CROSS BORDER BANKING:

CHALLENGES FOR DEPOSIT INSURANCE AND FINANCIAL STABILITY IN THE EUROPEAN UNION

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I. Introduction

It is generally argued that foreign ownership of banks increases competition and efficiency in the banking sector of the host country, reduces risk exposures through greater geographical and industrial diversification, and enlarges the aggregate quantity of capital invested in the banking sector. Indeed, foreign entry through direct investment is widely recommended by researchers and analysts as a means of strengthening weak and inefficient banking structures, particularly in emerging economies. This is because banks that are willing and able to enter a foreign country, especially developing economies, through direct investments are generally larger, in healthier financial condition, more professionally managed, and more technically advanced than the average host country banks, and may therefore be expected to raise the bar for all banks.

Foreign ownership of banks varies greatly among countries. In the European Union, for example, Table 1 shows that foreign ownership averages 58% in the ten new EU member states as compared with a weighted average of 16% for the older EU members.[1]

Despite the benefits that might accrue to foreign ownership, cross-border banking through either branching or subsidiaries raises a number of important policy issues when financial instability threatens. These concerns are particularly important with respect to the provision of deposit insurance, the effectiveness of prudential regulation, the strength of market

[1] See European Commission (2005).

discipline, the timing of declaring an insolvent institution officially insolvent and placing it in receivership or conservatorship, and the procedures for resolving bank insolvencies.

Because the actual or perceived adverse externalities of bank failures may be large, it is important to evaluate how banking regulatory structures are likely to function within and across countries at times of financial strain as well as at times when banks are performing well financially. An effective regulatory structure should not only foster competition and efficiency in good times, but also should aim to minimize the cost of any adverse externalities associated with insolvencies. This would include avoiding the probability of adopting hasty, *ad hoc*, automatic reflex public policy measures once a crisis emerges that protects most if not all stakeholders against loss. While expedient solutions may appear to minimize the cost of insolvencies in the short-run, they may do so only at the expense of even higher longer-term costs because the necessary actions were not taken much earlier. In addition, in the case of cross-border banking, competing interests of stakeholders in the home country versus those in the host country can raise important agency problems that may affect how financially distressed banking organizations are resolved, the incidence of possible externalities associated with failure, and both the magnitude and the distribution of the costs among affected parties when failures do occur.[2]

While the benefits of cross-border banking conducted through foreign-owned banking offices have been analyzed intensely, the implications that alternative regulatory structures have for resolving problems, should these institutions experience financial distress, have been analyzed far less. This paper extends the extent literature by examining these latter issues in

[2] See Dell'Ariccia and Marquez (2001).

greater depth.[3] Emphasis is on the European Union, which is both economically and financially large and has several features relating to cross-border banking in the form of direct investment that may heighten the problems we consider. These features include the provision of a single banking license, reliance upon the home country as the primary provider of deposit insurance and application of the bankruptcy processes and host country responsibility for financial stability and lender of last resort. It should be emphasized that the issues being faced by the EU are not unique and are common to most countries subject to cross-border banking. Indeed, the EU has at least attempted to harmonize policies, and for this reason may be ahead of other parts of the world in facing the problems. Nevertheless, the sooner all countries face up to the problems that crises bring, the less vulnerable their financial systems will be.

In the next section we describe the EU cross-border banking regulatory structure in greater depth to set the background for subsequent analysis. Section III discusses agency problems that may arise in the supervision and regulation of cross-border banking institutions in the EU. Section IV focuses on the problems of providing deposit insurance for institutions operating in that environment, and Section V looks at insolvency resolution. Section VI. examines issues concerning the payout from deposit insurance plans and resolving large bank failures and Section VII suggests ways to solve the problems. Section VII argues for modification of the new European Company Statute as it applies to banking organizations to require agreement by banks desiring to establish branches across and over borders to be subject

[3] Reviews of the benefits appear in Caprio, et. al. (forthcoming), Committee on the Global Financial System (2004), Goldberg (2003) and Soussa (2004). Brief previous warnings about the unsettled state of affairs in cross-border banking appear in Goodhart (2005), Eisenbeis (2005), and Mayes (2005). See in particular the analysis of the Nordea Bank, which is headquartered in Sweden but operates in a number of other countries in the appendix to Mayes (2005).

to both a system of prompt corrective action and be required to give up its charter at a positive capitol-to-asset ratio. The last section is a summary and conclusion.

