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Wind-down Plans as an Alternative to Bailouts: The Cross-Border Challenges

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Bailouts of systemically important financial institutions (SIFIs) have required interventions in the United Kingdom, United States, and euro area totaling over $14 trillion, equivalent to about a quarter of the global GDP (Haldane, 2009).[1] SIFIs are deemed too big or too complex or too interrelated to be permitted to cause loss to creditors or counterparties, although generally these institutions are referred to as simply "too big to fail," which ignores some of the most important dimensions of the problem. One of the most unfortunate legacies of the current crisis is the lesson that policy makers drew from the market chaos in

The author is grateful to participants in the Stanford seminar and particularly to Ken Scott for comments on an earlier draft.

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the aftermath of the bankruptcy of Lehman Brothers, the one SIFI that was permitted to cause loss to creditors and counterparties. The ministers of the G-20 appear to have decided that they would provide whatever subsidy necessary to avoid the disruptions that might occur in subjecting any other SIFI to the bankruptcy process, with the headline in the *Financial Times* stating, "Ministers pledge 'no more Lehmans'" (Guha, 2008).[2]

Leaving aside the troublesome but important problem of identifying SIFIs,[3] reliance on bailouts of all creditors and counterparties not only has been very costly to taxpayers but has purchased financial stability in the short run at the cost of a heightened risk of larger, more frequent, costlier crises in the future. When all creditors and counterparties are protected from loss, they have reduced incentives to monitor SIFIs. Moral hazard increases because managers can take greater risks without having to pay higher risk premiums. Indeed, as the stake of equity holders declines to zero, managers may be tempted to play "go for broke" on the basis of the implicit guarantee from taxpayers. As Mervyn King (2009:4), governor of the Bank of England, has noted, "The massive support extended to the banking sector around the world . . . has created possibly the biggest moral hazard in history."

The costs of financial crises should not be measured simply in terms of their impact on public finances, the destruction of wealth, and the loss of jobs and output, but also in the loss of trust in the fairness and efficiency of the financial system. This has been particularly true over the last two years in which the principal, direct beneficiaries of bailouts have been sophisticated counterparties (often other SIFIs), which benefited greatly from the preceding boom and should have

been in the best position to monitor and exercise market discipline over their peers. Distrust in the fairness of the financial system is only exacerbated when SIFIs that have repaid their subsidies from the Troubled Asset Relief Plan then pay bonuses that dwarf the lifetime earnings of many taxpayers.

Not only do bailouts impose heavy costs on taxpayers and increase incentives for risk taking, but they also waste resources by sustaining huge, zombie-like institutions that warehouse large amounts of dodgy debt, rather than serving as useful intermediaries. This delays economic recovery and the creative destruction that is the essence of dynamic capitalism.

Moreover, after the crisis is over, the expectation that an institution would be likely to receive a bailout in the future provides an unwarranted competitive advantage to SIFIs that bears no relationship to their ability to allocate capital efficiently or serve their customers more effectively. Confidence in implicit government backing permits SIFIs to fund themselves more cheaply and collect revenues from issuing guarantees they are not prepared to honor. This distortion of competition favors the large and complex financial institutions relative to smaller, simpler institutions that may serve their customers and society more efficiently.

Thus, bailouts provide incentives for institutions to become increasingly large, interconnected and complex in order to benefit from this implicit government subsidy. Perversely, governments often explicitly subsidize the creation of larger SIFIs as, for example, in the merger of Bear Stearns with JPMorgan Chase, or Merrill Lynch with Bank of America. And, had it not been for a change in the interpretation of the tax law that permitted Wells Fargo to claim $16 billion in tax losses from merging with Wachovia, the government

would have subsidized the merger between two floundering giants—Wachovia and Citibank. In 1998, the five largest banks controlled 8 percent of global banking assets; now they control more than 16 percent (Haldane, 2009).

Why do officials feel compelled to provide bailouts? It is often because they lack tools to unwind the affairs of a SIFI without creating feared intolerable spillovers to the rest of the financial system. The principal, perceived channels of contagion include (1) interconnections with other SIFIs that are often extremely opaque and can change almost instantly, so that the collapse of one SIFI may possibly lead to the collapse of others;[4] (2) the inability to continue systemically important services such as third-party repo market making, custody, clearing and settlement during a wind-down of nonessential activities; (3) the inability to deal with international corporate complexity. The latter point is little discussed but deserves special attention. The sixteen large, complex international financial institutions identified by the IMF and the Bank of England have 2.5 times more majority-owned subsidiaries than the sixteen largest multinational manufacturing firms. This difference is undoubtedly due to the fact that banks have greater flexibility in avoiding taxes by booking business in tax havens than most manufacturing firms and because banks can often avoid burdensome regulations by conducting activities abroad. This suggests that the first-best solution to this problem might be for the tax and regulatory authorities to eliminate the incentives they have created, often inadvertently, for banks to adopt complex corporate structures.

The most complex SIFI has 2,435 majority-owned subsidiaries, 50 percent of them chartered abroad (see Herring

and Carmassi (2009)). As emphasized later in this chapter, this international corporate complexity presents a formidable challenge to an orderly unwind, because countries differ with regard to virtually every aspect of how they resolve a failing financial institution. But even within one country, a SIFI may be subject to multiple regulators, each of which has different objectives and different procedures for dealing with a failing institution. In the absence of an *ex ante* agreement on the sharing of losses, it is likely that most regulatory authorities will ring-fence the assets that they can control in order to make sure that they fulfill their responsibilities to the groups they are charged with protecting, which inevitably leads to lengthy litigations.

For example, in the United States, a financial conglomerate may be subject to separate resolution actions by multiple entities—each with a different process, different objectives, and different timetables. A failed depository institution will be subject to Federal Deposit Insurance Corporation (FDIC) procedures constrained by least cost resolution requirements and domestic depositor preference laws. A failed broker/dealer will be subject to Securities Investor Protection Corporation (SIPC) procedures. An Edge Act subsidiary could be liquidated by the Federal Reserve Board (Fed), or the Fed may choose to turn it over to the bankruptcy courts. A failed insurance subsidiary would be subject to separate, state-specific procedures in each of the states in which it operates. The parent holding company and most other subsidiaries would be subject to normal bankruptcy processes. These separate proceedings serve different policies with different priorities and objectives. The United States is not alone in this respect. The Report and Recommendations of the Cross-Border

Resolution Group (2009:18) notes even, "At the national level few jurisdictions have a framework for the resolution of domestic financial groups or financial conglomerates."

