007) 'U.S. corporate and bank insolvency regimes: A comparison and evaluation', *Virginia Law and Business Review*, Vol. 2, pp. 143–177.

(8) At the country's largest banks, the regulators maintain a permanent on-site supervisory presence.

(9) Berger and Udell[10] 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.

(10) Berger, A. and Udell, G. (2002) 'Small business credit, availability and relationship lending', *Economic Journal*, Vol. 112, pp. F32–F53.

(11) Kaufman, G. G. and Seelig, S. A. (2002) 'Post-resolution treatment of depositors at failed banks', *Economic Perspectives*, Federal Reserve Bank of Chicago, 2Q, pp. 27–40.

(12) The uninsured depositors also receive a claim on the FDIC as receiver for the bank for any prorata amount that the actual recovery value realised 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. Depositor preference provisions in FDIA subordinate the claims of general creditors to the FDIC and uninsured domestic depositors.

(13) In addition, as discussed later, the FDIC 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 loans.

(14) Kaufman, G. G. (2004) 'Too big to fail in U.S. banking: Quo Vadis', in Gup, B.E. (ed.), 'Too Big Too Fail: Policies and Practices', Praeger, Westport, CT, pp. 153–167.

(15) Bovenzi, J. F. (2002) 'An FDIC Approach to Resolving a Large Bank', *Financial Market Behavior and Appropriate Regulation Over the*

Business Cycle', Chicago: Federal Reserve Bank of Chicago, May pp. 56–61.

(16) 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.

(17) Unlike the corporate bankruptcy code, which generally prohibits netting, netting is explicitly authorised 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 authorised for nonbanks in a 1990 amendment to the bankruptcy code and proposals 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.[3,7,18–21] 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.

(18) Bergman, W., Bliss, R. R., Johnson, C. A. and Kaufman, G. G. (2003) 'Netting, financial contracts, and banks: The economic implications', in Kaufman, G.G. (ed.), 'Market Discipline in Banking: Theory and Evidence', Elsevier, Amsterdam, pp. 303–334.

(19) Bliss, R. R. (2003) 'Resolving large complex financial organizations', in Kaufman, G.G. (ed.), 'Market Discipline in Banking: Theory and Evidence', Elsevier, Amsterdam, pp. 3–31.

(20) Federal Deposit Insurance Corporation Improvement Act of 1991 (1991) (Report 102-907), U.S. House of Representatives, Washington, DC, 27th November, 1991.

(21) Ireland, O. (1999) 'Testimony on Proposed Bankruptcy Reform Act of 1999', Board of Governors of the Federal Reserve System, Washington, DC, March 18.

(22) The appointment of a receiver does not, *per se*, represent a default and cause for contract termination by the bank counterparty. If the FDIC does not act on the contracts within the stay period, the solvent counterparties can terminate the contracts.[23,24] If the FDIC is appointed as a conservator, the stay for termination by the bank counterparty for contracts not repudiated or transferred is longer. QFCs do not appear to be subject to stay under the general corporate bankruptcy code for nonbanks.

(23) Krimminger, M. (1998) 'Insolvency in the Financial Markets: Banks, Hedge Funds, and Other Complications', Working Paper, FDIC, Washington, DC.

(24) Simmons, R. J. (2001) 'Bankruptcy and Insolvency Provisions Relating to Swaps and Derivatives', *Nuts and Bolts of Financial Products*', New York: Practicing Law Institute.

(25) Market value is generally determined by the middle of three solicited bids. Methods for valuing terminated contracts are discussed in Ronalds.[26] If valued incorrectly because of haste, remedies exist for later correction.

(26) Ronalds, N. (2002) 'How markets cope when a big player goes bust', *Global Financial Markets*, Vol. 19, pp. 41–60.

(27) Kaufman, G. G. (1997) 'The new depositor preference act', *Managerial Finance*, Vol. 23, No. 11, pp. 56–63.

(28) As Krimminger[23] notes, transfer 'allows the conservator or receiver the opportunity to preserve the value of such contracts, while permitting counterparties to maintain valuable hedge transactions'.

(29) 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.[15] 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.[30] The difficulties and potential delays in invoking SRE are discussed in Kaufman.[14]

(30) Bennett, R. L. (2001) 'Failure resolution and asset liquidations', *FDIC Banking Review*, Vol. 14, No. 1, pp. 1–28.

(31) The solvent in-the-money counterparties can, of course, protect themselves against loss by maintaining a zero net position or over-collateralising their positions.

(32) Alternatively, if the market value of the bank's assets was \$96, so its negative net worth was only \$4, the in-the-money swap counterparties would receive \$6 on their \$10 claim for a net loss of \$4. Because the loss is less than 10, there would be no loss to the FDIC or uninsured depositors, who have higher legal priority.

(33) If the bank assets were \$96, the FDIC would still need to pay the assuming counterparties \$10 but would receive \$6 in recovery value for a net loss of \$4.

(34) If the bank assets were \$96, the \$4 loss to the FDIC in transferring the out-of-the-money swap positions to the new counterparties is offset by an equal \$4 charge to be paid to the FDIC by the in-the-money counterparties. The FDIC experiences no loss.