II. Key Features of EU Financial Regulatory and Deposit Guarantee Systems

The European Union is in the midst of an economic transition from a collection of separate country economies into a single economic market. As part of this integration, the Masstricht Treaty of 1992 established the ground work for introduction of the EURO in 1999 and establishment of the European Central Bank. But it left to the individual member countries responsibility for banking supervision and regulation, financial stability, lender of last resort functions, and the provision of deposit insurance guarantees.[4]

As part of an effort to encourage the development of a single economic market, the Second Banking Directive (1988) as modified in 1995 established three principles – harmonization, mutual recognition and home country control. Harmonization requires that a minimum set of uniform banking regulations be adopted across the Union. Mutual recognition means that during the transition to a single market, member countries would honor the regulations and policies of the other member states. Finally, regulation and supervision by the "home country" (country of charter) would have precedent over regulation and supervision by a "host country." Together with the concept of a single license, these three principles mean that, once a banking institution receives a charter from an EU member state, it would be permitted to establish branches anywhere within the EU without the necessity of review by the regulators in the host countries into which it expanded. When entry takes place in a host EU country by way of a separately chartered subsidiary, rather than through a branch office, the host country is responsible for supervision and regulation of that entity, since it is the home country for that

[4] See Mayes and Vesala (2005)

subsidiary. At the same time, supervision of the consolidated entity remains the responsibility of the home country.

While establishing minimum prudential standards and providing for roughly comparable rules, substantial latitude on numerous dimensions for regulatory differences continues to exist. For example in the proposed implementation of Basle II, numerous national discretions exist in how Basle II will be applied. [5] This raises concerns about incentives to engage in regulatory arbitrage on the part of the regulated institutions and in regulatory competition by country regulators.

One logical implication of the home country approach is that over time, as the competitive climate increases and more and more cross-border banking evolves regulatory competition becomes more likely, which in turn should facilitate and drive Europe toward a truly single market environment. To the extent that it does, regulatory competition and the market place may serve as a lever in achieving the EU's objective of a single market. Individual country self interest in promoting their own institutions will also be an inducement to compete through deregulation of financial services. Countries offering more attractive charter options or accommodative regulatory regimes would expect to see domestically chartered institutions gain market share in the EU. The logical consequence of allowing home country regulation would, as the result of regulatory competition, be a less regulated and homogeneous market place.

Mayes and Vesala (2005) argue that the sharing of responsibilities between home and host country regulators during the movement toward a single market objective is a viable policy precisely because harmonization of regulation and supervisory policies have taken place and official Memoranda of Understanding (MOUs) between and among the individual country

[5] Regardless, of the form of entry, however, the Core Principles for Effective Banking Supervision (Basle Committee on Banking Supervision (1997)) clearly indicates that supervision is to be "effective" within the EU, regardless of whether it is provided under the auspices of the home or host county

regulators have been put in place to share information.[6] However, others have argued, as will be seen in the next section, that such a structure is fraught with problems and conflicts that may erupt when significant intuitions experience financial difficulties. Indeed, Mayes (2006) suggests it is just these concerns that have prompted the Nordic countries to layout specific responsibilities in the advance of the onset of a financial crisis, should the dominant institution in those countries – Nordia Bank – get into financial difficulties.

Putting these issues aside for the moment, the EU regulatory structure anticipates the need for supervisory efforts to head off the insolvency of a "systemically important" bank. Should a institution experience financial difficulties requiring lender-of-last resort assistance in amounts greater than a given, but confidential, threshold, then approval is required by the Governing Council of the ECB.[7] While the ECB does not presently have formal lender of last resort authority, Gulde and Wolff (2005) suggest that there is a window of opportunity through the ECB's payments system responsibilities to provide such funding.