What can be done to end bailouts? Two alternatives are currently under consideration: (1) accept the fact that we will have an increasing number of SIFIs, but subject them to much tougher capital regulation and more intensive supervision in an attempt to prevent all failures, or (2) require that each SIFI devise a wind-down plan that will assure its board, primary supervisor, and college of supervisors (if any), that it can be wound down without creating intolerable spillovers. Each will be examined in turn.

HIGHER CAPITAL REQUIREMENTS AND MORE INTENSE SUPERVISION

The G-20 has agreed that all banks will be subject to higher capital requirements and will be required to meet these requirements with higher-quality capital that can serve as a buffer against loss. Based on past performance, it is difficult to be optimistic about this approach. The five largest U.S. financial institutions that either failed or were forced into government-assisted mergers in 2008—Bear Stearns, Washington Mutual, Lehman Brothers, Wachovia, and Merrill Lynch—were each subject to Basel Capital standards, and each disclosed Tier 1 capital ratios ranging from 8.3 percent to 11.0 percent in the last quarterly report before they were effectively shut down (Bloomberg, 2009). These capital levels were from two to almost three times the regulatory minimums.

More capital is a very slender reed to sustain the stability of the financial system. As these examples show, capital can

decline at an alarming rate in a crisis. This is partly because of accounting conventions that permit banks to conceal losses in a variety of ways until the end is near and partly because regulators often prefer to forbear rather than force losses to be recognized. The main problem, however, is that any reasonable level of capital may be simply overwhelmed by the losses that can occur in a crisis. Moreover, higher capital requirements can motivate greater risk taking unless precisely calibrated.

In addition, reliance on capital requirements ignores the remarkable ability of financial institutions to devise new ways to engage in regulatory capital arbitrage. A recent case is the attempt by the Basel Committee to impose punitive capital charges against resecuritizations to discourage banks from holding CDOs and other complicated, resecuritized assets. For the example, a BB-rated tranche of a mortgage-backed security incurs a risk weight of 350 percent under the Basel II standardized approach. Under the new rules, the BB-rated tranche of a *re*securitized asset incurs a capital charge of 650 percent. Similarly, an AAA-rated tranche of an original securitization receives a 20 percent risk weight, while a *re*securitzed tranche receives a 40 percent risk weight.

The market quickly responded to this increase in capital requirements by devising a new resecuritization technique called a Re-Remic.[5] Re-Remics have been used to resecuritize senior, private-label MBS tranches that have been downgraded from their original AAA ratings to BB. In a typical Re-Remic, a downgraded tranche is subdivided into a new, resecuritized AAA-rated senior tranche and a lower, mezzanine resecuritized tranche rated BB. Additional credit enhancement is provided by an option for the new

senior tranche to be resubdivided into two exchange classes of securities in the event the resecuritized Senior AAA tranche loses its AAA rating. A typical Re-Remic structure is depicted in figure 7.1 in the appendix to this chapter. Even if the bank retains the complete resecuritization on its books, its required capital will fall relative to the initial situation in which it would be charged 350 percent against the full amount of the downgraded security. This remains true even if the bank exercises the exchange option. Moreover, banks can and do simply exchange downgraded securities in a Re-Remic transaction, and each ends up with less capital required to support the same amount of risk.

More troubling still is evidence that bank examiners, who are the front line of the supervisory system and are supposed to be making candid evaluations of the institutions they monitor, may be giving more lenient treatment to SIFIs. The primary tool of bank supervision is the CAMELS rating assigned to each bank, which is based on the examiner's assessment of the bank's capital adequacy, asset quality, management, liquidity, and sensitivity to market risks. These ratings are shrouded in secrecy and, until last June, have been more successfully protected than nuclear secrets. But the CAMELS rating for a very large SIFI was revealed last June in material subpoenaed by Congress from the Federal Reserve Board (see Keoun and Mildenberg, 2009). This SIFI had received a $34 billion bailout and had an order to raise $34 billion more in capital. It had made two disastrous acquisitions, and its CEO was in trouble with the SEC and being sued by shareholders. Moreover, the board had made no succession plan for departure of the CEO, surely one of the most fundamental responsibilities of good corporate

governance. Nonetheless, this firm received a CAMELS rating of 2, which is used to designate banks that present "few, if any supervisory concerns" (Lopez, 1999). It is hard to imagine that a non-SIFI with similar problems would have received nearly as favorable a CAMELS rating.

Unfortunately, neither the Obama administration's proposal nor the G-20 proposals address the underlying causes of poor supervisory performance. Supervisors are burdened with a wide variety of ill-defined objectives, making it very difficult to hold them accountable for any particular objective. Moreover, their compensation system is generally not designed to motivate strong performance in protecting the interests of taxpayers (see Herring, 2009).

Wind-down Plans[6]

Fortunately, the G-20 has proposed another approach that may turn out to be more promising. The G-20 has agreed to force SIFIs to "develop internationally consistent, firm-specific . . . resolutions plans" (G-20, 2009a). Although the G-20 has so far supplied few specifics about what such plans should contain, based on interviews with bankruptcy practitioners and bankruptcy lawyers, I will speculate about what an ideal plan should contain.

The wind-down plan should be designed to accomplish a number of different objectives. First, it should protect taxpayers from the necessity of bailing out SIFIs by providing an alternative resolution method that will not require a taxpayer subsidy or impose intolerable spillovers on the rest of the financial system. Second, it will make clear to SIFIs, the market in general, and creditors and counterparties

in particular that no SIFI need be bailed out. This should increase market discipline and help level the playing field by removing the implicit government guarantee. Third, making a credible wind-down plan will force SIFIs to anticipate and internalize some of the spillover costs that might occur if they should become insolvent. Ideally, maintaining a credible wind-down plan should be viewed as much a part of good governance as maintaining a business continuation plan. Fourth, it will make the primary supervisor aware of what they must be prepared to do if a SIFI approaches insolvency. Fifth, it will make the college of supervisors (if any) aware of the measures they must take to minimize spillovers that might otherwise occur if a SIFI should become insolvent. This will have the dual advantages of forcing each member of the college to reveal to each other what they are likely to do in the event a SIFI becomes insolvent, and, over time, it may provide an impetus for harmonizing at least some resolution procedures.

