

Bank Crisis Resolution and Foreign-Owned Banks

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In practice, resolving insolvent banks efficiently, particularly when they are very large, presents a challenge that has been poorly met in almost all countries in recent years. Insolvent banks have generally been resolved only at a high cost to the country in which the bank is located. The costs are of two types. The first is transfer costs arising from the use of taxpayers' funds to reduce or eliminate losses to some or all claimants of insolvent banks—for example, depositors, other creditors, and, on occasion, shareholders. These claimants usually bear the cost of bankruptcies in most nonbank failures. The second type is real costs associated with the misallocation of resources from the often prolonged operation of insolvent banks; this misallocation reduces a country's aggregate income below potential.¹ Both types of costs are magnified when reluctant bank regulators fail to move swiftly to resolve institutions when they first become insolvent.

Ironically, such regulatory forbearance is motivated in large measure by a fear of high societal costs from officially recognizing and resolving insolvencies sooner. Depositors may perceive themselves as losing when legal closure and official recognition transform unrecognized implicit losses into explicit losses. They may also experience liquidity problems if they lose immediate and full access to the funds when the insolvent bank is legally closed. Borrowers may experience liquidity problems if they are unable to access their credit lines. Finally, the payment system may be interrupted. It is widely feared that the effects of these problems may spill over beyond the banks and have adverse consequences for the economy as a whole.

This article examines the efficiency of the resolution process for foreign-owned banks and considers whether host country regulators face additional potential problems when these institutions experience financial difficulties. As Lastra (2004) has noted, banking is becoming increasingly international, but prudential regulation and insolvency resolution have remained national. This article concludes that the problems resulting from this international/national dichotomy in foreign-owned bank resolution

are real and that their severity depends both on the size of a foreign bank's host country operations and whether the bank operates through branches or subsidiaries. Obtaining useful, timely, and accurate financial data may be difficult for a host country regulator, especially when the foreign bank is operating through branches. But even if accurate financial information were available, host country regulators' ability to move promptly to take corrective action may be hampered by the need to share prudential supervision, regulation, and enforcement with home country regulators. These overlap-

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ping responsibilities introduce the possibility of delays not only in sharing relevant information but also in legally closing insolvent institutions.²

Additional problems arise because foreign (home) countries often provide deposit insurance for branches of domestically head-

quartered banks in all countries and, in some cases, such as the European Union, are required to do so.³ Because both deposit insurance and resolution policies may differ from home country to home country, the insolvency and receivership ("pulling-the-plug") criteria applied to foreign branches in a host country may differ depending upon where the institution is headquartered. Potential resolution problems may be compounded when a host country regulator deals with institutions from many different home countries operating under different deposit insurance and failure resolution schemes. These variations can result in differences in both the treatment of creditors and in supervisory and resolution policies. For example, the payment of claims is governed by rules that specify when insured depositors at insolvent institutions are paid, the office at which the claims are booked, when and how much uninsured depositors and other creditors are paid, and whether the insurance agency contacts the eligible claimants or the claimants have to file claims individually.

Differences in supervisory and resolution policies also depend upon how strict prudential sanctions are and how the closure rule is structured and enforced. The latter affects how long insolvent banks are kept open and operating before legal closure takes place. As the number of branches from different home countries operating in a given host country increases, so does the possible number of different deposit insurance and resolution systems that will have to be reconciled should institutions fail. Therefore, large-scale foreign bank presence in a country could increase the potential confusion both before and after one or more institutions become insolvent.

Finally, using home country domestic taxpayer funds to make deposit insurance payments to depositors in other countries could, if nothing else, prove to be politically difficult. Indeed, on occasion, the problems that arise in resolving foreign-owned banks, particularly those involving branches, may be so severe that that cross border banking in this form may be too costly to permit as a matter of public policy despite the well-recognized benefits in terms of intensified competition and improved management that may be associated with the entry of foreign banks.⁴

We focus particularly on the less well recognized "dark side" of direct cross border investment in banks that may be encountered when economic times turn bad. We also discuss the costs and benefits of entry in foreign countries via branches versus subsidiary banks. To minimize the costs of bank failures, a four-point program is proposed for resolving insolvent institutions efficiently. The article describes how the program is designed to work in the United States. But the presence of foreign-owned banks in a country may increase that country's difficulties in satisfying the program's points. The article concludes by proposing a number of policies that may mitigate

these problems. Considering the issues involved before a crisis occurs is critical because cross border banking in the form of foreign direct investment in banks is growing rapidly as advances in computer and telecommunications technology reduce the costs of operating both additional offices and across greater distances. Thus, improvements in countries' ability to resolve insolvent foreign banks more efficiently and to lower the costs of bank failures would increase the likelihood that the bright side of cross border banking will outweigh the dark side in both the long and the short run.

Efficient Bank Insolvency Resolutions in the United States

A bank becomes economically insolvent when the value of its assets declines below the value of its deposits and other debt funding so that the market value of its capital turns negative. At this point, the bank cannot pay out all its debts, including deposits in full and on time, and its depositors and other creditors share in the losses according to their legal priority.

These claimants may experience both credit and liquidity losses in the resolution process. Credit losses may occur when the recovery value of the bank as a whole or in part falls short of the par value of its deposits or other debt on the respective due dates. Liquidity losses may occur for two reasons: First, depositors may not have immediate (next business day or so) and full access to the par value of their de jure insured claims or to the estimated recovery value of their de jure uninsured claims. Second, qualified borrowers may not be able to use their existing credit lines immediately. Insolvent banks are resolved efficiently when the sum of aggregate credit losses and aggregate liquidity losses, or total losses, is at or close to zero (see Kaufman 2004b).