The EU regulatory system relies on common principles and coordinated approaches that would be followed when institutions experience financial difficulties. Within this general framework, however, substantial differences exist in terms of the details of how the safety net is structured across countries as well in terms of the types of deposits and amounts that would be insured. These differences contain substantial incentives for institutions to engage in regulatory arbitrage, and create important differences in how nations might respond should substantial institutions get into financial difficulty. These will be detailed in the next sections.

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[6] Others argue vigorously that only a single regulator at the EU level like the ECB is situated for monetary policy will be effective (see Walter (2001), Di Giorio (2000)).

[7] See Gulde and Wolf (2005) for a review of the financial stability responsibilities in Europe.

III. Agency Problems and Conflicts

Cross-border banking through foreign-owned branches or subsidiaries can subject the entering institutions to multiple regulatory jurisdictions and regulators, as well as to many different legal systems. As a consequence, operating across borders presents potential problems for such banks beyond the fact that there are just more regulations to follow or regulators who may have different incentives.[8] Bank laws can differ greatly and may even be conflicting across the different countries. Therefore, regulatory compliance may be uncertain and difficult for banking organizations with multiple country operations. Furthermore, bank supervisors and regulators in both home and host countries typically operate in what they consider is the best interest of their country, however defined or perceived (Bollard, 2005).[9] This may lead to agency problem to the extent that the incentives of the regulators, deposit insurance provider and/or failure resolution entity are typically aligned with the residents of the regulators' home or host country rather than with the interests of all customers in the whole market or geographic area within which the institution operates.

Schüler (2003) points out that the incentive conflicts actually have two dimensions – a home country dimension and an international or cross-border dimension. First, with respect to the home country issues, self interest and incentive problems of the classical principle/agent type exist between the banking supervisors and taxpayers. Regulators have incentives to pursue policies that preserve their agencies. In addition, they also to pursue their own private self-

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[8] See Eisenbeis and Kaufman (2005) for a detailed discussion of these issues.

[9] This problem has arisen in France with the country's attempt to preserve Credit Lyonnais with injections of governmental funds in more than three separate instances in the past several years. More recently, an editorial in the Wall Street Journal Europe (2005) entitled "Spaghetti Banking" pointed out that the governor of the Bank of Italy had refused to approve the acquisition of a single Italian bank by a foreign institution for the last 12 years. The governor indicate his desire to "… preserve the banks' Italianness also in the future …." This protectionism was challenged by the European Union's Internal Market Commission in connection with the proposed acquisitions of two Italian banks by ABN Amro and Banco Bilbao Vizcaya Argentina, and the governor of the central bank was ultimately forced out amid criminal investigations associated with the blockage of the proposed transactions.

interest to ensure both their jobs and their future marketability and employment in the banking industry (see Kane (1991, 1989), Schüler (2003), and Lewis (1997)). These conflicts may lead to more accommodating policies in the form of lower than appropriate capital requirements and to regulatory forbearance when institutions get in trouble, thereby shifting risk and any associated costs to taxpayers as regulators attempt to ingratiate themselves with constituent banks.

Second, with respect to cross-border banking, in areas such as the European Union, as foreign banking organizations begin to increase their market share and dominance through the establishment of branches (as distinct from expansion via subsidiaries) in the host country, host country regulators face a loss of constituents to supervise and regulate. As noted, EU policy, specifies that home country regulators are responsible for supervision and regulation of institutions chartered in their country regardless of the location of their braches. At the same time, the host country is responsibility for financial stability within its boundaries.. One consequence of this structure is that individual country regulators have a country centric focus which may be manifested in several dimensions. As noted, nationalistic concerns, may lead to a home country bias. They may favor domestic over foreign institutions and attempt to limit the acquisitions of indigenous banks, or move to create "national" champions which would be protected from outside takeover.[10] Over time institutions with the more favorable home country regulatory environment will likely expand at the expense of those institutions with more stringent operating environments, especially when the restrictions impose costs rather than lead to healthier institutions. Thus, different regulatory and supervisory regimes, whether de jure or defacto, create regulatory arbitrage opportunities. [11]

[10] The French and Italian authorities have, in the past, attempted to limit acquisitions of their large institutions.
[11] Kane (1977).