The wind-down plan begins with the assumption that the SIFI is insolvent.[7] The SIFI should write a plan that would specify precisely what it would do in the event of insolvency. (Note that in contrast with the British living will concept, which takes into account plans for averting insolvency, this wind-down plan begins with the assumption of insolvency.) The wind-down plan, in my view, should contain several mandatory elements. First, the SIFI must map its lines of business into the corporate entities that must be taken through some sort of resolution process in the event of insolvency, and each of these separate entities must be justified to the board and, ultimately, the primary supervisor.[8] The resolution procedures must be described for each entity,

including an estimate of how long they will take. The dialogue between the SIFI and the primary supervisor is likely to be contentious at first because it will represent a dramatic change from past practice. As Lord Turner, chairman of the Financial Services Authority in Britain, has noted, "In the past, authorities around the world have tended to be tolerant of the proliferation of complex legal structures designed to maximize regulatory and tax arbitrage. Now we may have to demand clarity of legal structure" (Giles, Jenkins, and Parker, 2009).

Second, the SIFI must identify key interconnections across affiliates such as cross-guarantees, stand-by lines of credit, or loans that link the fate of one affiliate to that of another. The plan should also identify operational interdependencies such as IT systems, liquidity, and risk management procedures that would impede the separation of one unit from another.

Third, the SIFI will be required to develop and maintain a virtual data room that contains information that an administrator or resolution authority would require to make an expeditious resolution of the entity. This is likely to require investment in new management information systems that can provide information such as organizational structures, loan exposures, and counterparty exposures disaggregated by borrower or counterparty and by legal entity.[9]

Fourth, the SIFI must identify key information systems, where they are located, and the essential personnel to operate them. Plans must be made to make these systems available to all entities during the resolution process, whether they are operated by the SIFI or are outsourced to a third party. As a practical matter, this may require that IT operations be

segregated in a separate subsidiary that could continue to function while the rest of the firm is being resolved.

Fifth, the SIFI must identify any activities or units it regards as systemically relevant and demonstrate how they can continue to operate during a wind-down. This will usually require that they be separately incorporated and capitalized and easily detached from the group, so that some other entity can keep the systemically important function going.

Sixth, the SIFI must consider how its actions may affect exchanges, clearinghouses, custodians, and other systemically important elements of the infrastructure. Ideally it should identify ways it can disconnect from these highly automated systems without creating serious knock-on effects. This will require cooperation with these systemically important parts of the infrastructure. A particularly good example of this in the past was the effort to make the Clearing House Payments System able to sustain the failure of its four largest members.

Seventh, the SIFI must identify precisely the procedures it would follow in a wind-down. This report should be quite detailed, including at a minimum a list of bankruptcy attorneys and administrators who might be consulted, individuals who would be responsible for press releases and the various notifications, and a good faith estimate of the time it would take to unwind each separately chartered entity.

Eighth, the unwind plan must be updated annually, or more often if a substantial merger or acquisition or restructuring introduces additional complexity. Of course, this deals with issues of legal structure, not risky positions, which may change very rapidly.

Management of the SIFI must demonstrate to its board that the unwind plan is complete and feasible. Boards should

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recognize that oversight of wind-down plans is as much their responsibility as oversight of business continuation plans. Indeed, when the SIFI approaches insolvency, the board's fiduciary duty becomes one of maximizing the bankruptcy estate that can be passed on to creditors.[10] If the board finds the plan is excessively complex or time-consuming, it has a duty to require management to simplify the corporate structure of the firm, invest in more powerful and comprehensive IT systems, or reduce the geographic range or scope of its activities so that it can be wound down in a reasonable amount of time.[11] This process may also have a useful side benefit. Considerable research in cognitive psychology shows that decision makers are likely to be more risk averse when they are forced to confront worst case scenarios even if they consider them unlikely to happen (see Guttentag and Herring, 1984, and references therein).

Next, the primary supervisor must evaluate the wind-down plan in detail (if appropriate with a national college of supervisors). It must certify that the plan is feasible, and the estimated time for the wind-down is plausible and acceptable. In addition, it must ensure that all systemically important activities have been identified and properly insulated, so that they could be spun off to another firm in the event of insolvency. If the primary supervisor finds the plan is not feasible or would take an unacceptable amount of time to execute, it should have the power to compel the SIFI to simplify its corporate structure or improve its IT infrastructure or spin off activities that cannot be unwound without creating intolerable spillovers.

This is a highly controversial point, but unless some authority has the power to compel action,[12] no meaningful

action is likely to be taken, and the entire exercise will become a senseless and costly ticking of boxes. It may even prove counterproductive to the extent it encourages market participants to believe that a problem has been solved, when in fact it has not. It would be undesirable for regulators to force a cookie-cutter structure on a SIFI purely for supervisory convenience, but supervisors should be empowered to meet the goals of a good wind-down process, perhaps by raising the costs of supervising complex institutions, substantially and in proportion to their complexity. Institutions could then have some degree of choice over the way in which they become less complex.[13]

Many experts would prefer a much softer approach in which the supervisor would send the plan back to the board and management with comments noting perceived deficiencies and asking for remedial action or an explanation, which might be publicly disclosed. Unfortunately, this more gentle approach, akin to moral suasion, is unlikely to be very effective, particularly when we start from a position in which so many financial firms have become much too complex to take through any kind of resolution procedure in a reasonable amount of time. Moreover, it seems naive to expect that firms would willingly give up the complexity that virtually assures them access to the safety net and a competitive edge over other smaller, less complex institutions.

Imposing constraints on the size or structure of firms has traditionally been justified on grounds of competition policy, not as a way of enhancing financial stability. But what was once unthinkable is now being widely discussed. As former secretary of state and of the Treasury George Shultz has said, "Any bank that is too big to fail is simply too big."

In addition, Alan Greenspan, former Fed chairman, has recently spoken in favor of breaking up banks that are too big to fail because they interfere with the creative destruction that is essential to a dynamic economy.[14] Phillip Hildebrand (2009), vice governor of the Swiss National Bank, has stated the case a bit more cautiously:

> Size restriction would, of course, be a major intervention in an institution's corporate strategy. . . . For this reason, the advantages and disadvantages of such a measure would have to be examined and weighed very carefully. Nevertheless, in the case of the large international banks, the empirical evidence would seem to suggest that these institutions have long exceeded the size needed to make full use of these advantages.[15]

Perhaps, most surprisingly, Jamie Dimon, CEO of JPMorgan Chase, has endorsed a resolution mechanism that would wipe out shareholders and impose losses on creditors but protect the financial system when a SIFI fails. "We think everything should be allowed to fail . . . but we need a resolution mechanism so that the system isn't destroyed. To dismantle a bank in a way that doesn't damage the system should be doable. It's better than being too big to fail" (quoted in Sender, 2009).