An insolvent bank may be resolved efficiently at the lowest cost to both the bank claimants and the macroeconomy if the process employed by bank regulators in the country in which the bank is chartered or licensed can satisfy the following four rules or principles.⁵ Each principle focuses importantly on the term "prompt":

1. prompt legal closure when the bank's capital declines to some prespecified and well-publicized positive minimum greater than zero (legal closure rule);
2. prompt estimate of the recovery values and assignment of credit losses ("haircuts") to de jure uninsured bank claimants when equity is de facto negative;

1. Caprio and Klingebiel (1999) provide a list of banking crises and their costs. Hoggarth, Reis, and Saporta (2002) estimate that the real costs of the forty-seven crises they studied amounted to 1 to 20 percent of annual gross domestic product (GDP). Other estimates have been provided by Barth, Caprio, and Levine (2001) and Kaufman (2000), who provide estimates of both real and transfer costs.

2. Many of these issues have been recognized in a recent paper by the European Financial Services Round Table (2005).

3. In some instances, host countries may also provide insurance for branches of foreign banks operating in the host country or may top off insurance if coverage offered in the host country is superior to that offered by the home country fund.

4. The advantages are discussed in Barth, Caprio, and Levine (forthcoming) and Berglöf et al. (2005). In New Zealand, the central bank requires an arm's-length relationship between bank subsidiaries in New Zealand and their parent companies (see Bollard 2005 and Reserve Bank of New Zealand 2004a, 2004b). These issues are also discussed in Borchgrevink and Moe (2004).

5. See Kaufman (2004a). Similar plans have been proposed by Mayes (2005) and the Reserve Bank of New Zealand (Harrison 2005), among others.

3. prompt reopening (for example, next workday), particularly of larger banks, with full depositor access to their accounts on their due dates at their insured or estimated recovery values and full borrower access to their pre-established credit lines; and
4. prompt reprivatization in whole or in part with adequate capital.

The next section reviews how each principle is or could be satisfied in bank insolvencies in the United States. We argue that the current U.S. system, while not without flaws and not focused on foreign-owned banks, may serve as a useful model for other countries in designing their insolvency resolution policies. The U.S. system was developed largely in response to the widespread and costly bank and thrift institution insolvencies of the 1980s.

Prompt legal closure. The Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991 introduced a “bright line” bank closure rule that is triggered when the ratio of book-value tangible equity capital to total on-balance-sheet assets declines to a minimum of 2 percent.⁶ If this ratio is not corrected within ninety days, the bank must be declared legally insolvent, closed by the appropriate federal or state regulator, and placed in receivership or conservatorship.⁷ Its charter is revoked, shareholder controlling interests are terminated, and senior management is typically changed. If the institution can be successfully resolved before its market value capital declines below zero, losses are confined to shareholders. Depositors and other creditors are fully protected and kept whole, and deposit insurance is effectively redundant. Thus, any adverse spillover effects, which occur primarily when capital turns negative and losses are imposed on counterparties, are minimized.

Because the closure rule is specified as book-value rather than market-value capital, there is no guarantee that the institution will be resolved before its economic capital is depleted or that creditors will be fully protected against losses. As a bank approaches insolvency, book values tend to increasingly overstate market values for assets. Using a book-value closure rule could result in de facto forbearance, so a market value-based rule would be preferable.⁸ Nevertheless, specifying a closure rule based on a book-value capital ratio that is greater than zero provides some protection against losses due to the deviation of book from market value and to errors in measuring asset values.

Legal closure that proceeds according to a well-specified, publicized, and credibly enforced closure rule has several desirable attributes. It provides no surprises: All players know the rules in advance and base their actions accordingly. It treats all depositors and other creditors in the same priority class more fairly. Because banks tend to have a larger percentage of demand deposits and other short-term deposits and debt than other firms do, bad news, impending insolvency, or uncertainty about how creditors would be treated in the event of insolvency typically increases the incentives of those who can withdraw their funds to do so while assets are still available to satisfy their claims. Uncertainty thus raises the probability of a run, with the initial runners receiving full payment and those unable or unwilling to run receiving less. However, the presence of an enforced closure rule that would close a bank while its capital is still positive would reassure claimants and greatly reduce their incentive to run. All debt claimants, regardless of the date of maturity of their claims, would know that their claims would be kept whole. Reducing the incentive for runs also increases the time available for regulators to act to deter insolvency or bring about an efficient resolution if the closure trigger is breached.

Banks become insolvent in the United States and need to be legally closed when regulators are unsuccessful in implementing another provision of FDICIA—prompt

corrective action (PCA).⁹ PCA is designed to provide incentives for financially troubled banks to turn around before insolvency. PCA established a series of five capital tranches ranging from “well-capitalized” to “critically under-capitalized.” To discourage insolvency, bank regulators apply progressively harsher and more mandatory sanctions on weak financial institutions as their net worth declines through these tranches (see Table 1). The sanctions are similar to those the market imposes on firms in nonregulated industries. Sanctions include change in senior management; reductions in dividends; restrictions on growth and acquisitions; adoption of capital restoration plans; and, if the bank is a subsidiary of a financial holding company, loss of its parent’s status as a financial holding company with the associated wider range of powers (PricewaterhouseCoopers 2003). The tranches effectively serve as speed bumps to slow a bank’s deterioration and to force regulators to become more involved with the troubled bank well before insolvency occurs so that they may be ready to close the bank legally when necessary and not be caught by surprise and delayed. Thus, PCA effectively buys time for regulators to act efficiently.