Adding to the problem is that the quality of host country monitoring and supervision may be reduced with the entry by foreign branches or subsidiaries. Both, host country regulators and the markets in these countries are generally less able to obtain useful financial information from foreign-owned institutions than they are from domestic domestically-owned banks (Committee on the Global Financial System, 2004).[12] This concern is especially acute for foreign branches which do not have meaningful balance sheets or income statements separate from the bank as a whole. This makes monitoring difficult for the host country regulator. Such information is critical when foreign branches come to control a large share of the host country's deposits, as is the case for many of the accession countries, because the host country is still responsible for financial stability and the lender of last resort function. In the case of subsidiaries, since they are separate legal entities, they would have balance sheets and income statements that would be available to the regulator in the country in which they were chartered. However, in the EU, because the home country is responsible for the consolidated supervision of the parent banking entity, the chartering agency for the subsidiary will still experience information problems to the extent that it may be unaware of, or have difficulty in obtaining information on, problems in other parts of the banking organization that may have implications for the viability of either the parent or its subsidiary.

Schüler (2003) argues that this problem of information access issue constitutes a form of agency problem between the home and host country regulator. The home country regulator, particularly if its monitoring and performance is weak, may be incented to disguise its poor performance by either producing disinformation on the performance of foreign branches or be less than diligent in supplying the host country regulator with timely information. Without

[12] Differences in quality can exist simply because countries fund their banking regulators differently or because they have had only limited experience in supervising market entities.

adequate and timely information, the host country may be in a poor position to assess the potential risks or externalities its citizens and economy may be exposed to from its foreign branches. These incentive conflicts may be especially acute in host countries with a large foreign banking presence. This is an especially important issue in small economies where a foreign bank may be a significant player, but where those operations are relatively small compared to those in either its home country or elsewhere. Many of the new EU entrants face this problem since they have a very large proportion of foreign banks, as Table 1 shows.

The information problems are likely to become increasingly significant as banking organization expand and consolidate many of their management and record keeping functions to achieve cost efficiencies. In the electronic age, institutions are increasingly being managed on a consolidated or integrated basis from the home country. Niemeyer(2006) noted recently that " …banks are progressively concentrating various functions, such as funding, liquidity management, risk management and credit decision-making, to specific centres of competence in order to reap the benefits of specialization and economies of scale." Furthermore, data and records are usually kept centrally at the home offices or at sites not necessarily in the host country. Large complex banking organizations in particular are actively centralizing activities and either outsourcing or maintaining separate operating subsidiaries whose functions are to provide critical infrastructure or other functions to their bank subsidiaries.[13]

The logistics and costs to host country regulators of quickly accessing information on these arrangements, or even finding it, can be daunting, even when the foreign banking organization enters by way of a bank subsidiary rather than a branch. Should a foreign-owned institution become insolvent and be legally closed, it may not be possible to keep those portions

[13] Schoenmaker and Oosterloo(2006) and Goodhart and Schoenmaker(2006) make similar observations about this centralization trend and include, in addition to functions mentioned above, internal controls treasury operations, compliance and auditing.

of the institution's operations in the host country physically open and operating seamlessly during the resolution process in an attempt to limit any adverse consequences that may accrue to deposit and loan customers. The necessary senior management, operating records, and computer facilities may be physically located in the home rather than in the host countries or in separately owned and operated affiliates and subsidiaries in third countries. For these reasons, regulatory oversight and discipline is likely to be more difficult and less effective in host countries with a substantial foreign bank presence than in countries without this presence. The resolution process is also less effective. Perception of these problems is likely to heighten incentives on the part of host country regulators to seek to protect their own citizens, even at the expense of home country or other host country citizens.[14]