Moreover, such restrictions can be justified on grounds of competition policy. Indeed, the EU has a mechanism for doing so. In recent months European Commissioner for Competition, Neelie Kroees, has required that ING, the Royal Bank of Scotland, and Lloyds downsize to compensate for the anticompetitive effects of the subsidies they

have received. The Competition Commissioner can force banks to do many things, including "divest subsidiaries or branches, portfolios of customers or business units, or to undertake other such measure . . . on the domestic retail market. . . . In order for such measures to increase competition and contribute to the internal market, they should favor the entry of competitions and cross-border activity. . . . A limit on the bank's expansion in certain business or geographical areas may also be required" (European Union, 2009: C15). The United States lacks any mechanism for considering such issues. And although this is action taken after the extension of a bailout, it seems preferable to the frequent pattern in the United States of subsidizing the merger of a very large bank with another even larger bank without any regard for competitive effects.

During this process, the primary supervisor will gain an understanding of the regulations and tax provisions that provide SIFIs with incentives to adopt such complex corporate structures. It may be excessively optimistic to hope that these insights will help inform future regulatory, accounting, and tax reforms, but it would be useful, nonetheless, to confront regulators with some of the unintended consequences of their actions.

The potential benefits from developing wind-down plans are substantial. First, the process should reduce moral hazard by making it clear to creditors and counterparties that a SIFI can be resolved in such a way (see chaps. 9 and 11 in this volume) that it may impose losses on them without catastrophic consequences for the rest of the financial system. In its reaction to the "living will" proposal in the United Kingdom, Moody's provided indirect evidence that this might be

quite effective. It warned the British authorities that such an approach "would remove the necessity to support banks as banks would no longer be too interconnected or complex to fail. This could potentially result in rating downgrades where ratings currently incorporate a high degree of government support" (quoted in Croft and Jenkins, 2009).

Second, gaining approval of the wind-down plan will cause SIFIs to simplify their corporate structures and make preparations so that less of the bankruptcy estate is consumed by a frantic, last-minute attempt to formulate and execute a wind-down plan. These amounts can be quite substantial. The administrators of the Lehman bankruptcy have estimated that at least $75 billion (Cairns, 2009: 115) was wasted because of the lack of any preparation for bankruptcy.

Third, developing the plan may cause SIFIs to reduce their risk exposures because of greater awareness of the board, more thorough analysis by supervisors, and greater discipline by creditors and counterparties.

Fourth, it will help level the playing field between SIFIs and smaller, less complex institutions so that profits and market share flow to institutions that provide the best services most efficiently rather than to institutions that benefit from an implicit guarantee.

Of course, wind-down plans may have both private and social costs as well as these benefits. With regard to private costs, it will certainly increase the compliance costs for SIFIs. But some of the upgrades in IT systems may enable them to manage their businesses more effectively, as well as facilitate a wind-down.[16] It may also reduce the efficiency with which the SIFI can deploy its capital and liquidity, but often these

efficiencies have proven illusory in a crisis,[17] to the extent that capital and liquidity may be ring-fenced by regulators (both domestic and foreign) who believe their main duty is to protect the customers of the SIFI in their domain. It may increase capital requirements and tax payments to the extent that corporate simplification requires the elimination of entities used to engage in regulatory arbitrage and tax avoidance. But this is a private cost, not a social cost.

With regard to social costs, there is a danger that wind-down plans could limit potential economies of scope and scale. But there is little evidence of either in the academic literature for institutions of even $20 billion,[18] much less the multitrillion-dollar institutions that we have encouraged. Moreover, at any given scale, the difference in efficiency between the least-cost and the highest-cost producers dwarfs any gains from economies of scope or scale. In any event, technology-intensive activities, which because of their heavy fixed costs, do appear to create genuine economies of scale in some lines of business, could be spun off and operated as utilities so that firms of all sizes could benefit.

By reducing leverage, wind-down plans may increase the costs of intermediation. But since excessive leverage is heavily implicated as a cause of the recent crisis, this may actually be a benefit rather than a cost.

The most substantial obstacle to devising a credible wind-down plan, however, may be the profound differences across countries in the way in which financial institutions are resolved.[19] Most SIFIs have significant international operations that complicate any wind-down plan. Of the sixteen Large Complex Financial Institutions (LCFIs) identified by the Bank of England and the IMF, one had 96 percent of

its majority-owned subsidiaries chartered abroad. We should have learned about these problems from earlier crises, but there is very little evidence of officials having taken measures to deal with these issues more effectively when they arise again, as they inevitably will.

CROSS-BORDER OBSTACLES TO WIND-DOWN PLANS

A series of close calls has given us a glimpse of the damage that can occur in the collapse of an internationally active financial institution, but until very recently these cross-border issues have not had a prominent place on the international regulatory agenda. All of this has changed with the bankruptcy of Lehman Brothers. But many of the difficulties could have been anticipated from earlier collapses.

The closure of Bankhaus Herstatt in 1974 provided one of the first examples in the post-World War II era of the complications in a cross-border collapse. Herstatt was notorious for overtrading. When the German supervisors found that it was insolvent, it was closed at the end of the German business day, which was during the middle of the clearing and settlement process at the Clearing House Interbank Payments System in New York, where the dollar leg of most large-value foreign exchange transactions is settled. The consequence was that several institutions that had sold European and Asian currencies to Herstatt earlier in the clearing day, in the expectation of receiving dollars, found that they had unexpectedly become claimants in a German bankruptcy proceeding that extended for decades. Even though Herstatt was not a large institution, the disruption

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it caused in the foreign exchange market caused the largest foreign exchange market at the time (the dollar/Deutschemark market) to nearly collapse for several months.

This event also highlighted the importance of differences in time zones. A regulator in one country can affect the distribution of losses by the time it chooses to close a financial institution. To avoid similar disruptions in the foreign exchange markets, the authorities have usually tried to be careful to close banks over weekends to minimize the disruption of the clearing and settlement process. Finally, some thirty years later, the foreign exchange problem was largely solved with the launch of the Continuously Linked Settlement Bank and the extension of clearing and settlement hours by key central banks.