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PCA also grants regulators some discretion to accelerate the application of appropriate sanctions and actions as a bank’s capital position deteriorates. This authority is in contrast to the supervisory actions employed prior to FDICIA, when intervention was less frequent or timely and discretion was often focused on ways to keep institutions in business rather than on resolving them after they had become economically insolvent. The pre-FDICIA policy tended to result in greater losses to both uninsured creditors and the FDIC.

While PCA has not prevented all bank failures, it has contributed significantly to turning troubled banks around before insolvency and reducing both the number and the aggregate cost of failures.¹⁰ It is important to note, however, that PCA and a closure rule at positive capital are not intended to prevent all failures. As in other industries, inefficient or unlucky banks should be permitted to fail and inept management replaced. But, because the adverse externalities of bank insolvencies are widely perceived to be substantially greater than for other firms, such failures should occur only at low cost with minimal losses to creditors.

6. Banks and thrift institutions in the United States are not subject to the corporate bankruptcy code but to a special code in the Federal Deposit Insurance Act (FDIA). The bank act is considerably more administrative and less judicial, considerably more creditor friendly, and potentially faster in the declaration of insolvency ousting the shareholders and in-place senior management and in making payments to creditors. Bank and financial holding companies are, however, subject to the general corporate bankruptcy code (Bliss and Kaufman 2005).

7. Two ninety-day extensions are permitted.

8. While regulators in the United States may also declare a bank insolvent for a number of other reasons, such as unsafe and unsound banking, they must do so when the closure-rule capital ratio is breached. Wall and Eisenbeis (2002) and Kaufman (2004a) demonstrate that, on average, institutions in the United States have been legally closed long after the market value of equity became negative.

9. The exception is that institutions can fail because of fraud, which is by definition difficult to detect under most circumstances.

10. See OCC (2003) and Salmon et al. (2003). Kaufman (2004c) and Wall and Eisenbeis (2002) both suggest, however, that losses in individual cases have been significant.

Table 1
**Summary of Prompt Corrective Action Provisions of the
 Federal Deposit Insurance Corporation Improvement Act of 1991**

Zone	Mandatory provisions	Discretionary provisions	Capital ratios (percent)		
			Risk-based		Leverage
			Total	Tier 1	Tier 1
1. Well-capitalized			>10	>6	>5
2. Adequately capitalized	1. No brokered deposits, except with FDIC approval		>8	>4	>4
3. Undercapitalized	1. Suspend dividends and management fees 2. Require capital restoration plan 3. Restrict asset growth 4. Approval required for acquisitions, branching, and new activities 5. No brokered deposits	1. Order recapitalization 2. Restrict interaffiliate transactions 3. Restrict deposit interest rates 4. Restrict certain other activities 5. Any other action that would better carry out prompt corrective action	<8	<4	<4
4. Significantly undercapitalized	1. Same as for zone 3 2. Order recapitalization ¹ 3. Restrict interaffiliate transactions ¹ 4. Restrict deposit interest rates ¹ 5. Pay of officers restricted	1. Any zone 3 discretionary actions 2. Conservatorship or receivership if bank fails to submit or implement plan or recapitalize pursuant to order 3. Any other zone 5 provision if such action is necessary to carry out prompt corrective action	<6	<3	<3
5. Critically undercapitalized	1. Same as for zone 4 2. Receiver/conservator within 90 days ¹ 3. Receiver if still in zone 5 four quarters after becoming critically undercapitalized 4. Suspend payments on subordinated debt ¹ 5. Restrict certain other activities				<2

¹ Not required if primary supervisor determines action would not serve purpose of prompt corrective action or if certain other conditions are met.
 Source: Board of Governors of the Federal Reserve System

Prompt estimate and allocation of credit losses. Because regulators should be scrutinizing a troubled bank under PCA well before the bank approaches the capital ratio closure trigger, they should in most instances be able to quickly estimate the recovery value of the institution as a whole or in part upon its legal closure. If the estimated recovery value falls short of the par value of the deposits and other debts, pro rata losses (haircuts) should be allocated to these claimants in their order of legal priority. In the United States, the FDIC has equal standing with depositors at domestic offices and higher standing than other depositors and creditors.¹¹ The FDIC stands in the place of the insured depositors at domestic offices and is obligated to cover insured deposits in their entirety. The FDIC also shares proportionally in any losses

with uninsured depositors at domestic offices beyond the losses charged first to other creditors and deposits at foreign offices. FDICIA requires the FDIC to share any losses with uninsured claimants and resolve the institution at least cost to the insurance fund. The only exception is when doing so is likely to “have serious adverse effects on economic conditions and financial stability.” Requiring parties besides the FDIC to share in any losses is necessary to minimize moral hazard excessive risk-taking behavior by banks and to enhance market discipline by reinforcing the ex post at-risk nature of de jure at-risk claimants. This requirement should, in turn, reduce the number of bank failures.

Prompt reopening of large banks. Liquidity losses to depositors can occur when access to their deposit accounts is delayed or their accounts are frozen. These actions transform demand deposits involuntarily into longer-term time deposits or bonds. Liquidity losses also result when credit lines cannot be relied upon or drawn down to meet business needs. Loss of liquidity thus impairs the efficient operation of the payment system. When regulators close a bank legally, they often also effectively close it physically, at least partially, until funds are recovered from the sale of assets to start paying depositors on their claims. In many countries the lack of access to deposits and credit lines is more feared than actual losses to depositors and generates as great, if not greater, adverse externalities. The more likely depositors are to receive their funds promptly, the less likely they are to engage in runs.

