International Financial Conglomerates:

Implications for Bank Insolvency Regimes

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I. Introduction: the problem

Over the past decade international financial conglomerates have become an increasingly important feature of the financial landscape. Universal banking countries have long integrated the securities business with traditional commercial banking, but over the last decade most regulatory obstacles to combining banking and the securities business have fallen in Japan and the United States as well. More broadly financial liberalization has removed most statutory barriers that once prevented banking, securities and insurance firms from operating within the same financial conglomerate (Joint Forum, 2001, p.69). Increasingly these combinations have included banking and insurance operations. Allianz in Germany, ING and Fortis in the Netherlands, Credit Suisse in Switzerland, and Citigroup in the US have all made important cross-sector acquisitions in recent years to combine banking and insurance activities. Indeed, virtually all of the large, international financial institutions are to some extent financial conglomerates combining at least two of the three formerly distinct functions of banks, securities firms or insurance companies.[1] In this paper we shall focus on international financial conglomerates that combine banking with financial activity in at least one other sector. Some countries have restructured their regulatory and supervisory systems to deal with financial conglomerates in an integrated fashion.[2] But most countries continue to rely on functional regulation with separate rules and separate regulators for the banking, insurance and securities businesses. Indeed, often the fundamental accounting conventions, time horizons and regulatory objectives differ across the three sectors (Joint Forum (2001)).

[1] The Joint Forum on Financial Conglomerates (Basel Committee, 2001, p.5) has defined financial conglomerates as "any group of companies under common control whose exclusive or predominant activities consists of providing significant services in at least two different financial sectors (banking, securities, insurance)."

[2] Countries that have combined supervision of two or more sectors in one authority have included Australia, Canada, Germany, Japan, the Netherlands, Norway, Sweden and the United Kingdom.

In addition to becoming more complex, these firms have grown larger. Partly this is because the formation of financial conglomerates has often involved mergers and acquisitions. The pace of consolidation has been especially rapid among banks. The recent (2001) Group of Ten report on consolidation in the financial sector found that the number of banking firms decreased over the last decade in almost every one of the thirteen countries surveyed. Consolidation appears to be motivated by hopes for cost savings and revenue enhancements from large, lumpy expenditures on new applications of information technology.

Financial conglomerates have led the way in globalization, operating in scores of countries through hundreds of different legal entities. They also tend to be heavily involved in global trading activities, particularly over-the-counter (OTC) derivatives. From 1992 to 1999, OTC derivatives markets quadrupled in notional value (Group of Ten, 2001). Moreover, the concentration of activity among the largest firms increased over the decade with the top 3 firms accounting for 27.2% and the top 10 accounting for 54.7% of the total OTC derivatives activities in the largest centers.[3] There is also a corresponding increase in the concentration of risk in the clearing and settlement systems for payments and securities transactions. The heavy involvement of such firms in trading activities that continue around the clock around the globe means that if a sudden event undermines confidence in the firm, the authorities would have very little time to react.

Most of these firms have achieved a scale of operation and centrality in the functioning of the international financial system that renders them systemically important. Traditionally systemic concerns have been the preoccupation of bank regulators, but these concerns do not

[3] Based on data provided by the national authorities in France, Germany, Italy, Japan, Switzerland, the United Kingdom and the United States reported in Table I.6 of Group of Ten (2001). Unfortunately, data are not available for the entire decade, but concentration increased markedly between December 1998 and December 1999.

diminish when a bank becomes part of a group that includes insurance and securities activities as well. Although it is possible that larger, more diversified financial firms will be less likely to fail, the occurrence of failure is more likely to be associated with systemic risk since the potential spillover effects on the rest of the financial system are likely to be greater.

Advances in information technology have made it possible to centralize control of financial conglomerates and most firms appear to believe that centralized control will enable them to reap the maximum economies of scale and scope for their shareholders. The consequence is that international financial conglomerates tend to be managed in an integrated fashion along lines of business with only minimal regard for legal entities, national borders, or functional regulatory authorities and with substantial and complex intra-group financial transactions.

What would happen should one of these international financial conglomerates experience extreme financial distress? Luckily we have not had direct experience with such a problem. Nonetheless, it is possible to identify some of the difficulties that could arise from the legal, regulatory, and geographical complexity of such firms. The fundamental problem stems from conflicting approaches to bankruptcy across regulators, across countries and even sometimes within countries. There are likely to be disputes over which law and which set of bankruptcy procedures should apply. Some authorities may attempt to ring-fence the parts of financial conglomerates within their reach to satisfy their regulatory objectives without necessarily taking into account some broader objective such as the preservation of going concern value or financial stability. At a minimum, authorities will face formidable challenges in coordination and information sharing.

In what follows we will review some of the international banking disasters since the 1970s that have shown us glimpses of the problems that could arise with the collapse of an international financial conglomerate. We will review the collapse of Bankhaus Herstatt, Drexel Burnham Lambert, BCCI, Barings, and LTCM. Although none of these institutions had the scale of the largest contemporary financial conglomerates and only one (Barings) could be classified as a conglomerate, each episode highlighted some of the challenges that authorities would face in unwinding an international financial conglomerate. We will conclude by posing the question of whether special bankruptcy procedures should devised to deal with a faltering international financial conglomerate.

II. Glimpses into the Abyss

II.A. Bankhaus Herstatt

1974 was a traumatic year for the world economy. The sharp increase in oil prices caused major economic dislocations, exacerbated inflationary pressures and intensified exchange rate volatility and three internationally active banks failed– the British-Israel Bank in London, Franklin National Bank in New York, and Bankhaus Herstatt in Cologne. Although Herstatt was not the largest of these banks (its total liabilities were only about $800 million), its closure had by far the most significant spillover costs to other financial institutions and markets. The aftermath revealed some of the complications that could arise from applying domestic bankruptcy procedures to an internationally active bank.

Herstatt was notorious among market practitioners for overtrading -- that is, taking foreign exchange positions that were very large relative to its capital.[4] When the German

[4] See Dale (1984) for an extensive discussion of the collapse of Herstatt.

authorities discovered that Herstatt had fraudulently concealed losses that exceeded half the book value of its assets, they hastily attempted to find another stronger bank to take it over. When that proved impossible, the German authorities withdrew the banking license of Bankhaus Herstatt on June 26, 1974. They treated it just as they would any other domestic insolvency. They waited until 3:30 p.m., the end of the German banking day and the close of the interbank payments system in Germany, after all payments had been cleared and settled in Germany, then closed the bank stopping all payments (Committee on Payment and Settlement Systems, 1996, p. 6). This approach was intended to minimize the disruption of business within Germany, but it did not take into account the international dimensions of Herstatt's business. The end of the banking day in Germany was 10:30 a.m. in New York, where the dollar leg of Herstatt's foreign exchange transactions were to be settled at the conclusion of the business day in New York. Upon receiving instructions from the authorities in Germany, Herstatt's New York correspondent, Chase Manhattan, stopped payment on $620 million of Herstatt's dollar-denominated liabilities in the Clearing House Interbank Payment System, after having exercised the right of set-off to satisfy its own claims on Herstatt.[5]

At least twelve banks that had sold European currencies to Herstatt in the spot foreign exchange markets earlier in the day, did not receive the anticipated quid pro quo of dollars in New York. These counterparties sustained an immediate loss equal to the full value of European currencies paid out earlier in the day. This was a shock to market participants who had previously failed to recognize the credit risk implicit in the normal procedures for clearing and

[5] The right of set-off is a common law concept that permits a depository institution to set off an amount credited to the borrower's account against an amount that the borrower owes the depository institution. This can take place immediately, and does not depend on permission of the bankruptcy administrator or the establishment of a lien against the depositor's account. In some jurisdictions, parties other than depository institutions may also be entitled to exercise the right of set-off. There may be substantial differences in the laws of set-off in insolvency, however. See the discussion in the context of BCCI in section II.C. below.

settling foreign exchange transactions that span multiple time zones. It led to a disruption of the dollar/Deutsche Mark market, at that time the largest foreign exchange market, for more than a month (Morgan Guaranty, 1974). This foreign exchange settlement risk became known as Herstatt risk.

In addition, numerous banks that had entered into forward contracts that had not yet entered the settlement process suffered a loss in replacing the contracts. Of course, institutions that maintained deposits with Herstatt sustained losses as well. Lack of information regarding the allocation of settlement losses, counterparty losses and the anticipation of prospective losses on forward transactions with Herstatt also led to disruptions in the international interbank sector of the Eurocurrency market. Although market participants believed that the magnitude of defaulted foreign exchange contracts was large, they did not know the identity of the counterparties that had sustained losses. In the absence of reliable information about the allocation of losses, market participants took precautions against the worst possible outcome. They cut or withdrew lines of credit from banks that were believed least likely to be able to withstand the loss if they were, indeed, counterparties of Herstatt. Many banks that had relied on their ability to borrow in the international interbank market at the London Interbank Offered Rate (LIBOR) were obliged to pay a significant premium above the benchmark rate, if they were able to borrow at all (Herring and Litan (1995, p. 96).