The Lehman collapse serves as reminder, however, that the foreign exchange market is not the only critical market in which the clearing and settlement process is vulnerable. Lehman's bankruptcy has led to civil proceedings on three continents where transactions were aborted in the middle of the clearing and settlement process. In the four Lehman subsidiaries that are being administered by PwC in London, about forty-three thousand trades are still "live" and will need to be negotiated separately with each counterparty (see Hughes, 2008).

The Lehman collapse also reminds us that a regulatory authority can still affect the international distribution of losses by when it chooses to initiate closure. Lehman managed its cash position on a global basis, sweeping all of the cash balances into the holding company in New York and then sending cash out to each subsidiary at the beginning of the next business day. Because the U.S. authorities chose to

send the holding company to bankruptcy court before the open of business in Asia,[20] many of the solvent foreign subsidiaries were immediately forced into bankruptcy because they lacked liquidity to meet margin calls or complete transactions. Most are now suing the holding company.

The collapse of Banco Ambrosiano in 1979 taught investors and counterparties that a claim on the headquarters is not equivalent to a claim on a foreign subsidiary. But this lesson was lost on many of the counterparties to, clients of, and lenders to Lehman Brothers, who were unable to prove where their claims resided. The Lehman Brothers group consisted of 2,985 legal entities that operated in 50 countries. Most of these entities were subject to regulation by the host country as well as oversight by the SEC. The integration of the organization was such that a trade performed in one company could be booked in another, without the client necessarily being aware that the location of the asset had shifted. When subsidiaries entered insolvency proceedings, the shared systems for intercompany information were shut down, causing a total breakdown in financial reporting for the worldwide group. Because the IT system was decentralized and considered the property of some entities but not others, several subsidiaries have experienced serious difficulties in determining what their assets and liabilities actually are. Indeed, the hasty sale of the American broker/dealer to Barclays impeded the resolution of the other entities because Barclays gained property rights to many of the IT systems, and other subsidiaries have had to bargain with Barclays in much of Europe and Asia, Nomura to gain access to crucial data for unwinding in their piece of the remainder of the group.

The near collapse of LTCM in 1998 exposed the darker side of close-out netting rules that permit nondebtor counterparties to avoid stays in bankruptcy proceedings. Pressure from these counterparties caused the Federal Reserve Bank of New York to convene LTCM's major creditors to arrange what was, in effect, a prepackaged bankruptcy to avoid triggering the close-out netting rules promoted by the International Swap Dealers Association and supported by the Treasury and the Federal Reserve to permit nondebtor counterparties an exemption from the stay in bankruptcy proceedings. In the case of Lehman, permitting nondebtor counterparties to avoid stays in bankruptcy proceedings caused a massive destruction of value at Lehman. As of the bankruptcy date, derivative counterparties numbered 930,000, of which 733,000 sought to terminate contracts.[21]

But perhaps most revealing of all was the collapse of BCCI in 1991, which demonstrated the incredible complexity of international bankruptcy proceedings. It showed differences across countries with respect to the entity that initiates insolvency proceedings, the philosophy of bankruptcy (the separate entity doctrine versus the single entity doctrine), differences in goals, differences in procedures such as the right of set-off, and the possibility for bankruptcy proceedings to be trumped by criminal charges. In the case of BCCI, the United States initiated RICO proceedings that recovered a substantial amount of assets that might never have been discovered.

Since that time, many countries have modernized their bankruptcy and restructuring procedures, but the bankruptcy of Lehman showed that substantial differences remain.[22] Under Chapter 11 liquidation of LBHI in the United States,

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the debtor remains in possession and is authorized to continue operations and can seek debtor-in-possession (DIP) financing to continue operations. Chapter 11 provides a stay on past debts and gives the debtor the ability to restructure all debt and bind hold-out creditors subject to judicial approval.

In contrast, administration of Lehman Brothers UK Holdings Ltd. meant that a licensed insolvency practitioner took over and was more focused on trying to establish and realize value for creditors rather than continuing operation of the subsidiaries. The administrator was not authorized to seek superpriority rescue financing. U.K. law does not provide for a stay, but it does permit a moratorium on legal action. The administrator may choose not to pay past debts but may make "hostage" payments when additional services are needed.

In Germany, the court initially appoints a preliminary administrator independent from the debtor. The powers of the administrator are restricted until formal opening of proceedings within three months of application. With the formal opening of proceedings, the administrator has the power to administer and dispose of the debtor's assets and can benefit from an automatic stay of legal actions and enforcement against the debtor. The administrator can implement an insolvency plan if approved by a majority of the creditors. Although DIP financing is not permitted, the state provides a wage subsidy for the first ninety days. While this provides major help for some firms, wages were a very small proportion of Lehman's cash needs, and so it was obliged to liquidate.

In Japan, stakeholders can choose bankruptcy, reorganization, or civil rehabilitation. Rehabilitation, like Chapter 11,

provides for DIP financing. But the courts have adopted a standard time line—six months—with an option to extend up to two months. This time frame is often insufficient for a complex restructuring like the Lehman subsidiary and, thus, usually results in the disposition of assets as quickly as possible, in contrast to the United States and the United Kingdom. In addition, all participants in the process are lawyers, who tend to rely on legal criteria rather than commercial criteria in selling assets from the bankruptcy estate.

Finally, in Korea, rehabilitation proceedings can be initiated by the insolvent debtor, creditors, or shareholders. Lehman initiated rehabilitation proceedings for one subsidiary. The court may appoint anyone as a rehabilitation receiver, but since most of the staff had already transferred to Nomura, it proved difficult to find a suitable receiver. Moreover, court approval has been necessary for virtually every decision, which has created very long lags.

In short, although there have been numerous indications since the bankruptcy of Herstatt in 1974 that regulators are unprepared for the resolution of a large complex financial institution with numerous international affiliates, virtually nothing has been accomplished to prevent such an event from leading to an international financial crisis.[23] Instead, we have permitted—indeed, encouraged—financial institutions to become increasingly large, complex, and interrelated in ways that are often obscure even to the institutions themselves.

WHAT IS BEING DONE?