Regulators often are unable or unwilling to avoid, at least briefly, closing banks physically when they close them legally—for example, because of insufficient information on depositors or recovery values. Thus, regulators are under considerable pressure to avoid legally closing banks promptly. By delaying legal closure, regulators temporarily avoid liquidity losses. But delay also postpones, at least temporarily, explicitly recognizing underlying implicit credit losses and provides additional time in which the bank may try to regain solvency and thereby avoid altogether the unpleasantness of legal closure. Evidence in many countries strongly suggests that, on average, such forbearance increases the costs in the long run over what they would have been had the insolvent institution been legally closed promptly. To reduce the incentive for regulators to forbear, FDICIA made prompt legal closure mandatory and, to increase the efficiency of the resolution, required that it be at least cost to the FDIC.

Liquidity losses may be minimized or eliminated entirely by legally reopening the insolvent bank the next business day. Reopening would provide insured depositors immediate access to the par value of their accounts, would give uninsured depositors and other general creditors access to the estimated recovery value of their accounts on due dates, and would allow borrowers to access their credit lines.¹² Thus, legal closure is separated from physical closure.

Potential payments to depositors and other debt claimants, either directly or through assumption of these claims by another bank, require an immediate sale of

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11. Under the Depositor Preference Act of 1993, claims of general bank creditors, including sellers of fed funds, and deposits at foreign offices are subordinated to deposits at domestic offices. See Kaufman (1997) and Marino and Bennett (1999).
 12. Fear of the adverse consequences of liquidity as well as credit losses have at times induced regulators not to give haircuts to uninsured debt claimants, particularly at large banks, after failing the institution by revoking its charter and ousting shareholders and management. This practice is often incorrectly termed “too-big-to-fail” (TBTF). The bank has already failed. This practice has proved highly costly and inefficient. Losses tend to increase, and ultimate resolution is typically only postponed, at which time losses are borne by the FDIC or the taxpayer.

the bank by the FDIC or access to a source of funds. The FDIC may also operate the bank temporarily through a newly chartered bridge bank that assumes most or all of the failed bank's assets and liabilities, generally at market values. The bridge bank is either capitalized with equity by the FDIC or its deposits are fully guaranteed by the FDIC during its operation until it is reprivatized.

The FDIC usually pays insured deposits at a failed bank at par the next business day either through a transfer of the deposits to another solvent bank, which assumes

the liabilities with an offsetting financial payment or, less frequently, through a payout.¹³ The FDIC can make such speedy payments because it has been monitoring the problem bank carefully under PCA and has access to the bank's records on eligible insured deposits. In contrast, uninsured depositors and other creditors generally are given receivership certificates and are

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paid in order of their legal priority as proceeds are received from the sale of the bank assets. Unless there is an active secondary market for these certificates, uninsured creditors receiving the certificates may suffer liquidity difficulties. To maximize efficiency, these depositors should share in any credit losses but not suffer liquidity losses. To help minimize liquidity losses, the FDIC has the authority to make advance payments to these claimants on the basis of estimated or historical average recovery amounts (Kaufman 2000; Kaufman and Seelig 2002). If payments are made at the time of legal closure, this procedure is essentially equivalent to not having physically closed the institution. Advance dividends also permit the estimated recovery value of uninsured deposits to be transferred to a newly chartered bridge bank with immediate access by depositors. In bridge banks, borrowers generally maintain access to their existing credit lines, further reducing any liquidity losses.

Estimates of the recovery value of the funds advanced as dividends tend to be on the conservative side because the FDIC absorbs the loss if it overestimates the recovery amounts. If it underestimates the recovery amounts, it makes additional payments to the claimants later. The FDIC, in its capacity as receiver, can borrow the necessary funds to make advance dividend payments from its corporate capacity, which has access to the FDIC accumulated fund.

The FDIC used advance dividends briefly in a number of resolutions in the early 1980s and early 1990s, when it did not fully protect most or all uninsured debt claimants. But probably because most bank failures in the United States since the mid-1990s have involved small banks and have been largely the result of major fraud, the FDIC has not used advance dividends often.

Use of bridge banks and advance dividends to minimize liquidity losses, especially in combination with the previous principle of preventing, or at least minimizing, credit losses, should eliminate much of the fear of bank failures. It should permit efficient resolutions of large banks without strong negative reactions by the affected depositors and having to invoke "too-big-to-fail," which is now known as the "systemic risk exemption" to the prohibition on the FDIC against protecting uninsured claimants against credit losses in bank resolutions. This practice permits the FDIC to partially or totally protect de jure uninsured claimants in order to mitigate "any serious adverse effects on economic activity and financial stability."¹⁴

Prompt reprivatization and recapitalization. FDICIA requires that insolvencies be resolved at least cost to the FDIC. This requirement also reduces losses

to depositors at domestic offices that share the same priority and encourages rapid sale of bank assets after legal closure. Reprivatization can be more difficult when banks are publicly owned, including bridge banks. Public ownership of banks is not always rooted in the desire to allocate resources efficiently. Nor do publicly owned institutions necessarily seek to maximize profits. Rather, the intent may be to reallocate funds for socially desirable or political purposes. Thus, when a government-sponsored bank becomes insolvent, the government is likely to keep the institution in operation regardless of its financial condition, and its return to solvency is likely to be slower. The consequence is that losses are likely to continue, and the ultimate cost of resolution to the taxpayer is likely to be larger than it otherwise would.