The disproportionately large spillover effects from the closure of Herstatt drew official attention to the growing interdependence of the international banking system. It was a watershed event that led to the formation of the Basel Committee for Banking Supervision.[6] And, it

[6] The governors of the central banks of the Group of Ten countries established the Standing Committee on Banking Regulations and Supervisory Practices (later know as the Basel Committee on Banking supervision), composed of

spawned a series of efforts by both the public and private sectors to reduce or eliminate Herstatt risk.[7] But the important lesson for the challenge of dealing with an international financial conglomerate is that the closure of an internationally active institution is likely to have international consequences.

Although the German authorities resisted international pressures to ease market disruptions by taking over liquidation of Herstatt's foreign exchange book, the point was not lost. In all subsequent bank closures, the authorities in Germany and elsewhere have timed their interventions to coincide with the conclusion of the settlement process in the major centers in order to minimize disruptions. Even so, it has been difficult, if not impossible to close a bank that is active in foreign exchange markets at a time when all payments that were scheduled for a given day have been settled. For example, BCCI was closed on July 5, 1991, just before New York markets opened, after the 4th of July holiday in the United States, in an effort to minimize the disruption to the settlement process. Nonetheless a major Japanese bank suffered the loss of principal on a dollar/yen transaction when the assets of BCCI SA in New York were frozen before settlement of the dollar leg of the transaction. Also a London institution suffered a loss because the payment message was delayed by operation of a bilateral credit limit placed on BCCI's correspondent by the recipient members of CHIPS, a reform adopted to reduce the exposure of CHIPS members to Herstatt risk.[8]

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representatives of the supervisory authorities and central banks of the Group of Ten countries plus Switzerland and Luxembourg. See Herring and Litan (1996)

[7] With the extension of settlement hours in Japan, Europe and the United States and the operation of the newly formed, Continuously Linked Settlement Bank, the objective of eliminating Herstatt risk between the major centers will finally be realized by eliminating the lag between the two legs of foreign exchange transactions for the major currencies.

[8] For additional details see Committee on Payments and Settlement Systems (1996, p. 7).

II.B. Drexel Burnham Lambert

Although the Drexel Burnham Lambert Group (DBLG) had been the most profitable investment bank on Wall Street during the mid-eighties, it was mortally wounded in March 1989 when it pled guilty to six felony charges and agreed to pay the government $650 million in fines.[9] Nonetheless, at the close of 1989, DBLG reported consolidated assets of $28 billion and equity of $835,725,000. The broker/dealer subsidiary of DBLG, Drexel Burnham Lambert (DBL) remained among the best-capitalized broker/dealers in the United States and continued to be an active participant in world financial markets. Moreover, the primary-dealer subsidiary of DBLG, Drexel Burnham Lambert Government Securities, Inc. (GSI) remained on the elite list of 44 primary dealers with whom the Fed conducted transactions relating to open market operations.[10]

Figure 1 summarizes the financial and regulatory structure of DBLG (Bush, 1990a). The group was privately owned with more than half the shares held by Drexel employees and associated private interests.[11] DBLG had a number of subsidiaries, two of which were federally regulated. DBL was a registered broker/dealer regulated by the Securities Exchange Commission (SEC) and GSI was a registered government securities dealer subject to regulations established by the US Treasury, enforced by the SEC and monitored by the Fed. Federal oversight did not extend to the other subsidiaries such as DBL Trading (DBLT) and DBL INTERNATIONAL BANK NV, nor to the holding company.

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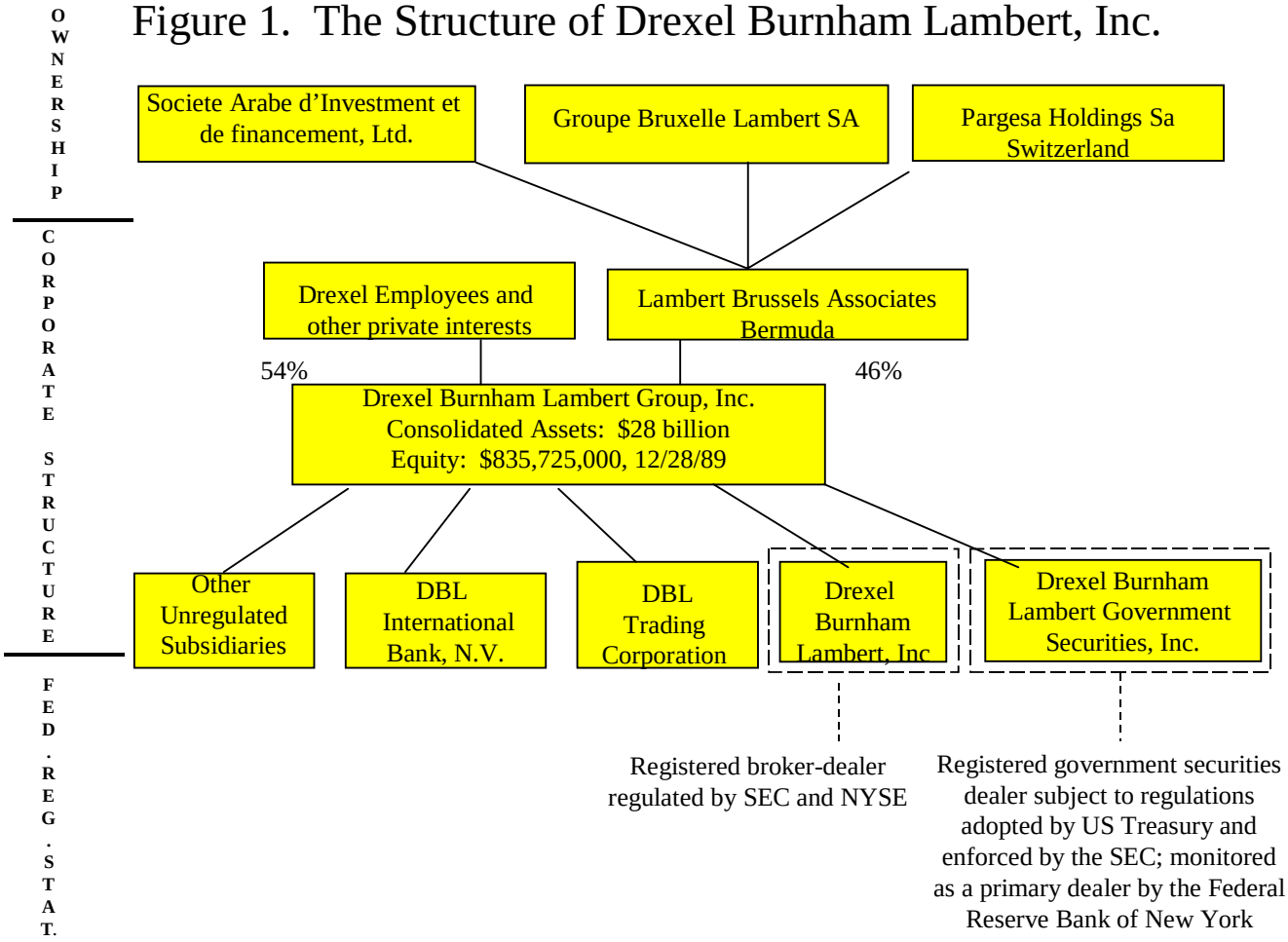
[9] This account of the collapse of Drexel Burnham Lambert is largely based on Breeden (1990).

[10] As part of its responsibility for maintaining financial stability the Fed monitors primary dealers carefully to make sure that they are sound counterparties and reliable market makers for government securities.

[11] The remaining shares were held through a Bermuda holding company by a group of foreign investors which included the Societé Arabe d'Investment et de Financement, Ltd., Groupe Bruxelles Lambert, and Pargesa Holdings SA.

Figure 1. The Structure of Drexel Burnham Lambert, Inc.



DBLG, like other US investment banks, was subject to functional regulation. In principle, the government's interest in DBLG was in supervising a subset of the functions that it performed rather than in the soundness of the institution itself. The functions of interest -- DBLG's role as broker/dealer and primary securities dealer -- were segregated in separately incorporated subsidiaries that were subject to separate regulation and supervision. In one sense, the collapse of DBLG was a test of the viability of this type of narrowly focused regulation -- a test, as we shall see, from which it is possible to draw mixed conclusions.