The Financial Stability Board (FSB; then named the Financial Stability Forum) has produced a set of principles for

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Cross-Border Cooperation on Crisis Management, endorsed by the G-20. The FSB reported that more than thirty supervisory colleges had been formed for international financial institutions.[24] The primary supervisor is responsible for convening a meeting of the college of supervisors at least once a year. The college is to play a role in monitoring and sharing information about the institution. We learned in the case of BCCI that this is unlikely to be effective. Some supervisors are constrained by bank secrecy laws and privacy laws. And most are constrained by the knowledge that once they share bad news with their peers, they lose their scope for discretion in dealing with the problem institution and may even precipitate an outcome they hoped to avoid.

But the document also mandates that supervisors should work to identify obstacles to effective management of a crisis involving the institution. The agreement also would "[s]trongly encourage firms to maintain contingency plans and procedures for use in a wind-down situation . . . and regularly review them to ensure that they remain accurate and adequate." If this requirement were strengthened and the college of supervisors were required to simulate a wind-down, this might be a huge advance.

Ideally, the college of supervisors should also review and sign off on the wind-down plan produced by management, endorsed by the board, and vetted by the primary supervisor. With such diversity in approaches to resolution, the college of supervisors is in an ideal position to verify whether the assumptions that the SIFI has made about how the activities that take place within its domain can be unwound are accurate and feasible. In addition, each member must make clear whether it would ring-fence the SIFI's operations in

its country. If a member of the supervisory college does not believe that it has sufficient control over the activities of a branch of the SIFI, it should be empowered to require that it operate as a subsidiary with its own capital and liquidity requirements.

Ideally, the college of supervisors can identify resolution concepts and approaches that would lead to a cooperative solution.[25] But if, as seems likely, each country and regulator would ring-fence the assets of the SIFI in its domain, the whole panoply of consolidated supervision and regulation should be fundamentally reconsidered. If capital and liquidity cannot be moved across borders in the event of a crisis, it is foolhardy to base regulation and supervision on the assumption that they can.

Appendix

TABLE 7.1 Support Packages

($ Trillions)	U.K.	U.S.	Euro
Central Bank			
• "Money creation"	0.32	3.76	0.98
• Collateral swaps	0.30	0.20	0.00
Government			
• Guarantees	0.64	2.08	>1.68
• Insurance	0.33	3.74	0.00
• Capital	0.12	0.70	0.31
Total (% GDP)	74%	73%	18%

Note: Exchange rate used: FSR euro/U.S. dollar exchange rate of 0.710; sterling/U.S. dollar exchange rate of 0.613. Money creation includes both monetary and financial stability relations.
Source: Bank of England, *Financial Stability Report*, June 2009. Figures for United Kingdom updated to November 4, 2009.

TABLE 7.2 The List of SIFIs Reported by the *Financial Times*

1. In the United States: Goldman Sachs, JPMorgan Chase, Morgan Stanley, Bank of America, Merrill Lynch, and Citigroup
2. In the United Kingdom: HSBC, Barclays, Royal Bank of Scotland, and Standard Chartered
3. In Canada: Royal Bank of Canada
4. In Switzerland: UBS and Credit Suisse
5. In France: Société Générale and BNP Paribas
6. In Spain: Santander and BBVA
7. In Japan: Mizuho, Sumitomo Mitsui, Nomura, and Mitsubishi UFJ
8. In Italy: UniCredit and Banca Intesa
9. In Germany: Deutsche Bank
10. In the Netherlands: ING
11. Insurance groups: Axa, Aegon, Allianz, Aviva, Zurich, and Swiss Re

Source: Patrick Jenkins and Paul Davies, "Thirty Groups on Systemic Risk List," *Financial Times*, November 29, 2009.

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TABLE 7.3 Differences across Five Largest Countries in EU with Regard to Insolvency Resolution

Country	Closure Decision Controlled by	Claim Notification and Verification	Authority Controlling Resolution	Legal Payment Requirements for Insured Deposits
France	Commision Bancaire's notice prior to court's declaration	Customers notified by fund and have 15 days to respond	Resolution overseen by banking supervisor	3 months with the possibility for the Supervisory Commission to extend by 3 months again
Germany	Petition filed by Financial Supervisory Authority to court	Creditors are notified by German compensation scheme within 21 days of notification of insolvency, and claims must be filed in writing by creditors with the German compensation scheme within 1 year.	Financial Supervisory Authority	Payments must be made within 3 months.

TABLE 7.3 Differences across Five Largest Countries in EU with Regard to Insolvency Resolution (Continued)

Country	Closure Decision Controlled by	Claim Notification and Verification	Authority Controlling Resolution	Legal Payment Requirements for Insured Deposits
Italy	The courts have the legal power to declare the insolvency status. However, the Bank of Italy, independently from the courts' declaration, can propose to the minister of the economy and finance the compulsory administrative liquidation of a bank in each of the following cases: exceptionally serious violations of prudential requirements, exceptionally serious irregularities in the bank's administration, exceptionally serious financial losses.	FITD subrogate to the right of depositors and carries out pay-offs directly.	The 1993 Banking Law Bank of Italy appoints liquidator.	The reimbursement of depositors shall be made, up to the equivalent of 20,000 euros, within 3 months of the compulsory liquidation order. The Bank of Italy may extend this term in exceptional circumstances or special cases, for a total period not to exceed 9 months.

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TABLE 7.3 Differences across Five Largest Countries in EU with Regard to Insolvency Resolution (Continued)

Country	Closure Decision Controlled by	Claim Notification and Verification	Authority Controlling Resolution	Legal Payment Requirements for Insured Deposits
Spain	Bank of Spain petitions court	Depositors are not required to file a claim. The insurer makes a record of the depositors who are entitled to compensation and informs depositors of the events through ordinary mail of their right to compensation.	General insolvency laws and Discipline and Intervention of Credit Institutions Law. Authority to impose sanctions for very serious infractions shall rest with the minister of economy and finance at the proposal of the Bank of Spain, except for revocation of authorization, which shall be imposed by the Council of Ministers.	Will start as soon as possible and shall take place within a maximum of 3 months of the date on which deposits become unavailable; the funds may apply to the Banco de España for a maximum of three further extensions of the time limit, neither of which shall exceed 3 months.