With respect to the international dimension to the agency problem, home country regulators may take insufficient account of how the externalities that a failure, and the way that it is resolved, may affect the host country. That is, because all the regulators in countries in which a banking organization operates may have different objective functions and incentives, they may not all be pulling in the same direction at the same time with respect to prudential supervision and regulation. And these conflicts may be important, even when there exist coordinating bodies or agreements and understandings as to principles, such as in the European Union. As noted earlier, the home country is responsible for monitoring the performance of its chartered institutions, including the foreign branches of those institutions operating in other countries, but the host country is responsible for financial stability.[15] When a crisis arises, responsible parties

[14] New Zealand addressed this problem by requiring subsidiaries to be structured in such a way that if the parent becomes insolvent, solvent subsidiaries can be operated effectively without interruption in terms of capabilities and management. This may deny them the full benefits of economies of scale, scope and risk management.

[15] The Sveriges Riksbank (Bank of Sweden) recently raised the question " How much responsibility home countries are willing to take for financial stability in other countries where a bank operates. For example, the Nordea Group is a Swedish bank that has its largest market share in Finland. Would the Swedish authorities be willing an able to judge Noreda's impact on stability in Finland? And would the Finnish authorities be prepared to transfer

may not have had a clear delineation ex ante of responsibilities between the home and host country nor anyway of enforcing those agreements that may have been made ex ante. EU MOAs are merely agreements and lack enforceability under law. Regulators may take conflicting actions to benefit their own country's residents or institutions, say, with respect to the nature and timing of any sanctions imposed on a bank for poor performance, the timing of any official declaration of insolvency and the associated legal closing of the bank, the resolution of the insolvency, or the timing and amount of payment to insured and uninsured depositors.[16] [17]

We would expect that the incentives are for a host-country regulator to favor indigenous institutions and customers. Hence the potential agency problems are likely to become more significant in markets and economic areas that are becoming increasingly integrated, as in the European Union, or that may be experiencing an influx of outside entry. Indeed, the incentives may also vary depending upon simply the differing degree of cross border activities that may exist, as between the new and original members of the European Union.

Until recently, cross-border banking has proceeded at a rather slow pace, especially within the EU, but as financial integration accelerates, more cross-border mergers are likely to take place, and many institutions will be bought by institutions from other countries.[18] To date, Table 1 shows that the degree of cross-border penetration within the EU rose at a modest pace from an average of 13% of banking assets in the 15 old member states in 1997 to only about 16%

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responsibility for a considerable part of its financial system to Sweden? Similar problems exist in other countries. "(Sveriges Riskbank (2003), pg. 2.

[16] A classic case of just such a decision occurred in the Herstadt Bank failure in which German authorities closed the institution at the end of the business day in Germany, but before all the bank's foreign exchange transactions had settled with counter parties in other time zones. While not affecting the total amount of loss, the timing of the legal closure did shift losses, either intentionally or not, from holders of mark claims on the bank, primarily German depositors, to those expecting to receive dollars from the bank, primarily US and UK banks later in the day.

[17] In the US, such conflicts have existed among state regulators and among federal banking regulators despite a national mandate to coordinate regulatory and supervisory policies and the existence of the Federal Financial Institutions Examination Council.

[18] In New Zealand, for example, there are effectively no indigenous banks at all.

in 2004. Penetration varied significantly from a high of 89% in 2004 for Luxembourg to a low of 5% for Germany. The admission of 10 new countries changes the landscape, and potential cross-border issues significantly, since the degree of foreign penetration is much greater on average for the new members states. Table 1 shows that foreign ownership in the accession countries averaged 58% of assets in 2004, with a high of 98% for Estonia and a low of 23% for Cyprus. These countries are typically small in terms of GDP relative to the original EU countries (Table 2). The largest of these new entrants is Poland, which accounts for only 4% of the EU's GDP. Of course, several of the older EU members are relatively small as well – seven have less than a 2% GDP share each. Because of the relative importance of cross-border banking to the accession economies, and the relatively smaller size of their economies, compared to the rest of the EU, the potential externalities of the failure of large banks operating within these host countries could be very significant.