To minimize government forbearance and its attendant costs, insolvent banks should be sold to the private sector in whole or parts as soon as this can be done efficiently. Indeed, in the United States, the maximum life of a bridge bank is specified by law to be no longer than two years, with three one-year extensions (which is probably longer than necessary). Moreover, the sale should be on terms that provide sufficient private capital to ensure that, after adjusting for any guarantees to the buyers, the resulting institution will attain, at minimum, “adequately capitalized,” if not “well capitalized,” status, to guard against a quick return to insolvency. Again, because under PCA the FDIC is aware of most pending insolvencies, it can begin the bidder search process for most banks before legal closure and the actual bidding at closure. As noted, larger banks may need to be bridged to give the FDIC additional time to sell to the highest bidders without having to resort to fire-sale losses or otherwise being forced to unwind the bank inefficiently.

Potential Problems in Efficient Insolvency Resolution Introduced by Foreign-Owned Banks

Several characteristics of foreign-owned banks can make it more difficult for host countries to achieve some or all of the above four objectives for efficient resolution of insolvencies of foreign-owned banks. The problems arise primarily because foreign-owned banks are likely to be subject to more than one bank regulator, more than one deposit insurance agency, and more than one insolvency resolution agency—the home and host country entities—with likely different rules and procedures.¹⁵ In addition, the bank offices in the host country are generally not fully independent of their headquarter office or parent holding company in the home country and thus are not fully under the scope of a single country. As a result, the potential for conflict and confusion is heightened.¹⁶ For example, who is the primary prudential regulator, and

13. A recent survey of deposit insurance practices indicates that few countries (only about 15 percent) pay insured depositors within three months (see Demirgüç-Kunt, Karacaovali, and Laeven 2005). In large part, this payment delay reflects that the insurance agency has insufficient information on the identity of the insured depositors and the amount of deposits insured and requires the claimant to file a claim. In the United States, the FDIC generally has the necessary information and typically does not require depositors to file claims.

14. The systemic risk exemption is discussed at greater length in Kaufman (2004d).

15. See, for example, Garcia and Nieto (2005), European Commission (2005), Financial Stability Forum (2001), Eisenbeis and Kaufman (forthcoming), and Goodhart (2005) as well as a number of the essays included in Evanoff and Kaufman (2005). See Eisenbeis (2004) for a discussion of the conflicts that can arise for regulatory agencies, especially in situations where multiple regulators exist. See also Mayes (2004b).

16. Holthausen and Rønde (2004) and Kane (2005b) discuss models of imperfect information flows among regulators.

how does it regulate? Who provides deposit insurance and how? Who declares legal closure and how? And who resolves insolvencies and how?

These problems can be exacerbated because it may reasonably be assumed that regulators of all types operate primarily in the best interests of the citizens of their own country and not necessarily in the best interests of the host countries, particu-

Obtaining useful, timely, and accurate financial data may be difficult for a host country regulator, especially when the foreign bank is operating through branches.

larly during bad economic times when insolvencies threaten (see Mayes 2005; Borchgrevink and Moe 2004; and Bollard 2005). At such times, home-host country conflicts can become more serious and move to the foreground and must be considered. The remainder of this section

considers some potential problems with implementing the four efficient resolution principles articulated above in situations involving cross border banking, particularly when foreign-owned banks operate in host countries through branches rather than through separately chartered subsidiaries.¹⁷

As noted earlier, foreign subsidiaries of parent holding companies located in another country are either chartered or licensed by the host country, similar to domestic banks. But foreign branches may or may not be chartered, licensed, or approved by the host country. On the one extreme, the European Union (EU) has introduced a single bank charter that permits a bank chartered in any member country to establish branches in any other member country without further permission. Branches of European banks, regardless of where they operate, are subject to prudential regulation, basic deposit insurance, and insolvency resolution procedures of the home country.

On the other extreme, foreign branches in the United States are subject to national treatment, which is similar but not identical to treatment of domestic branches, and must be approved by both the Federal Reserve and either the Comptroller of the Currency or the state in which the branch is to be located. The Fed will approve a branch (or any other foreign office) only if it determines that the parent holding company is subject to comprehensive consolidated supervision by its home country comparable to that in the United States. The branch is subject to prudential regulation and supervision by the Fed and the other approving agency. Except for a small number of branches established before 1991 and grandfathered, foreign branches may not accept retail deposits (under \$100,000) and their deposits may not be insured by the FDIC. They may be insured by the home country. Because it is not a separate legal entity, a foreign branch is required by U.S. regulation to maintain minimum capital equivalency deposits (CEDs) calculated as a percent of third-party deposits at third-party banks and may initiate prompt corrective action if these deposits decline to or below the specified minimum. If an institution becomes of regulatory concern, it may also be required to pledge assets of up to 105 percent of third-party deposits at the branch. Because these requirements help protect third-party deposits at the branch, foreign branches in the United States may be treated not very differently from foreign subsidiaries when they encounter financial difficulties. To focus attention on areas of greatest current concern, the analysis below assumes primarily unrestricted cross border branching as is permitted in the EU.