Like a bank, DBLG relied on its borrowing capacity and ability to sell (or borrow against) assets to manage its liquidity. Reflecting its leading role in the issuance and trading of low-grade bonds, DBLG held a very large inventory of these instruments.[12]

A series of events during 1989 damaged the liquidity of the secondary market. First, Drexel's guilty plea to six felonies followed by the indictment, on racketeering and securities fraud charges, of Michael Miliken, a key Drexel employee and the chief architect of the low-grade bond market, undermined confidence in the future of the institution that had been the principal market-maker. Second, during the summer of 1989, Congress ruled that thrift institutions, which at the time held 7% of the outstanding stock of low-grade bonds, must sell their holdings.[13] Third, some innovative covenants that were expected to protect investors against default risk, [14]proved ineffectual against an abrupt decline in the credit quality of the borrower. The default of the Campeau group in mid-September 1989 proved especially damaging, causing secondary market prices to fall sharply and the volume of trading to decrease.[15] New issues of low-grade bonds, formerly a key source of earnings for DBLG, virtually ceased.

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[12] Until 1977, virtually all new issues of publicly traded bonds in the United States carried a Standard and Poor's investment grade rating of BBB or better. Although some low-grade bonds were traded in secondary markets, they were "fallen angels," bonds originally issued with an investment grade rating but subsequently downgraded to below investment grade. During 1977, DBLG began making substantial, initial public offerings of low-grade bonds. From 1977 through 1989, the market for low-grade bonds grew from $1.1 billion to a total outstanding stock of $205 billion, about one quarter of all marketable corporate debt in the United States (Blume and Keim, 1991). DBL generally conducted about 50 percent of the trading in low-grade bonds.

[13] Although Congress permitted the thrift institutions five years to liquidate their portfolios of low-grade bonds, the prospect of an increase in supply of low-grade bonds equal to 7% of the outstanding stock led to an immediate decline in market prices.

[14] Buyers of junk bonds needed either the expertise to assess the credit risk or the comfort of protection from special covenants -- so called "poison puts" -- which required that if the price went down, then the investor must be repaid or coupon increased sufficiently to bring the bond back to par.

[15] No reliable data on volume exist, but DBL reported its average daily volume of trading in junk bonds had declined from $400 million per day before the Campeau default to about $150 million/day in December 1989 (Breeden (1990)).

The decline in the liquidity of the secondary market rendered the financial structure of DBLG unsustainable. The possibility of managing the liquidity of the holding company through asset sales or collateralized loans diminished as the liquidity of the secondary market evaporated. Moreover, as perceptions of the liquidity and value of low-grade bonds declined, the rating agencies reduced their assessment of the quality of the holding company's commercial paper. In December 1989, Standard and Poor's (S&P) reduced its rating on the commercial paper issued by DBLG from A-2 to A-3. Then, on February 12, 1990, S&P downgraded the rating of DBLG's commercial paper to speculative thus effectively ending its ability to make any new issues of commercial paper.

Also during that day, the SEC and the New York Stock Exchange permitted DBL to lend DBLG $31 million to meet commercial paper payments due at the end of the day and to make a $7 million loan to DBL Trading to enable it to make a margin payment at the Chicago Mercantile Exchange. But DBLG faced another $400 million in payments due on commercial paper maturing over the next 48 hours. Commercial banks were unwilling to extend a bridge loan and so the authorities were faced with a choice of letting DBLG draw on almost $300 million of excess net capital in the regulated subsidiaries to buy time in the hope that some other financing could be arranged, or protecting the regulated subsidiaries and permitting the DBLG to default.

The authorities refused permission for DBLG to draw on the excess net capital in DBLG and did not offer assistance. Thus DBLG was obliged to file for protection under Chapter 11 of the bankruptcy laws.[16] To a remarkable extent the authorities succeeded in protecting customers

[16] The solvent, regulated subsidiaries were not included in the filing. Indeed broker/dealers are prohibited from entering reorganization proceedings.

in the regulated subsidiaries and in facilitating an orderly liquidation of the positions of DBLG.[17] But, the difficulties experienced in unwinding the position of even the solvent subsidiaries suggest some of the challenges the authorities would face in dealing with a much larger, much more complex, much more international, contemporary international financial conglomerate. Although the authorities did prevent creditors from suffering loss at both of the two regulated subsidiaries, DBL and GSI.

On the other hand, once DBLG filed protection under the bankruptcy law, the market did not distinguish between the solvent, regulated subsidiaries and the rest of the firm.[18] Despite the fact that the regulated subsidiaries had relatively transparent balance sheets and were insulated by firewalls from the rest of the group, it appears not to have been feasible to continue their operation within a failing financial group.[19] Indeed, efforts to undertake transactions to close the positions of DBLG's solvent subsidiaries were threatened with gridlock. Counterparties were concerned about incurring intra-day credit exposures to even the solvent subsidiaries in markets that did not clear and settle through simultaneous delivery of instruments against payment lest the subsidiary fail before the settlement process was complete. At the same time, the managers of the solvent Drexel Burnham subsidiaries were reluctant to initiate payment orders because of concerns that the counterparty might use the payment to set-off against amounts due to them from other companies in the DBLG group rather than delivering the financial instrument for which the payment was intended.

[17] The anticipated flight to quality in the government securities market was slight and quickly reversed. Moreover, the Dow Jones average actually finished the day above the previous close.

[18] The fact that fifteen of the twenty-two largest unsecured creditors listed in Drexel's filing for bankruptcy were foreign, raises the question of whether foreign lenders understood the complex legal structure of DBLG and were able to differentiate the regulated entities from those which are not officially monitored.

[19] The plight of the solvent subsidiaries merits closer study to determine precisely why they were unable to continue operation.

Both the Bank of England and the Federal Reserve Bank of New York intervened to assure market participants that transactions with the solvent subsidiaries and the administrator trustee of DBLG would be completed. For example, the Bank of England set up a settlement facility for Drexel Burnham Lambert Trading (DBLT), a solvent DBLG subsidiary active in foreign exchange markets.[20] The facility worked by interposing the Bank of England between the DBLT and its counterparties. Counterparties of DBLT paid amounts due into accounts held in the Bank of England's name with the Bank's correspondents, usually the central bank, in each country in which a clearing and settlement was to be made. Once the Bank of England confirmed receipt of the funds, DBLT made the appropriate, irrevocable payments to each counterparty with instructions to complete the transaction. When the counterparties received the payments they, in turn, authorized the Bank of England to release the deposits to DBLT. This improvised settlement facility worked quite effectively, but it is easy to imagine circumstances in which the authorities would have faced greater difficulties. First, the management and traders at DBLT remained in place to wind down the positions that were, in any event, relatively flat with few forward deals. Clearly this would have been more challenging if key managers or traders had left DBLT or were thought to be the cause of the financial distress and could, therefore, not be trusted to unwind the firm's positions. Second, DBLT was demonstrably solvent and was willing and able to settle all amounts due. If DBLT had been less transparent, perhaps because of significant holdings of assets that were difficult to value, the Bank of England would have faced a much more difficult choice and would probably not have

[20] This is based on the discussion of the settlement facility in Committee on Payments and Settlement Systems (1996, p. 6).

intervened without guarantees from the US authorities. Third, the Bank of England was trusted as a facilitator by all of the relevant parties.