From the home country perspective, the incentives are not only to pay less attention to the externalities that failure may impose on host countries, but also to protect home country residents from possible costs of failure. These incentives may be especially significant with respect to the provision of deposit insurance, which in the European case is primarily the responsibility of the home country. These issues are considered in the next section.

IV. Deposit Insurance

In the European Union the Deposit Guarantee Schemes Directive (DGD) (94/19/EC) provides the basic framework for the structure of how deposit insurance guarantees will be provided. The DGD endorsed a decentralized approach to deposit insurance, despite the fact that depository institutions are authorized to operate within any of the member countries. The design leaves the responsibility of providing coverage to depositors and the particulars of the scheme adopted at all branches domestically and foreign to the member home countries where a bank is chartered. The DGD specifies the basic features that an acceptable deposit insurance should have. Most specifically, the system should provide deposit insurance coverage of 20 thousand Euros, should exclude coverage of inter-bank deposits, and may exclude other liabilities at the discretion of the national government. Co-insurance of liabilities is permitted but not required. Coverage of depositors in branches in countries other than the home country is the responsibility of the home country, but these can also be covered by the host country at its option. Additionally, should the host country account coverage be greater than that available to a branch thorough its home country deposit insurance scheme, the foreign branch may purchase top-off coverage to match that available to competing host country-chartered institutions.[19] There may be more than one scheme for different types of institutions. .But most terms of the deposit insurance structure are not prescribed, and the details of the schemes are left to the discretion of the individual member countries.[20] These include the funding of the plans, pricing of coverage, who should operate the plan (the private sector or public sector), how troubled institutions should be handled, what too-big-to-fail policies in terms of protecting de-jure uninsured claimants might or might not be pursued, or how conflicts would be resolved where two deposit insurance funds might be affected by failure of an institution with top up coverage (See Dale (2000) and Garcia and Nieto (2005) for descriptions of the existing arrangements in the EU).

Additionally, it is the responsibility of the home country's central bank to serve as the lender of last resort. However, little attention has been paid to how the responsible agencies decide whether a problem is a limited micro or broader systemic risk problem, although the EU's Council of Economic and Financial Affairs, has recently promulgated a structure for

[19] This also means that if home country insurance is superior in other features to that provided generally in the host country, then the branch would have a competitive advantage relative to institutions chartered in the host country.
[20] For a brief review see European Commission (2005) and European Parliament (1994).

coordination of financial stability efforts for banking supervisors and central banks within the EU. Banking supervisors have also embarked upon a series of crisis simulations to identify issues and problems that may arise.[21]

In establishing the minimal requirements for deposit insurance schemes, the attempt was obviously to balance the fact that most but not all original EU members already had deposit insurance plans in place and that many of the key provisions and features of there programs were different. Presumably, the best that could be hoped for was that the schemes would be harmonized over time. The potential for cross-boarder problems, at least in the short-run, appeared minimal because there were few truly multinational institutions in the EU. The plans that were put in place by individual countries in order to comply with the DGD varied substantially from those already in place. Finally, responsibility for supervision and risk monitoring is apportioned differently across the system and within the different countries.