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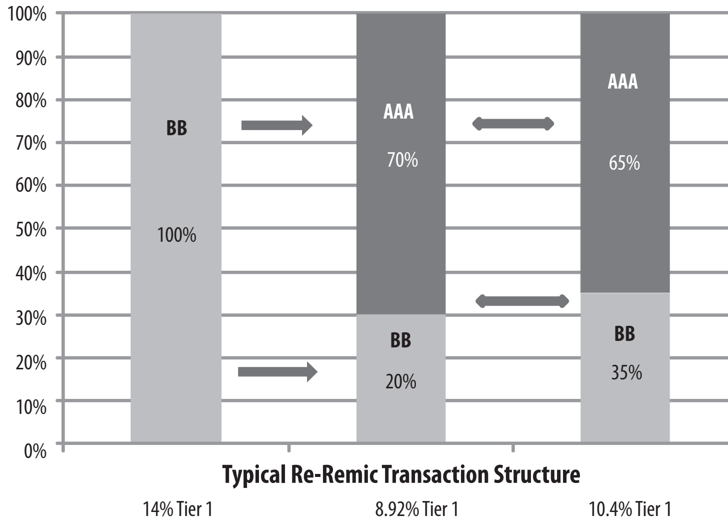
TABLE 7.3 Differences across Five Largest Countries in EU with Regard to Insolvency Resolution (Continued)

Country	Closure Decision Controlled by	Claim Notification and Verification	Authority Controlling Resolution	Legal Payment Requirements for Insured Deposits
United Kingdom	The FSA	The Financial Services Compensation Scheme will contact or transfer insured deposits to a healthy private sector bank.	U.K. Banking Act 2009, including a special resolution regime and enhanced bank insolvency procedure	Aim for a fast and orderly payout of depositors' claims under the Financial Services Compensation Scheme

Source: Extracted from Eisenbeis and Kaufman (2008) and Brierley (2009).

FIGURE 7.1 Regulatory Capital Arbitrage



NOTES

1. See table 7.1 in the end-of-chapter appendix for a disaggregation of the total amount of support.

2. It is telling in this regard that there was no criticism of the decision by the U.S. authorities, taken two days after the Lehman bankruptcy, to provide enormous subsidies to AIG, which now amount to $183 billion. Although during the most recent meeting of the G-20 in St. Andrews, Scotland, the leaders of the G-20 discussed ways of imposing the costs of future bailouts on the financial sector, they produced no practical plan to do so (see G-20, 2009b).

3. Some believe that SIFIs should be identified *ex ante* to impose additional regulatory burdens on them. Some believe they should not be identified *ex ante* because it would exacerbate moral hazard. Some believe that they cannot be identified *ex ante* because whichever institution turns out to be systemically important will always

depend on the context. This chapter assumes that at least some SIFIs can and should be identified *ex ante* for the purpose of preparing wind-down plans. The *Financial Times* claimed to have identified the Financial Stability Board's (FSB's) list of SIFIs (which are listed in table 7.2). The FSB has not confirmed the accuracy of this list, much less that such a list even exists.

4. Policymakers are understandably risk-averse when they think withholding a bailout may set off a systemic crisis, and so they are vulnerable to being bullied by SIFIs that may have superior information (and have an obvious interest in collecting subsidies).

5. For additional information on Re-Remics, see IMF (2009: chap. 2). This is also the source for figure 7.1.

6. The British prefer to call these "Recovery and Resolution Plans" although they are popularly known as living wills. The Obama administration has referred to the concept as rapid resolution plans, and sometimes they are known simply as funeral plans. I prefer to use the term *wind-down plan* to distinguish it from these other concepts. The plan I describe would be equally useful to a bankruptcy administrator or a resolution authority.

7. The British approach mixes this with a recovery plan that complicates the process with a number of very subjective assumptions. Institutions have strong incentives to devise recovery plans, but almost none to devise wind-down plans.

8. This notion has generated a considerable amount of controversy in Britain, with bankers generally taking the view that the supervisory authorities have no business monitoring their tax avoidance strategies and with Alistair Darling, chancellor of the Exchequer, tartly responding, "I do worry when an organization is structured for tax purposes rather than for the efficiency of its business and the strength of its business" (quoted in Giles et al., 2009).

9. This will undoubtedly be a contentious point as demonstrated by the years it has taken the FDIC to gain authority to require insured banks to identify insured deposits to facilitate rapid payouts. Banks successfully resisted for a number of years, claiming that it would be an overwhelming technological challenge.

10. The absence of a plan would be presumptive evidence of a failure to carry out this fiduciary duty.

11. Precisely what is "a reasonable amount of time" will likely change as the approach is implemented. The ultimate goal ought to be a plan that can be implemented over a weekend, but earlier iterations will clearly be much longer.

12. Of course, this power should not be without constraint. One way to curb arbitrary or inefficient use of such powers would be to give the institution the right to appeal a supervisory decision by presenting an alternative way of reducing the time to wind down the institution that would be equally effective but less costly.

13. Lord Turner has said that he hopes living wills will be a "forcing device for the clarification and simplification of legal structures" (Giles et al., 2009).

14. Transcript of a speech to the Council on Foreign Relations, October 15, 2009.

15. Paul Betts and Joe Leahy (2009) have put the case more forcefully: "The lesson of gargantuan institutions—the likes of Citigroup—is that these banks have become too big to succeed, impossible to run as well as too big to fail. And the bigger the group the bigger the systemic risk in the event of a financial meltdown."

16. Robert Eisenbeis pointed out to me that like the preparations for Y2K, which enabled a number of banks to deal more effectively with the shock of 9/11, this improvement in IT systems may have unexpected benefits.

17. The collapse of AIG provides a good example of this fallacy of consolidation. Presumably the ratings agencies granted the derivatives unit an AAA rating on the basis of the capital of the AAA-rated parent. But when losses at the derivatives unit spiraled, regulators would not permit capital to be upstreamed from the solvent insurance subsidiaries over to the derivatives affiliate. Instead, the burden fell on taxpayers. Moreover, the current allocations may seem optimal, given the regulations in place, but prove suboptimal if various authorities ring-fence in a crisis.

18. See, for example, Berger and Mester (1997). Although numerous empirical studies attempt to quantify economies of scale, all are subject to criticism because of the paucity of relevant data. This is, of course, particularly true for enormous banks. But it does seem clear that scale economies cannot be the main driving force behind the creation of trillion-dollar banks. A more robust and perhaps more relevant empirical regularity is that the compensation of senior executives tends to increase proportionately with scale. See, for example, Frydman and Saks (2007).

19. Even within an area as homogeneous as the European Union, there are significant differences across countries. Table 7.3 summarizes differences across the five largest countries in the EU with regard to several aspects of resolution policy.