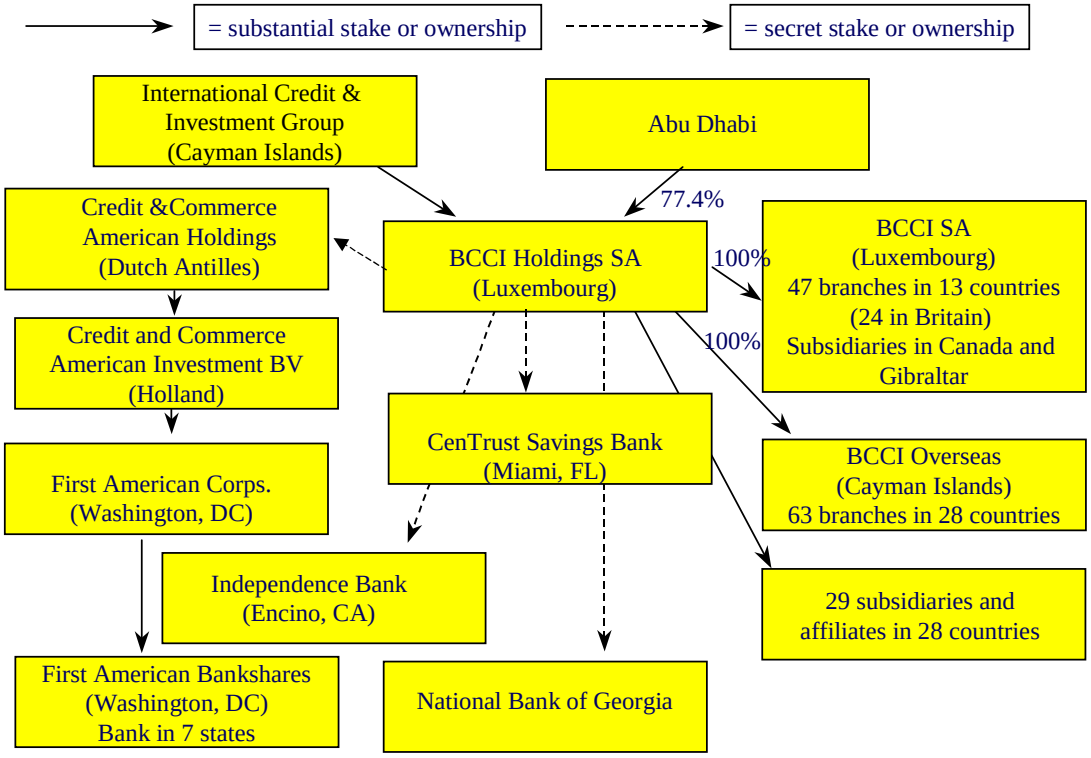
While it is tempting to infer from the successful unwinding of DBLG that functional regulation and normal bankruptcy procedures can deal adequately with insolvency in investment banks, such complacency may not be warranted. In comparison to contemporary investment banks of comparable importance, Drexel Burnham had a much simpler, less international corporate structure and was much less heavily involved in OTC derivatives and other international markets, much smaller in scale and less involved in activities that are traditionally associated with a commercial bank or insurance company.

II.C. Bank for Credit and Commerce International (BCCI)

Before it was closed on July 5, 1991, BCCI had devised a corporate structure that defied external oversight, much less consolidated supervision.[21] Although it was not a financial conglomerate, it achieved enough international corporate and regulatory complexity to provide useful insights into some of the conflicts that could arise in an international bankruptcy proceeding. Figure 2 shows the structure of BCCI just before it was closed. BCCI adopted a dual banking structure. The non-bank holding company established in Luxembourg in 1972 (BCCI Holdings SA) owned two separate banks that were licensed and supervised in two

[21] For a general discussion of the collapse of BCCI and its implications for international banking supervision, see Herring (1993).

Figure 2. The Structure of BCCI



separate jurisdictions, well insulated by bank secrecy laws: BCCI SA in Luxembourg and BCCI Overseas in the Cayman Islands. Although BCCI SA was registered as a bank in Luxembourg, its banking business was conducted not in Luxembourg, but through 47 branches in 13 countries. BCCI Overseas did conduct a banking business in the Cayman Islands; in addition, it controlled 63 branches in 28 countries. As the Shadow Financial Regulatory Committee (1991) noted, "BCCI's headquarters were established in countries with weak supervisory authorities, strong secrecy laws and neither lenders of last resort nor deposit insurers who would have financial reasons to be concerned about the solvency of banks that are chartered in their jurisdictions." Contrary to what the organization chart seems to imply, neither Luxembourg nor the Cayman Islands was the operational headquarters of BCCI. Instead, most managerial decisions were

made in London with oversight first from the founder, Aga Hassan Abedi, in Karachi and then, after Abedi's heart transplant, by Swaleh Naqvi.[22] This dual structure made it virtually impossible for any supervisory authority to monitor the activities of BCCI on a consolidated basis. To further fragment external scrutiny of the bank, separate auditing firms were hired for each bank.

The supervisory authorities were frustrated with their inability to monitor the banking group. Luxembourg lacked resources to monitor the worldwide operations of BCCI[23] and since BCCI conducted no banking business in Luxembourg, the Luxembourg Monetary Commission did not want to take on the role of lead regulator. It urged the Bank of England to accept the responsibility because the operational headquarters were in London. The Bank of England, however, was unwilling to accept the burden of supervising the global operations of a bank that it did not charter.

Because the various national bank supervisors lacked the authority to compel BCCI to modify its corporate structure so that it could be supervised on a consolidated basis, they improvised a cooperative oversight structure in order to gain a broader view of the activities of the bank. In 1987 the supervisory authorities from eight countries including Britain, the Cayman Islands, France, Luxembourg, Spain and Switzerland formed a "Regulatory College" to share information about the operations of BCCI. This improvised arrangement proved inadequate to the challenge. The subsequent revision of the Concordat[24] and changes in legislation in several

[22] The locus of operational decision making shifted to Abu Dhabi in late 1990.
[23] The US Federal Reserve Board was not a member of the group, but did share information with members of the College (Group of 30 (1998, p. 86).
[24] On July 6, 1992, the Basel Committee (1992) strengthened the Concordat in order to prevent a repetition on the BCCI scandal. The new feature was to require that a bank obtain the consent of both its home country regulator and host country regulator to establish a branch in a jurisdiction outside its home country. And if the host country is uncomfortable with the quality of home country supervision, it can impose "restrictive measures" on the branch. Such measures may range from closing the branch to obliging the branch to be restructured as a separately

major countries [25] gave the bank supervisory authorities greater power to deal with an international banking group that is not supervised on a consolidated basis by a competent authority. But there is no comparable international agreement about how to deal with an international financial conglomerate.

In April 1990, Price Waterhouse, BCCI's auditor, reported to the Bank of England that some of BCCI's accounting was "false or deceitful." The Bank of England responded by demanding that new management be introduced and that the bank be recapitalized. The government and ruler of Abu Dhabi responded by investing an additional $1.2 billion in the bank, lifting its ownership share from 30 percent to roughly 77 percent and placing substantial additional deposits in the bank. In addition, the Bank of England commissioned Price Waterhouse to conduct a much broader investigation of the bank.

On June 24th, 1991 the Bank of England received a draft of a 45-page report by Price Waterhouse documenting massive fraud by BCCI on a global scale. The Bank of England convened a meeting of the College of Regulators and, in a carefully coordinated action on July 5, 1991 acted with the authorities in the Cayman Islands, Luxembourg and the United States to secure control of the assets of BCCI. The host country supervisors of branches of BCCI were asked to take coordinated, consistent actions so that no creditor would receive preferential

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capitalized subsidiary to setting a deadline for the bank and its home supervisory authority to meet acceptable standards.

[25] For example, in the United States the "Foreign Bank Supervision Enhancement Act of 1991," gave the Federal Reserve Board primary supervisory responsibility for all foreign banking entities in the United States. The post-BCCI Directive in the EU strengthened the powers of EU host countries in dealing with foreign banks seeking entry. Among other features, the host country would be required to determine whether the banking group's home-country supervisors have the responsibility to monitor the banks' global operations on the basis of verifiable consolidated data and the authority to prohibit corporate structures that impede supervision and to prevent banks from establishing a presence in suspect jurisdictions.

treatment because they were able to withdraw funds after the news was public, but before a local branch was closed.[26]

Apart from the echo of the Herstatt problem noted earlier, the closure of BCCI was accomplished with remarkably little impact on financial markets. Not only was this due to the care with which the authorities implemented the intervention, but also to the fact that most sophisticated market participants had cut lines to BCCI long before. Moreover, BCCI was not a major participant in payment and settlement systems nor was it active in the OTC derivatives markets. The aftermath, however, left customers of the 380 banking offices of BCCI in nearly 70 countries, mostly retail depositors,[27] to deal with the chaos of an international bankruptcy proceeding.

The Basel Committee's (1992b) review of the insolvency liquidation of BCCI identified four major conflicts in national insolvency regimes that complicated the liquidation of the BCCI's assets and reduced the amount that could ultimately be distributed to creditors. First, different countries may have very different insolvency regimes for banks and branches. The United States follows a separate-entity doctrine in which the agency or branch of a foreign bank is treated as if were a separately incorporated legal entity for purposes of liquidation (Basel Committee, 1992b, p. 2). Creditors of a US agency or branch would be paid from the assets of the agency or branch and other assets of the bank in the United States as well as all of the assets of the agency or branch worldwide that the US liquidator could marshal. Only after all of the claims of creditors of the US agency or branch were satisfied would creditors of other offices of the bank have access to the remaining assets of the agency or branch, if any.

[26] In the U.S., the New York Superintendent of Banks had imposed an asset maintenance requirement on the New York agency of BCCI in January of 1991. Consequently, agency creditors recovered the full amount of their claims.