Whatever the differences, it was not intended that institutional detail and plan features would serve as a source of competitive advantage within host or home countries. However, Huizinga and Nicodeme (2002) demonstrate that within the guidelines established by the EU, the discretionary differences in insurance system design have affected international depositor decisions as to the placement of their funds. In particular, countries with schemes with low premiums, co-insurance and private administration are more attractive to international depositors. But more relevant to this study, they also suggest that "… countries can in principle tailor their deposit insurance systems to allow their banks to capture a larger market share in the

[21] Neito and Penalosa (2004) describe the proposed structure in great detail and discuss recent efforts to deal with the problems of coordination.

international deposit market. This could lead to international regulatory competition in the area of deposit insurance policies."[22]

Hence it is reasonable to be concerned that the structure of these systems, including their financing and the way that claims will be settled create agency problems between host and home country citizens and the management of deposit guarantee schemes that may significantly impact the efficiency of resolving insolvent banks at minimum cost to the host country. Going forward the patchwork set of deposit insurance schemes, when coupled with the bifurcated approach to controlling systemic risk, seems fraught with the potential for agency and conflicts of interest problems (see Kane (2003b)). These arise from several sources including:

1. Uncertainties about the funding of the deposit insurance plans,
2. Differences in deposit insurance coverage and pricing of coverage,
3. Reliance upon the home country, as opposed to the host country, should institutions get into financial difficulties,
4. Differences in treatment with respect to the lender-of-last-resort function,
5. Differences in approaches to bankruptcy resolution and priority of claims in troubled institutions and
6. Differences in EMU vs non-EMU participants

EU countries must establish policies for how foreign banks operating in the country will be treated. In addition, EU directives require that host country chartered or licensed subsidiary banks of foreign parents receive treatment equal to that accorded chartered domestic banks in the country. But Eisenbeis and Kaufman (2005) suggest that it may not be appropriate to provide the same treatment for branch offices of foreign banks as for subsidiaries. especially when top-

[22] Huizinga and Nicodeme (2002), pg. 15.

off insurance is provided or the branches themselves are also insured in the host country.[23] Host country monitoring, for reasons discussed earlier, is not likely to be as effective as home country monitoring, because less meaningful financial reporting information from domestic branches of foreign banks is available. Even if information from the home country about the entire legal entity were available, host countries are unlikely to be able to take actions against any banks outside their own jurisdiction. Finally, the potential losses to uninsured creditors and to the deposit guarantee fund depend as much upon the home country closure and resolution policies as on the financial condition of the institution.

The more insolvent an institution is before it is legally closed, the greater are the losses to the insurance funds and possibly taxpayers. For this reason, host countries may become more reluctant to provide insurance for foreign branches. Despite this, several EU countries not only have either an insurance option for EU and/or branches of institutions chartered in non-EU member countries but also offer topping off options when the home country deposit guarantee plan is less than in the host country. This exposes host country insurance funds to "regulatory risk" because the closure decision and any losses to the host country insurance fund depend upon actions of the home country regulator.

Table 3 suggests that while there are some differences across EU countries in their insurance treatment of foreign branches and deposits, most countries do enable foreign branches to elect to be insured by their deposit insurance funds, and some provide insurance of foreign deposits as well, with most, but not all, being limited to foreign currency deposits of other EU member countries. Some countries also permit foreign operated branches to purchase additional insurance, when insured in their home country, if the host country's insurance scheme is more

[23] Eisenbeis and Kaufman (2005) discuss in detail differences in the implications of entry by branches as opposed through establishing subsidiaries

generous. Table 4 details the differences that exist in insurance coverage across the Euro area. Several countries, including France, Italy and Germany, are substantially more generous in their coverage than the minimum coverage of 20 thousand EURO, Tables 5 & 6 also suggest that many of the attributes that Huizinga and Nicodeme (2002) found to be important to international depositors, such as private administration and co-insurance, do vary substantially across EU countries.

Table 7 shows that there are substantial differences not only in the legal requirements for when depositors are to be paid but also when they have actually been paid.[24] [25] But even if the countries use the same currency, e.g., Euros by Euroland countries, if taxpayers in the home country are required to fund some or all of the insurance, they may be reluctant to make payments to depositors in foreign countries. Despite EU directives which require universality in the treatment of all EU citizens, the Sveriges Riksbank (2003, p.87) noted recently that:

> … if a cross-border [branch bank] were to fail, it is improbable that either politicians or authorities in the respective countries would be willing to risk taxpayers' money to guarantee stability in countries other than their own. This could prompt the concerned countries to try to ring-fence the bank's assets in their own country with a view to minimizing the costs to the domestic economy, or not to intervene at all in the hope that other countries in which the bank has a bigger presence feel forced to act. The result could be a suboptimal resolution of the crisis that proves more costly or that produces greater adverse effects for all the countries involved.