Prompt legal closure. Prompt legal closure at positive capital according to a prespecified and well-publicized closure rule requires timely, accurate, and meaningful information and data about the financial condition of the bank. Such information is more difficult for host country regulators to obtain or interpret for foreign-owned

banks. For branches of foreign banks, meaningful data apply only to the banking organization as a whole, not to individual offices. The Danmarks Nationalbank also notes that “the EU regulator does not generally grant the authorities of the host country insight into the risks associated with the activities of a branch” (Danmarks Nationalbank 2005, 65). Moreover, a bank may be legally closed for reasons of insolvency only by the home country. Therefore, except for reasons other than insolvency, legal closure of unlicensed branches is generally outside the control of the host country regulators. From the host country regulators’ perspective, the closure decision is effectively outsourced. Different countries are likely to have different legal closure and PCA rules and may enforce these rules differently. Some countries, such as the United States, have special bankruptcy codes for banks, and others include banks in their general corporate bankruptcy codes.

Home country regulators may be influenced in both the decisions to officially declare a bank insolvent and on how to resolve the institution by the relative importance of the bank in its home country regardless of its relative importance in the host countries. Regulators may act differently in both timing and enforcement of legal closure, as well as in imposing corrective sanctions, for a banking organization that is small in the home country but large in the host countries relative to one that is large at home but relatively small abroad or is large in all countries. As a result, branches of different foreign-owned banks in host countries may be legally closed at different speeds depending on the home country. This difference may affect both the size and distribution of losses borne by depositors and other creditors at branches of banks in the same country but chartered in different countries. The greater the number of banks in a country that are chartered in other countries, the more confusing the situation is to both bank customers and regulators in that country. The closure rule and its enforcement may be either more or less efficient in the home country than in the host country.

Subsidiaries of foreign banks also present problems, but on a smaller scale and of a different kind. The subsidiary is a legal entity that is chartered or licensed in the host country (which is the home country for that subsidiary), and the host country has jurisdiction over it but not its parent. Increasingly, bank holding companies are being managed on a consolidated companywide basis. So while the data collected from the domestic subsidiary relate only to the subsidiary, the data may still be difficult to interpret for purposes of assessing solvency. For example, if the regulator perceives that an insolvent, or near-insolvent, subsidiary may be rescued by a solvent parent, then there may be less concern about an apparent weakness in that subsidiary. Conversely, if the regulator perceives that a healthy subsidiary may have its assets stripped by an insolvent or near-insolvent foreign parent, then it may be prudent for the regulator to be more concerned about the subsidiary’s risk exposure. Indeed, in New Zealand, for example, authorities have imposed constraints on large subsidiary banks of foreign parents in an attempt to limit their dependence upon the parent or other affiliates outside of New Zealand (see Bollard 2005).

These considerations raise the practical question of when the host country regulator should legally close a possibly insolvent subsidiary and place it in receivership. What is the probability that the parent will rescue a subsidiary bank by injecting additional capital or that it will not inject capital and will walk away? The decision depends on a large number of factors such as size of the parent and the subsidiary, the countries involved, and so on. (Some of these possibilities are summarized in

17. Some of these issues were recently discussed in European Commission (2005) and Mayes (2004a).

Table 2

Likely Implications for Host Country Treatment of Foreign Bank Subsidiaries of Insolvent Parent or Subsidiary Banks by Relative Size of Bank in Country

			Home country (parent)			
			Large bank		Small bank	
			Solvent	Insolvent	Solvent	Insolvent
Host country (subsidiary) }	Large bank	Solvent	NP	RR	NP	RR
		Insolvent	PC*	R	R**	R
	Small bank	Solvent	NP	RR	NP	RR
		Insolvent	PC*	R	R**	R

Notes:
 NP No problem
 RR Reputation risk/asset protection
 PC Parent choice of rescue or walk and resolution with asset protection
 R Resolution with asset protection
 * Parent likely to rescue
 ** Parent likely to walk

Assumptions:
 • Parent bank likely to attempt to “repatriate” assets at foreign subsidiaries in anticipation of official insolvency so host needs to protect subsidiary assets.
 • Abstracts from functionality concerns re computer/records/senior management availability for operating subsidiary as independent (stand-alone) facility after insolvency and legal closure of either the subsidiary or parent.
 • Abstracts from capital maintenance agreements between parent and subsidiary banks or host countries.

Table 2.) Should the host regulator move more aggressively if the parent but not the subsidiary is insolvent? The parent may try to transfer good assets quickly to itself or other subsidiaries in other countries. How well does a closure rule apply in such situations? How should regulators react if both the parent and the subsidiary are solvent but a separate operating subsidiary in a third country that provides critical services to the subsidiary is insolvent and may not be able to provide the services? Finally, some countries may mandate capital maintenance agreements that require foreign parents to come to the rescue of their subsidiaries. But how enforceable are such agreements across national borders?

Prompt estimate of recovery values and assignment of losses. Branches are not separate entities, and their assets are part of the entire banking organization. Thus, a host country regulator may have difficulty determining branches’ financial condition. Because of interbank transfers, there may be little relationship between the assets and the liabilities booked at a branch in a host country. Any branch may have third-party assets greater or less than its liabilities to third parties. For this reason, it may be difficult to estimate losses in branch offices, and such estimates may not be very meaningful even if they could be done. Reliable loss estimates can be prepared only for the banking organization as a whole and, at best, may be able to be prorated to each depositor at each office. The promptness and reliability of these estimates depend largely on the home country, not the host country.