[27] Several local authorities in the UK and third world central banks also suffered loss

In contrast, Luxembourg and the United Kingdom follow a single-entity doctrine in which the bank and all of its foreign branches are treated as offices of a single corporate entity. All creditors of the bank and its branches worldwide are entitled to participate in the liquidation, with no preference given to claims of the creditors of a particular branch. The attempt to secure a claim to the worldwide assets of the single entity clearly conflicts with the efforts of countries that follow a separate entity doctrine to withhold the assets of the local branch for satisfaction of the claims of creditors of that branch.[28] In addition to the United States, notable other countries that followed the separate entity doctrine in the liquidation of BCCI included France and Hong Kong.

The two approaches have differing implications for market discipline. Although pooling all assets for distribution in a single, home-country liquidation appears to treat all creditors more equitably, it may undermine incentives for creditors with international operations to seek to do transactions in well-supervised jurisdictions. The US agency of BCCI had assets that exceeded its liabilities because the US supervisory authorities had increased BCCI's asset-maintenance requirement to 120 percent of liabilities to unaffiliated persons in January of 1991 (Group of 30 (1998, p. 87). Supervision in other jurisdictions was not nearly as intense.

Second, different countries have different liquidation procedures. In the United States, general bankruptcy law does not apply to banks. Instead, the primary bank supervisor would liquidate the branch of a foreign bank. Although the Federal Deposit Insurance Corporation has a number of options to consider with respect to an insolvent bank with insured deposits (see III

[28] The Basel Committee (1992b, p. 2) notes an apparent inconsistency in the US approach to bank liquidation. While the US applies the separate-entity doctrine to the liquidation of agencies and branches of foreign banks, it applies the single-entity doctrine to the liquidation of US-chartered banks with foreign branches.
[28] This example is drawn from the Basel Committee (1992b, p. 10).

below), the only option with regard to a foreign branch is liquidation (Basel Committee (1992b, p.3).

In contrast, in Luxembourg and the United Kingdom, the supervisor is not the liquidator. Courts in the United Kingdom apply the same liquidation law to banks as to other commercial entities, while in Luxembourg the court will decide on a case-by-case basis whether to apply the general commercial liquidation law to a bank. Supervisors in Luxembourg also have more flexibility than their counterparts in the UK and the US with regard to options for dealing with a foreign branch that may include a conservatorship or suspension of payments.

Not only do different liquidators have different powers, they may have different objectives as well. These may vary from maximizing returns to domestic creditors or to creditors worldwide to safeguarding financial stability, preserving going-concern value or protecting employment. Clearly conflicts among liquidators can delay the ultimate resolution of an insolvent institution and reduce the amount available for distribution to all creditors.

Third, the right of set-off differs across bankruptcy regimes. The Basel Committee (1992b, p. 3) defines set off as "a nonjudicial process whereby mutual claims between parties, such as a loan and a deposit, are extinguished." The right of set-off can be exercised in the United States with regard to claims denominated in the same currency with regard to the same branch. Claims denominated in different currencies or on different branches may not be set-off (Basel Committee (1992b, p. 4). In contrast, consistent with the single entity approach in the United Kingdom the claims need not be denominated in the same currency, on the same branch or even on branches in the same country. Although Luxembourg also adheres to the single entity doctrine, the right to set-off may not be exercised after a liquidation order and may be exercised before a liquidation order only when the claims "are fixed in amount, liquid and mature."

In principle the right of set-off gives a bank creditor who also owes money to that bank, a position like that of a secured creditor. In practice, however, the right may be severely circumscribed and subject to considerable uncertainty depending on the particular circumstances. For example,[29] the position of a depositor in a bank headquartered in Luxembourg with branches in London and New York may differ markedly depending on where the deposit and loan are booked. The depositor would appear to be in the strongest position if the deposit is placed with the London branch because English law provides the broadest scope to exercise the right of set-off. But the Luxembourg liquidator might attempt to sue the depositor for full repayment of the loan nonetheless. And, if the loan is booked in New York, the US liquidator may sue for full repayment of the loan even though the depositor has exercised the right of set-off in England. The situation is still more complex if the bank has a branch in a jurisdiction that does not permit set-offs. The Basel Committee (1992b, p. 11) concluded, "The lack of an international convention providing for mutual recognition of insolvency set-off or of generally applicable choice of law rules can mean that the expectations of parties at the time contracts are entered into may not be fulfilled…." In the event of the insolvency of a large, multinational bank, this uncertainty could itself be a source of inefficiency and instability.

Finally, the closure of BCCI revealed another wildcard in the international bankruptcy deck that can trump normal insolvency procedures. In the United States, criminal charges may be levied against a bank, even when it has entered insolvency procedures. BCCI was, in fact, prosecuted under the Racketeer Influenced and Corrupt Organizations Act (RICO). The RICO proceeding gathered all of the US assets of BCCI. More than $.2 billion was realized from BCCI assets in the United States. Judge Green, who presided over the BCCI case, the longest-running

[29] This example is drawn from the Basel Committee (1992b, p. 10).

forfeiture proceeding in the history of federal racketeering law, reported (Green, 1999, p.2) that "Most of that sum … [was] forwarded for distribution to the victims of BCCI's collapse." As the Basel Committee (1992b, p. 4) observes, RICO gives the authorities broad prosecutorial powers authorizing them "to seize and forfeit assets in pursuit of the fruits and proceeds of a crime. Assets can be traced into the hands of innocent parties, in effect upsetting expectations about the finality of transactions."

In summary, BCCI revealed some of the complications that could arise in the insolvency of a multinational banking organization. Lack of agreement on an international insolvency regime means that conflicts may arise with regard to the treatment of deposits and assets at branches in different countries, with regard to what entity will act as liquidator and what objectives that liquidator will pursue, and with regard to the right of set-off, if any. Moreover, criminal prosecution in the United States may preempt these normal, if chaotic, bankruptcy procedures reducing still further the amounts available for distribution to creditors. In view of these complications, it is not surprising that the uninsured creditors of BCCI have incurred substantial legal expenses and been obliged to wait a very long time for the settlement of their claims.

II.D. Barings PLC

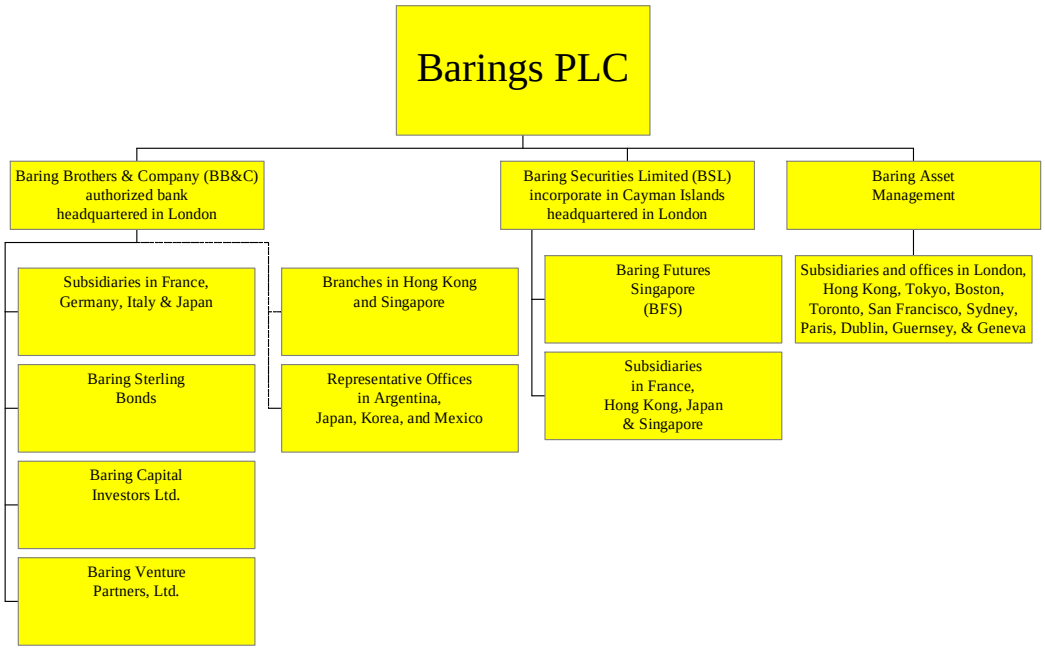
While Herstatt and BCCI collapsed because of massive fraud, Barings appears to have succumbed to fraud committed by a single trader, Nick Leeson. As such it is a compelling example of the hazards of a break down of internal controls, a key component of operational risk.