20. According to Cohan (2009: 442):

> Paulson not only told McDade and Lowitt that Lehman had no choice but to file for bankruptcy, he also apparently told them the firm had to file for Chapter 7 liquidation by 7 p.m. Sunday. . . . "The words," remembered one participant in the meeting, "Bart used when he came into the board meeting were 'We were mandated to file. We were mandated to file.' He was very, very, very clear on that. . . . What if the board decided to defy Paulson and not file for bankruptcy protection? Because the Fed controlled Lehman's access to the money it needed to open for business the next day, the point was moot. . . . Christopher Cox, the SEC chairman phoned into the meeting from Washington. . . . [H]e had been told by Paulson to call to reinforce the idea that Lehman should file for bankruptcy." In fact the holding company Lehman Brothers Holding, Inc. filed for Chapter 11 bankruptcy at 1:45 a.m. Monday morning to keep the operating companies out of bankruptcy long enough for Barclays to buy them.

21. "Statement of Harvey Miller before the Subcommittee on Commercial and Administrative Law of the House of Representatives,

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Committee on the Judiciary, 111th Congress, 1st Session for Hearings on 'Too Big to Fail: The Role for Bankruptcy and Antitrust Law in Financial Regulation Reform,'" October 22, 2009. Miller emphasized that as a result of the safe harbor provision of the Bankruptcy Code, nondebtor counterparties to derivatives contracts are permitted to exercise certain contractual rights triggered by a debtor's bankruptcy filing or financial condition, including the right to terminate the contract and take advantage of positions in their favor, and leave in place contracts in which they owe money to the debtor. The debtor usually has no right to terminate and remains exposed to such contracts.

22. The following five paragraphs are drawn from observations made by Ann Cairns (2009), managing director of Alvarez and Marcel, the firm that has taken the lead in managing the unwind of Lehman.

23. With, perhaps, the important exception of the European Union's Credit Institutions Reorganization and Winding-Up Directive in 2001 that adopted a single entity regime for any bank incorporated in the European Economic Area (EEA) applying to the parent bank and all of its branches in the EEA.

24. As noted in the progress report from the St. Andrews summit of the G-20 (2009b).

25. Although it is, perhaps, pleasant to contemplate international harmonization of resolution procedures, I regard it as the equivalent of expecting Esperanto to be adopted as the international language. Still, it may be possible for a handful of key countries or an integrated economic region like the EU to move toward harmonization at least with regard to the treatment of SIFIs.

REFERENCES

Bank of England. 2009. "Financial Stability Report." June.

Berger, Alan, and Loretta Mester. 1997. "Efficiency and Productivity Change in the U.S. Commercial Banking Industry: A Comparison of the 1980s and 1990s." Federal Reserve Bank of Philadelphia Working Paper No. 97-5/R.

Betts, Paul, and Joe Leahy. 2009. "Bankers Must Resist Temptation to Think Bigger." *Financial Times*, October 28.

Brierley, Peter. 2009. "The U.K. Special Resolution Regime for Failing Banks in an International Context." Bank of England, Financial Stability Paper No. 5.

Cairns, Ann. 2009. "Breaking the Insolvency Mould." *International Corporate Rescue* 6, no. 2: 115. Chase Cambria Publishing.

Cohan, William D. 2009. *House of Cards: A Tale of Hubris and Wretched Excess on Wall Street*. New York: Doubleday.

Croft, Jane, and Patrick Jenkins. 2009. "Moody's Warns over 'Living wills.'" *Financial Times*, September 23.

Cross-Border Bank Resolution Group of the Basel Committee. 2009. "The Report and Recommendations of the Cross-Border Resolution Group."

Eisenbeis, Robert A., and George G. Kaufman. 2008. "Cross-Border Banking and Financial Stability in the EU." *Journal of Financial Stability* 4, no. 3 (September).

European Union. 2009. "Commission Communication of the Return to Viability and the Assessment of Restructuring Measures in the Financial Sector in the Current Crisis under the State Aid Rules." *Official Journal of the European Union*, August 19.

Frydman, C., and R. Saks. 2007. "Executive Compensation: A New View from a Long-Term Perspective, 1936–2005." Federal Reserve Board Technical Report No. 2007-35.

G-20. 2009a. "Pittsburgh Summit: Progress Report on the Actions to Promote Financial Regulatory Reform." September 25.

———. 2009b. "St. Andrews Summit: Progress Report." November 7.

Giles, Chris, Patrick Jenkins, and George Parker. 2009. "Living Wills to Be Forced on Banks." *Financial Times*, September 15.

Guha, Krishna. 2008. "Ministers Pledge 'No More Lehmans.'" *Financial Times*.

Greenspan, Alan. 2009. "Speech to the Council on Foreign Relations." October 15.

Guttentag, Jack, and Richard Herring. 1984. "Credit Rationing and Financial Disorder." *Journal of Finance* 39, no. 5: 1359–1382.

Haldane, Andrew. 2009. "Banking on the State." Paper presented at the Twelfth Annual Federal Reserve Bank of Chicago International Banking Conference.

Herring, Richard. 2009. "The Known, the Unknown, and the Unknowable in Financial Policy: An Application to the Subprime Crisis." *Yale Journal of Regulation* 26, no. 2 (July).

Herring, Richard, and Jacopo Carmassi. 2009. "The Corporate Structure of International Financial Conglomerates: Complexity and Its Implications for Safety and Soundness." Chapter 8 in *Oxford Handbook of Banking*. Oxford: Oxford University Press.

Hildebrand, Phillip. 2009. "Current State of the Financial System of Switzerland." Introductory remarks at the half-yearly media news conference, Berne, June 20.

Hughes, Jennifer. 2008. "Lehman Creditors to Face Years of Waiting." *Financial Times*, November 14.

International Monetary Fund. 2009. "Global Financial Stability Report." October.

King, Mervyn. 2009. Speech to Scottish business organizations, Edinburgh, October 20.

Keoun, Bradley, and David Mildenberg. 2009. "Bank of America Has Second-Highest 'CAMELS' Rating." Bloomberg.com, June 25.

Lopez, Joseph. 1999. "Using CAMELS Ratings to Monitor Bank Conditions." *Federal Reserve Bank of San Francisco Economic Letter*, 99-109, June 11.

Sender, Henny. 2009. "Dimon Backs Means to Close Down Banks." *Financial Times*, October 28.