Loss estimates for insolvent separately capitalized subsidiaries are made by the host country and thus present problems that are not significantly different from those for insolvent domestically owned banks. However, last-minute asset-liability shifting across borders in anticipation of insolvency, although generally illegal, is more difficult to reverse than within a country, and the probability of solvent parent assistance should be factored into the estimates. Regulators have a strong tendency, however, to overestimate the probability of such parent rescues. As noted, parents

generally have the freedom to walk away from troubled subsidiaries and are likely to evaluate each case on its own merits.¹⁸

Prompt reopening of large banks. The timing of the physical reopening of foreign branches in host countries is often in the hands of the bank's home country. Likewise, both the deposit insurance scheme for foreign branches of a cross border branch banking organization and the rules for resolving the branches of insolvent organizations are often established by the bank's home rather than host country. If so, this situation may lead to serious problems (see Borchgrevink and Moe 2004). For example, the timing of the ability of both insured and uninsured depositors and other creditors to access their accounts and the value of their claims may not necessarily be determined in the best interest of the host country.

Loss estimates for insolvent separately capitalized subsidiaries are made by the host country and thus present problems that are not significantly different from those for insolvent domestically owned banks.

Deposit insurance schemes vary greatly across countries. Differences can exist in account coverage, premium assessments, solvency, administration, and private or taxpayer involvement. The speed with which payments are made to insured and uninsured claimants at insolvent institutions may also differ. The speed depends in part upon whether the insurance agency identifies the eligible claimants for payment or the claimants are required to file claims individually. In many countries, the deposit insurer, be it the host or home country, does not have current or complete data on insured deposit ownership and coverage. Thus, claimants need to file specific claims. This method is usually considerably more time consuming and would delay prompt reopening. (Some of these potential differences are shown in Table 3. See also European Commission 2005 and Garcia and Nieto 2005.) Most cross country studies of deposit insurance schemes have emphasized differences that affect the likelihood of solvent banks becoming insolvent. In contrast, this study emphasizes differences after banks become insolvent that affect the speed at which they may be reopened.

Home countries may also encounter political backlash when they are required to make promised insurance payments to depositors at insolvent banks in host countries, especially when the bank's foreign operations are large relative to its home country presence. Such cross border payment liabilities are effectively equivalent to foreign debt. This problem may be particularly acute when some of the payments are funded by home country taxpayers and the host country uses a different currency so that the foreign debt also involves exchange-rate risk. Thus, in host countries, branches of foreign-owned banks from different home countries may be physically reopened at different speeds after being legally closed depending on the practices of the respective home countries.

Importantly, the host country regulator may wish to see a legally closed branch office reopened quickly, independently of when offices are opened in the home country. But reopening a branch might not be feasible even if the host country were to operate the office temporarily because the branch may not have "functionality"—the senior management, the records, or the computer facilities necessary to operate on a stand-alone basis (Bollard 2005). Thus, at best, some physical closure of a foreign branch might not be avoidable. If the branch offices in the host country are

18. In the United States, the Federal Reserve has argued that parent holding companies should be a "source of strength" to their subsidiary banks and finance any losses that may occur from insolvency. This argument is not universally accepted.

Table 3

Possible Deposit Insurance System Differences in Different Countries

Account coverage <ul style="list-style-type: none"> • Maximum amount • Type of account, e.g., interbank • Foreign currency deposits • Coinsurance 	Claim filed <ul style="list-style-type: none"> • Automatically • By claimant
Ownership <ul style="list-style-type: none"> • Private vs. public (government) 	Pre-insolvency intervention <ul style="list-style-type: none"> • Prompt correction action (PCA)
Funding (premiums) <ul style="list-style-type: none"> • Ex ante vs. ex post • Magnitude • Risk-based vs. flat • Regular vs. “topping up” 	Declaration of insolvency <ul style="list-style-type: none"> • Private creditors or government agency • Insurance agency vs. other • Closure rule vs. discretion (forbearance)
Reserve fund <ul style="list-style-type: none"> • Minimum magnitude • Voluntary or required 	Insolvency resolution <ul style="list-style-type: none"> • Administered by insurance agency, other agencies, or bankruptcy court • Least-cost resolution (LCR) • Insurer serves as receiver/conservator • Too big to fail
Government support <ul style="list-style-type: none"> • Explicit (official) vs. implicit • Credibility of private funding (premiums) 	Membership <ul style="list-style-type: none"> • Mandatory or voluntary
Speed of payment if insolvency <ul style="list-style-type: none"> • Insured depositors—to par value • Uninsured depositors—to market (recovery) value • Advance dividends vs. as assets sold 	Powers of insurance agency <ul style="list-style-type: none"> • Payer only • Supervisory and regulatory
	Other <ul style="list-style-type: none"> • Coinsurance • Offsetting/netting

sufficiently important in that country, the host regulators may be able to minimize or avoid physical closure by requiring the branches to maintain sufficient redundancy in these functional areas or to credibly guarantee immediate availability. But such measures would increase costs and reduce whatever efficiencies might be associated with branching.

In contrast to branches, subsidiary banks are separate, stand-alone legal entities. The host country provides deposit insurance on the same basis as to domestically owned banks and resolves insolvencies, so many of the conditions for prompt reopening are in the host country’s hands. Nevertheless, as holding companies are increasingly managed on a companywide consolidated or integrated basis, functionality may still be a problem. The necessary management, records, and computers to keep the facility functioning seamlessly may be at the parent or at another operating subsidiary in another country. Thus, host countries may also wish to require as a condition of chartering a subsidiary of a foreign bank that some redundancy be maintained domestically even though this may reduce benefits that may be derived from economies of scale or scope.¹⁹

Prompt reprivatization and recapitalization. Prompt reprivatization and recapitalization of insolvent foreign-owned banks may be more difficult than for insolvent domestic banks, especially to the extent that foreign-owned banks are resolved at a higher cost (greater negative net worth) for the reasons discussed above. There may be insufficient domestic capital, and a search for foreign capital may take longer. A host country may also have difficulty reprivatizing branches of

insolvent foreign banks independently of the actions of the home country. To do so would require the regulator to seize the branch offices and supercede the jurisdiction of the home country. Such seizure could delay the process and raise international legal issues. Finally, there may be cultural and language differences that may hamper a smooth and seamless transfer to potential owners in another country.