At the time of its collapse, Barings was the oldest merchant bank in London. Figure 3 summarizes the corporate structure of Barings. Barings PLC organized its businesses within three principal subsidiaries comprising more than one hundred companies: (1) Baring Brothers & Company (BB&C), an authorized bank in London with branches in Hong Kong and Singapore and subsidiaries in France, Germany, Italy and Japan as well as subsidiaries engaged in trading sterling bonds, private equity and venture capital; (2) Baring Securities Limited (BSL) incorporated in the Cayman Islands, but headquartered in London, with subsidiaries that included Baring Futures Singapore, the legal entity in which the fraud took place; and (3) Baring Asset Management.

The Bank of England was responsible for supervising BB&C and for acting as lead regulator for the consolidated supervision of the group as a whole. Its oversight responsibilities extended to the other activities of the group insofar as such activities could threaten the financial soundness and reputation of BB&C.[30] The Bank of England placed reliance on functional regulators and a variety of local regulators (both governmental authorities and self regulatory organizations) to monitor the affiliated and overseas businesses of Barings PLC. For example, The Securities and Futures Authority (SFA) in London was the regulator of BSL. But the FSA viewed its responsibilities as much more limited in scope. The Bank of England Report on the Collapse of Barings (Bank of England, 1995, part 13.7) concluded that the "SFA did not regard itself as required to consider the activities or financial position of the subsidiaries of BSL and considered that its responsibilities with regard to subsidiaries were limited to the express notification of requirements relating to subsidiaries set out in its rules." This narrower scope

[30] For more extensive discussion of the Bank of England's supervisory role, see Bank of England (1995).

Figure 3. The Corporate Structure of Barings PLC



of oversight is often true of regulators of securities firms and insurance companies outside of the European Union (Herring and Schuermann (2002)) and is one of the fundamental challenges the authorities face in developing an overall view of an international financial conglomerate.

In the early 1990s Barings began including results for BSL in the set of returns submitted by BB&Co to the Bank of England. This had the effect of treating BB&Co and BSL as one entity for purposes of monitoring capital adequacy and large exposures and may have obscured the massive flows of funds from BB&Co to BSL used to finance (what the managers believed to be) customer positions at BFS. In fact, they were mainly used to fund the mounting losses incurred by Nick Leeson.

Although Leeson had no authority to maintain open positions overnight or trade in options he conducted both activities in an account not disclosed to his supervisors. His ability to do so was facilitated by his control over both the trading desk and the clearing and settlement function, a violation of a fundamental principle of risk management. The matrix management structure adopted by Barings, which did not correspond to the separate legal entities, also fragmented the oversight of Leeson's activities. In principle, Leeson reported to a product head in London, a local manager at Baring Securities Singapore, and a regional operations manager for Southeast Asia.

During January and February 1995 Barings Tokyo and London transferred $835 million to BFS to meet margin requirements on the Singapore International Monetary Exchange. On Friday, February 24th, when Barings reported to the Bank of England that it would not be able to meet its margin calls the following Monday, Lesson had outstanding notional futures positions on Japanese equities and interest rates with a notional value of $27 billion[31] as well as put and call options with a nominal value of $6.68 billion (relative to reported capital of about $615 million). The extent of the losses was uncertain because fraudulent accounting had obscured the size of the positions. Moreover, even if the size of the positions had been known, their value was uncertain. Trading would not resume until Monday morning in Asia and market participants advised the Bank of England that the Nikkei index could fall another 5 to 10 percent once the size of Barings positions became known (Hoggarth and Soussa, 2001, Annex 2).[32]

[31] Although Leeson's futures positions on the Nikkei 225 index received the most attention in the popular press, the notional value of his futures positions on the Japanese government bond and Euroyen was larger, accounting for $20 billion of the $27 billion total (ACTM, p. 1).
[32] These contracts were ultimately closed out at a loss of $1.4 billion (ACTM, p. 8).

The Bank of England faced a decision about whether the systemic implications of the failure of Barings justified official intervention.[33] Since Barings could not begin trading when markets opened in Asia (Sunday evening in London), the Bank of England had very little time to reach a solution. Given the uncertainty of the extent of losses at Barings, no other financial institution was willing to support or purchase Barings and the Bank of England concluded that the idiosyncratic nature of the problem at Barings was unlikely to lead to a contagious collapse of confidence in London. With no prospect of a rescue, Barings turned to the bankruptcy court on Sunday evening, February 26th.

The Bank of England announced its willingness to provide liquidity to the UK banking system to forestall market disruptions. It also facilitated the unwinding of Barings' positions in much the same way it had intervened to aid the liquidation of Drexel Burnham. To avoid the possible seizure of payments from Barings during the clearing and settlement process, the Bank of England undertook transactions on behalf of Barings on a fully collateralized basis. Losses at Baring Securities threatened to spillover to the exchanges on which it traded. This foreshadowed the potential collateral damage that could occur if procedures for sharing losses in securities exchanges were activated. Indeed, some firms were reported to have been prepared to abandon membership in these exchanges and thus cause a collapse of these markets rather than share in Barings' losses (Group of Thirty, 1998, p.95).

For the relatively brief period – after Barings entered bankruptcy administration on February 27, but before March 3, when the Dutch financial conglomerate, ING, agreed to purchase Barings for £1 and assume all of its liabilities – the final disposition of Barings was in doubt. During that interval we had a glimpse of some of the problems that would occur when

[33] This paragraph is based on the account in Hoggarth and Soussa (2001, Annex 2).

normal bankruptcy procedures are applied to a financial institution that trades actively in world financial markets. Counterparties found that their positions were frozen and could not be liquidated, transferred or rehedged. They faced the prospect of substantial losses due to fluctuations in the dollar price of the yen and the Nikkei index in the wake of the collapse of Barings (Group of Thirty, 1998, p. 94). This interval exposed a stark conflict between the bankruptcy administrator's attempt to protect the status quo through use of a stay and the needs of active trading firms that depend on their ability to hedge dynamically in volatile markets to protect their net worth. It raised the possibility that delays imposed to liquidate the insolvent firm in an orderly manner could cause other firms to default as well. Concerns about losses increased, moreover, when it was learned that omnibus accounts with Barings for trading futures and options in Asia were not protected by practices that strictly segregate customer funds in other jurisdictions such as the United States, and that these funds were being used to meet Barings' expenses. Thus not only counterparties, but also some customers of Barings faced constraints on their access to funds.

In response to the potential problems for derivatives exchanges highlighted by the collapse of Barings, regulatory authorities from 16 countries who have oversight of the major futures and options markets met at Windsor, England to discuss ways to strengthen supervision in May 1995. The resulting Windsor Declaration announced a consensus on measures to strengthen cooperation between market authorities and coordinate action in emergencies, protect customer positions, funds and assets, and improve procedures for dealing with a default on a securities exchange.

In summary, the collapse of Barings highlighted some of the problems of dealing with the failure of an international financial conglomerate active in international financial markets.

Although the banking and securities businesses of Barings were lodged in separately incorporated units of the bank, BB&Co was used to fund massive losses in BSL. The separate functional regulators lacked a full picture of the group's consolidated positions and failed to share information that might have flagged emerging problems before the losses mounted.[34] It also raised longstanding questions about the sharing of information between host and home country supervisory authorities. It raised new questions, as well, about the possibility of the contagious transmission of shocks across derivatives exchanges. And the application of standard bankruptcy procedures that imposed a stay on the claims of counterparties and some customers threatened to jeopardize the solvency of other firms. The International Swap Dealers Association (ISDA) has made a concerted effort to deal with this latter problem by developing Master Agreements that permit closeout netting in the event of default and lobbying for changes in national laws to support such agreements.

II.E. Closeout Netting in OTC Derivatives Contracts: the ISDA Approach

The ISSDA Master Agreements, which govern most over-the-counter (OTC) derivatives contracts, are intended to minimize spillover costs in the event of a default in volatile financial markets. They attempt to reduce negotiation costs by standardizing features common to most transactions, reduce uncertainty by specifying events of default and reduce settlement risk by providing for netting of payments between counterparties. The key feature for present purposes, however, is that the Master Agreements contain closeout-netting provisions. In the event of a default, the non-defaulting counterparty can close-out all existing transactions under the Master Agreement, which may include many different kinds of derivative contracts with many different

[34] See Baxter (1999) for a discussion of the problems posed by secrecy laws for combating corruption in banking.

affiliates of the defaulting entity, making them immediately due and payable. The non-defaulting counterparty can then offset the amount it owes the defaulting institution against the amount it is owed to arrive at a net amount. If the non-defaulting counterparty owes money, it proceeds with payment. If, instead, it is owed money, it makes a claim for that amount with the bankruptcy trustee.

The clear advantage of close-out netting is that the non-defaulting counterparty can crystallize its gain or loss quickly so that it can make appropriate changes in other hedging transactions to manage its exposures to market risk effectively. It will not be held hostage to fluctuations in market prices that can change the gross value of its positions of uncertain value vis-à-vis the defaulting institution while the derivatives contracts are tied up in bankruptcy proceedings. It also protects the non-defaulting counterparty from the possibility that the bankruptcy trustee will engage in "cherry-picking," collecting on contracts that are favorable to the estate of the bankrupt institution, but refusing to pay on contracts favorable to the counterparty. In effect, closeout netting permits the non-defaulting counterparty to jump the bankruptcy queue for all but the net value of its claims.

Closeout netting can thus dramatically reduce credit risk between counterparties in OTC derivatives markets. Robert Pickel (2002), Chief Executive Officer of ISDA, has quantified this reduction for the $3.045 trillion mark-to-market value of outstanding OTC derivatives at the end of June 2001: after the application of close-out netting, the total mark-to-market credit exposure would be reduced by two-thirds, to $1.019 trillion.

ISDA has sought to bolster the legal certainty of closeout netting by lobbying for legislation that ensures all outstanding transactions under a master netting agreement can be terminated upon the occurrence of an insolvency and that close-out netting will be respected by

the bankruptcy trustee. In many cases this requires a statutory exception to override the automatic stay provision in most bankruptcy laws. The United States adopted the earliest statutes providing for the enforceability of ISDA Master Agreements in insolvency.[35] The Federal Deposit Insurance Act was amended in 1989 and the U.S. Bankruptcy Code was amended in 1990 to include protection for closeout netting under swap agreements. The Federal Deposit Insurance Corporation Improvement Act in 1991 protected the enforceability of close-out netting provision in contracts between financial institutions, asserting that the enforcement of netting arrangements would reduce systemic risk within the banking system and financial markets. Pickel (2002) reported that by January 1, 2002 twenty-two nations had enacted netting legislation and seven had such legislation under active consideration.

The President's Working Group on Financial Markets (1999a, p. 26) endorsed the principle of closeout netting as a means of enhancing market liquidity by enabling solvent counterparties to replace closed-out contracts without incurring additional market risk. By limiting losses to solvent counterparties, moreover, the President's Working Group concluded that closeout netting "protects the market from the systemic problem of domino failures." In a subsequent report (President's Working Group, 1999b, p. 34-35), it reaffirmed its support for improvements in the Bankruptcy Code and bank insolvency law that would strengthen and broaden the scope of closeout netting.

The near collapse of Long-Term Capital Management (LTCM), however, revealed the darker side of closeout netting. It showed that when a failing firm has taken positions that are large enough to move prices, these procedures may disrupt markets and exacerbate losses to counterparties and other investors. In such cases, the simultaneous closing out of the failed

[35] See Cunningham and Cohn (2001) for a review of netting legislation in the United States.

firm's positions and attempts to liquidate illiquid collateral could cause the market to crash, directly causing losses to the counterparties and other investors with similar positions. This could lead to additional defaults and additional pressure on illiquid markets as additional collateral is liquidated. More broadly, the resulting increase in market volatility is likely to induce institutions that manage risks with regard to some variant of a value-at-risk model to reduce risk positions across-the-board adding still more downward pressure on prices.

II.F. Long-Term Capital Management (LTCM)

LTCM was a market neutral hedge fund, a limited liability partnership established in February 1994 with equity of $1.3 billion. LTCM was structured to avoid regulation. By restricting access to all but a limited number of sophisticated investors with high net worth, it was exempt from the 1940 Investment Company Act and by offering its shares privately, it was exempt from the Securities Act of 1933. Relative to mutual funds and most institutional investors, hedge funds have much greater investment flexibility because they are not subject to restrictions on leverage, short sales or portfolio concentration. Its sixteen partners included two Nobel Prize Winners, a former Vice-Chairman of the Federal Reserve Board and a legendary bond trader. The prestige of its partners endowed the hedge fund with reputational capital that enabled it to trade in OTC derivatives markets on terms that were available to only the strongest financial institutions with much larger capital positions.[36]

Many of LTCM's positions were variations on a convergence spread – a bet that over time the spread between high quality liquid instruments and less high quality, less liquid

[36] For example, the Basel Committee (1999) noted that banks' covenants with LTCM did not require the posting of, or increase in, initial margin as LTCM's leverage increased.

instruments (or derivatives based on such instruments) would narrow to historical levels.[37] During each of the first two years of its operation, LTCM earned more than 40 percent return on equity for its shareholders. The return fell to just below 20 percent in 1996 and LTCM returned $2.7 billion in capital to its investors citing diminished investment opportunities.[38] Since its risk positions were not reduced commensurately, this payout of equity sharply increased LTCM's leverage.

Although roughly 80 percent of LTCM's balance sheet positions were in the claims on G-7 governments, it was active in a broad range of markets. At the end of August 1998 the gross notional amounts of its contracts on futures exchange exceeded $500 billion and in many cases LTCM's positions were very large relative to average daily turnover. The notional value of LTCM's OTC derivatives contracts exceeded $1 trillion, most of which were collateralized and subject to ISDA Master Agreements that permitted closeout netting in the event of a default. As 1998 progressed, risk spreads continued to diverge rather than converging as LTCM had bet. Russia's devaluation and declaration of a debt moratorium on August 17 set off a flight to quality worldwide that caused risk spreads and liquidity premiums to increase sharply. As a result LTCM suffered substantial losses during August, causing its equity to decline by over 50 percent. Moreover, it experienced great difficulty in reducing its positions as average daily volume of trading declined. Margin requirements and calls for more collateral from LTCM's counterparties led to pressures to sell illiquid assets in markets that had virtually collapsed. Indeed, some markets became so illiquid that counterparties feared that, in the event of default, it

[37] Shirreff notes that some evidence is at variance with this generalization citing reports that it sold equity index options, took speculative positions in takeover stocks and held equity stakes in nearly 80 companies worth $541 million.

[38] This summary of LTCM's positions is based on The Presidents Working Group (1999a, pp. 10-17).

would be impossible to obtain the price quotes from dealers that were necessary to implement the closeout netting procedures specified in most ISDA Master Agreements.

LTCM made numerous attempts to raise more capital, but finally advised the Federal Reserve Bank of New York that it would face grave difficulties in making payments falling due at the end of September. On September 22 The Federal Reserve Bank of New York convened a meeting of 16 of LTCM's largest creditors to explore (President's Working Group (1999a, p.13) "mutually beneficial alternatives to default." After lengthy discussions 14 of these firms agreed to a capital injection of $3.6 billion in return for 90 percent of the equity in LTCM along with operational control. The original partners were left with one tenth of the equity because (Greenspan, 1998) "the creditors felt that, given the complexity of market bets woven into a bewildering array of financial contracts, it would be more efficient to liquidate the portfolio with the assistance of management."

Why did the Federal Reserve Bank of New York take the extraordinary measure of convening the meeting of the creditors of LTCM? If LTCM had applied for bankruptcy,[39] its counterparties would have had the right to terminate, net and set-off derivatives contracts with LTCM. Officials were concerned that quickly unwinding LTCM's complex portfolio under the fragile market conditions that followed the Russian default would amount to a fire sale that would drive down prices still further.[40] It was feared that (Greenspan, 1999) "a forced liquidation would not only have a significant distorting impact on market prices, but also could produce large losses, or worse for a number of creditors and counterparties, and for other market

[39] LTCM also illustrated some of the uncertainties introduced by conflicting approaches to bankruptcy. Although most of LTCM's activities took place in the United States, it was chartered in the Cayman Islands. It might have chosen to apply for bankruptcy protection in the Cayman Islands where rights of closeout netting and setoff are less clear than in the United States (The President's Working Group on Financial Markets, 1999).
[40] See Edwards (1999) for an excellent analysis of the possible effects of an abrupt liquidation of LTCM.

participants who were not directly involved with LTCM." This might have led to a massive liquidation of LTCM's positions in some relatively illiquid markets, depressing prices still further, perhaps transmitting LTCM's problems to other market participants with similar positions and disrupting the orderly functioning of markets. This was the feared "meltdown" that motivated the private-sector bailout of LTCM.

III. Do financial firms need special bankruptcy procedures?

Standard insolvency procedures apply a stay to all claims on the firm. This procedure is intended to protect the status quo and enable the bankruptcy administrator to realize maximum value for the firm's assets (which may involve selling part or all of the firm as a going concern) and allocate the proceeds to creditors equitably. All of this takes a substantial amount of time. In the United States, which has relatively speedy bankruptcy procedures, the average time for a non-bank to emerge from Chapter 11 reorganization proceedings in the US was 17.2 months and for Chapter 7 proceedings, which apply to liquidations, from 2 to 4 years over the period 1982-85 (Group of Thirty, 1998, p.139). But time is of the essence in dealing with a failing financial firm for three reasons.