In sum, because of the increased difficulties in achieving at least some of the four principles for efficient resolution, foreign ownership of banks may increase the cost of insolvencies at such banks by increasing both the credit and liquidity losses in host countries relative to the losses experienced in resolving insolvent domestically owned banks. Higher resolution costs are more likely in cross border banking through branching on a single-license basis than for banking through subsidiaries.

Possible Remedies for Foreign-Owned Bank Resolution Problems

It is apparent from the preceding analysis that the difficulties with efficient resolution of foreign-owned bank insolvencies lie primarily in the heterogeneity of both the closure rule and the deposit insurance structure across countries. These difficulties include differences in both provisions and enforcement; overlapping of legislation, regulation, and supervision between home and host countries; and inherent incentives for regulators to favor the welfare of their home countries, possibly at the expense of the host country. These problems are complex and do not lead to easy or simple lasting solutions. Moreover, they become increasingly significant as more and more banks operate banking offices in foreign countries.

Coordination and cooperation among home and host countries is a necessary but not sufficient condition to solve the problem.²⁰ What appears to be required is greater harmonization and homogeneity, particularly in closure policies and claims resolution. Indeed, centralized multinational regimes for deposit insurance and insolvency declaration (closure rules) and resolution, in terms of both provisions and enforcement, appear to be the most promising way to ensure that bank failures are resolved efficiently and without creating undue uncertainty.²¹ Centralized regimes would eliminate the differences that make multiple individual country regulatory regimes and cross border enforcement and payments a severe problem.

But such a system raises numerous questions: Which countries should be included in the arrangement? How would those excluded be dealt with? How would the governing board be organized, and how would countries be represented on the board? What authority and enforcement power would such a board have? What funding would be available? And would the conflicts discussed above be eliminated by a single structure or merely internalized and hidden from view? These issues are significant enough that it is unlikely that a single, multinational structure for either deposit insurance or insolvency resolution could be adopted in the near future. Nevertheless, now is the time to begin the thinking process.

In the meantime, how should cross border banking be operated? Is there an intermediate or transition position that would encourage efficient resolution? A number of countries—most notably the Nordic countries, where cross border, single-license branch banking is scheduled to begin shortly—have established formal memoranda of understandings on joint supervisory policies and agreements governing the treatment of institutions in financial distress (Mayes 2005). Likewise, the major financial

19. Again, New Zealand has made such attempts (Bollard 2005; Borchgrevink and Moe 2004).

20. This issue has also been addressed by Danmarks Nationalbank (2005).

21. Kane (2005a) considers another alternative that involves the sale of options on insolvency losses.

public policy authorities in the European Union recently signed a Memorandum of Understanding on Cooperation in Financial Crisis Situations, which was announced in a press release, although the contents of the memorandum were not made public.²² But, as argued above, it is unlikely that such cooperation will work effectively at all times, particularly not just when it is needed most—when a large cross border

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bank experiences solvency difficulties. Prudential regulators will have a hard time not putting their own country's interests first and cooperation second. Moreover, by not publicizing the details of the agreement, regulators are not fully revealing the rules of the game to all participants, whose actions are thus less efficient. Adoption of

a common resolution scheme, possibly enforced by an independent multinational enforcement agency by EU countries permitting free cross border banking, particularly branching, may solve many of these problems. However, until a satisfactory long-term solution to the problem can be developed, it appears to be in the best interest of countries to limit physical cross border banking presence to subsidiary banks even though such limitations merely reduce and do not eliminate the problems and may not promote maximum efficiency in the majority of times when banks and banking are strong.²³

Conclusion

This article explores some special problems in the efficient resolution of insolvent banks raised by cross border banking through foreign-owned banks and the forms that expansion may take. We suggest that, despite the many gains that may attend such expansion when times are good, potential problems may be both significant and more daunting when times are bad and bank insolvencies occur.

The article proposes four principles for the efficient resolution of insolvent banking offices against which to evaluate existing resolution structures for foreign-owned banks. Some characteristics of foreign-owned banks can make achievement of these principles by the host country more difficult. We conclude that the potential costs of such insolvency resolutions in the host country, especially when entry takes place by way of unrestricted branching, can be large not only in terms of larger credit and liquidity losses but also in terms of the potential confusion introduced by different closure rules and resolution policies across countries. In the absence of central multinational deposit insurance, a single insolvency resolution agency, and common or harmonized laws regarding insolvency resolution and enforcement, we suggest that entry by way of subsidiaries presents the lesser, but certainly not insignificant, set of problems for the host country and its residents. For all forms of entry, resolution costs can be most effectively controlled through the universal adoption of well-designed and enforced PCA-type policies and legal closure rules based on market values of assets and liabilities.

22. Press release, "Memorandum of Understanding on co-operation between the Banking Supervisors, Central Banks and Finance Ministries of the European Union in Financial Crisis situations," May 18, 2005 <www.ecb.int/press/pr/date/2005/html/pr050518_1.en.html> (November 11, 2005).

23. This solution is currently preferred by New Zealand.

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