First, a financial firm has portfolios of interconnected legal contracts, many of which are traded twenty-four hours a day and repriced daily. A default will trigger consequences that will cause losses and penalties for the failing institution and cause changes in its exposures for which it is not currently hedged. If the failing firm is unable to continue trading to hedge its exposures after bankruptcy, the value of its assets may decline (or increase). Aggressive, dynamic management of the portfolio may be necessary to preserve asset values. Indeed, a stay may cause losses not only to creditors of the failing firm, but also to counterparties who are unable to

liquidate, transfer or rehedge their positions. This increases the probability that the failing firm will cause additional failures[41].

Second, confidence is a crucial input into the production of financial services. If clients and counterparties cannot be reassured that the firm will be able to perform on contracts as promised, the firm's business will simply disappear. Quick action is needed if there is to be any opportunity to harvest going-concern value from the firm.

Third, the skills of the people who run the business is another crucial input into the production of financial services. If employees are faced with uncertain prospects over an extended period, they will leave for other firms, taking information and expertise with them. This too will undermine efforts to realize going-concern value from the sale or reorganization of part of the firm.

Thus, the delays inherent in standard bankruptcy procedures may undercut efforts to preserve asset values for distribution to creditors of the failed firm. In addition, they may increase the damage to counterparties and creditors of the failed firm, increasing the likelihood of systemic consequences.

The US, perhaps because of its long experience with bank failures, has recognized that separate procedures should apply to banks. The Federal Deposit Insurance Corporation (FDIC) has been given the objectives of ensuring that depositors have prompt access to insured deposits (and, to the extent possible, to other funds as well) and to ensure the systemic threat of a failure is contained.[42] The FDIC has a broad range of options for dealing with a bank failure including liquidation, a purchase and assumption transaction with another institution, establishment of a

[41] Bliss (2003) makes this point effectively with the aphorism, "… markets move quickly while courts do not."
[42] See Kaufman and Seelig (2002) for an excellent analysis of the importance of maintaining the liquidity of bank deposits to minimize the spillover damage from bank failures.

conservatorship, provision of open bank assistance or creation of a "bridge bank." This latter option is the technique most likely to be applied to a large, complex, internationally-active bank (Bovenzi, 2002). A bridge bank is a temporary national bank organized by the FDIC to take over and maintain banking services for the customers of a failed bank.[43] It is designed to bridge the gap between the failure of the bank and the ultimate resolution. Although the FDIC has not yet had to face the prospect of resolving an internationally active bank with extensive involvement in OTC derivatives markets, John Bovenzi, Deputy to the Chairman and Chief Operating Officer of the FDIC has noted (2002, p. 5) that the FDIC would "work to have the bridge bank functioning almost immediately." He added that the FDIC recognizes that "to maximize franchise value some capital markets and other activities of the bank cannot be effectively stopped."[44]

This separate bankruptcy procedure applies only to the insured depository institution, however, and adds to the complexity of resolving any financial conglomerate with a major presence in the United States.[45] The FDIC is required by law to choose the method of resolution of the insured depository institution that is least costly to it (although there is a complicated procedure for creating a systemic risk exception). Resolution by the FDIC is further constrained by the Domestic Depositor Preference Act of 1993, which requires that all uninsured domestic

[43] The Japanese Deposit Insurance Corporation is also authorized to set up a bridge bank to deal with a bank failure with no immediate chance of another institution acquiring the failed bank.

[44] See Kaufman (2003) for a proposal for the efficient resolution of out of the money swap positions at large insolvent banks.

[45] Ricki Helfer, former Chairman of the Federal Deposit Insurance Corporation, has noted (Group of Thirty, 1998) that the FDIC has been granted "extraordinary powers as receiver, which enables it to act quickly when a bank fails." "(B)efore the creation of the FDIC, depositors were treated the same way as other creditors. They received funds from the liquidation of the bank's assets after those assets were liquidated. The time taken at the federal level to liquidate a failed bank's assets to pay depositors and close the books averaged about six years – in one case it took at least 20 years." These long delays in receiving the bankruptcy payout provided a powerful incentive for depositors to run at the least sign of trouble.

depositors be repaid before any general creditor or depositor at a foreign branch.[46] Similarly, a failed broker/dealer is subject to the special procedures in the Securities Investor Protection Act. An Edge Act subsidiary may be resolved by the Federal Reserve Board, but could also be subject to standard bankruptcy procedures. The parent holding company and most other affiliates are subject to standard bankruptcy proceedings under Chapter 11 (reorganization) or Chapter 7 (liquidation) of the bankruptcy act. And insurance affiliates are subject to separate insolvency procedures that vary from state to state. Moreover, as the President's Advisory Group on Financial Markets (1999, p. E-6), has noted "(T)he Bankruptcy Code has no mechanism for consideration of the potential system-wide impact of an insolvency by the bankruptcy court, the trustee, or a third party.... Once a non-bank is placed into bankruptcy, the interests of its creditors, not the markets or the economy, prevail under the Bankruptcy Code."

Although most countries do not have a separate bankruptcy procedure for banks, and an increasing number do not have separate functional regulators, international differences in bankruptcy procedures may lead to disorderly behavior in times of financial distress. At a minimum, the information sharing and coordination demands would be formidable. And the lesson of BCCI is that at least some authorities will attempt to ring-fence the part of the group they can control to protect assets for their clients – be they national residents, depositors, brokerage customers or beneficiaries of insurance policies. This does not presume ill will or aggressive behavior on the part of the authorities involved. It's simply the result of differences in approaches to bankruptcy resolution and regulatory objectives.

[46] In principle, this provides substantial protection to domestic depositors at large banks headquartered in the United States. On average, domestic deposits account for only about 50 percent of the liabilities of the 10 largest banks (Bovenzi, 2002). But this protection may be less than it appears because it is likely that attempts would be made in at least some jurisdictions to ring-fence the assets at foreign offices of the US bank for the benefit of local depositors.

After 16 years of effort, the European Union has just reached agreement on a draft Directive on the Reorganization and Compulsory Winding-up of Credit Institutions (European Commission, 2001). The draft Directive requires that insolvency proceedings be instituted solely in the Member State where the credit institution is headquartered and that creditors in all Member States be treated equally. But even the European Union has not attempted to harmonize bankruptcy laws and procedures across Member States. The problem is that bankruptcy laws and procedures are matters of fundamental law that usually apply to all entities and reflect national differences in views on the importance of preserving going concern value and the fair and equitable allocation of assets across classes of creditors.

IV. Concluding comment

The international patchwork of bankruptcy laws and procedures is unlikely to lead to an efficient resolution of a bankrupt international financial conglomerate. It seems doubtful that going concern value could be protected adequately and, worse still, the unwind is likely to spill-over to damage other institutions and market participants if counterparties attempt to liquidate positions at once, driving down prices and causing problems for other investors with similar positions. Since we lack workable procedures to unwind the affairs of a failing international financial conglomerate in an orderly manner, the result is likely to be a chaotic scramble for assets that could infect other markets and institutions, with potential disruption of the real economy.

Despite ex ante protestations to the contrary, the authorities are unlikely to risk such an outcome and so the result is likely to be a bailout that will prop up the failing institution. The continuation of recent trends toward globalization, conglomeration, consolidation and increasing

reliance on trading of OTC derivatives implies that we may be confronted with a growing category of firms that are too complex to fail. This, of course, has ominous implications for moral hazard. A market perception that such firms will benefit from official support in times of stress gives them a competitive advantage completely unrelated to their ability to add value to the financial system. It dulls the incentives for creditors to demand disclosure of risky positions and monitor such exposures. Weakened market discipline will enable such institutions to take larger, riskier positions without paying appropriately higher risk premiums to their creditors. The result may be larger potential insolvencies that require still larger bailouts to forestall systemic risk.

For market discipline to operate effectively in constraining risk taking by financial conglomerates, the regulatory authorities need a credible procedure to unwind the affairs of an international financial conglomerate in an orderly manner, without systemic spillovers. This will require ways of dealing with the various aspects of complexity highlighted in the preceding analysis. This means finding answers to a series of difficult questions. Within financial conglomerates, how can the various lines of business be mapped into the various legal entities to which the bankruptcy process must be applied? Within countries, how should the actions of various functional regulators be coordinated in the event of failure? Across countries, how should the various national approaches to insolvency resolution be harmonized to ensure a cooperative process? Across OTC derivatives markets and clearing and settlement systems, how should the needs of the bankruptcy administrator for time to achieve an optimal resolution be accommodated without impeding the ability of market participants to continue trading? Development of improved processes and procedures for dealing with an insolvent financial conglomerate deserves an urgent place on the international regulatory agenda.

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