When a large number of foreign branches from different home countries coexist in a host country, bank customers in that country may encounter a wide variety of different insurance plans. These plans are likely to differ, at times significantly, in terms of account coverage, premiums, insurance agency ownership (private vs. government) and operation, ex ante funding

[24] Because many countries permit several extensions of the payment deadlines, this probably explains the difference between the legal payout requirements and actual performance.
[25] Within the European Union, of course, there are countries that have the Euro but others that aren't part of the European Monetary Union and have their own currencies.

and credibility.[26] Table 8 provides a general tabulation of the kinds of differences that can and do exist within the EU, despite the attempts to ensure uniformity. At the same time, host country regulators encounter banks operating under a wide array of different foreign banks and different rules and regulations.

If the home country provides the insurance and pays the losses in branches operating in other countries, it is likely to demand at least some prudential regulatory jurisdiction over the activities of those branches in host countries, regardless of what may or may not be permitted in the host country. If this authority is exercised, this may imply different regulatory regimes with different sanction schedules coexisting for a branch in a host country. Moreover, if a branch has toping-up insurance, then depositors of the branch will face potentially different rules and availabitly for those portions of their deposits covered by the home country deposit guarantee scheme than for those deposits covered by the host country scheme. In the EU, many but not all members require or permit topping off. But even here, provisions differ. Some countries, such as Malta only cover the difference between coverage provided in the home country, while others provide duplicate insurance.

The situation becomes more complex and confusing as the number of countries with banks operating branches in a host country increases. Host countries may face quite different situations if home country A bank failed versus home country B bank.

V. Insolvency Resolution

As financial integration proceeds, and in particular as cross border-bank expansion increases, even what may appear to be small differences between schemes may be magnified. Equally important, differences in the guarantee arrangements may generate significant cost

[26] Many of the specific differences have already been detailed in Tables 3-6.

shifting when a troubled institution needs to be closed or resolved. There are generally two different models for dealing with banking insolvency, and these hinge generally on the special role that deposit insurance and banking supervisors play and the supervisor's ability to intervene in a bank's activities before failure occurs. In the US, special bankruptcy laws apply, whereas in Europe, the general bankruptcy statutes apply. The EC Directive 2001/24/EC of April 4, sets forth EU policy for how failed banks (credit institutions) are to be resolved.[27] The intent is to create a common approach to insolvency resolution. It leaves the actual closure decision to each home country, and its applicable bankruptcy procedures, but attempts to promote equal treatment for creditors, regardless of where they are located. Harmony is to be achieved through mutual recognition of both home and host country bankruptcy procedures and coordination among authorities. Krimminger1(2004) indicates that conflicts are supposed to be resolved through a mediation process that conveys that responsibility to the home country. As for differences in treatment of financial institutions, Hupkis (2003) indicates that in most countries in the EU bank insolvencies are covered under the general bankruptcy statutes, but several countries provide exceptions. Some authorize the banking supervisory agency the right to petition for bankruptcy. A few EU countries have separate bankruptcy statutes for banks.

A number of questions arise concerning cross-border insolvencies. Because both the timing of the official declaration of insolvency and the process by which an insolvency is resolved have important effects on the host country of a branch or subsidiary, should the host country share in the prudential regulation with the home country and, if so, in what way? In the EU, the home country is responsible for a foreign branch but the host country is responsible for any subsidiaries chartered therein.

[27] Krimminger1 (2004)

How far can and does inter-country regulatory cooperation go? Inter-country cooperation tends to operate best when things are going well but deteriorates rapidly as conditions in the countries involved deteriorate and generate conflicts arising from an incentive for a home country regulator to give preference to its own citizens even at the expense of host country residents or other host country citizens. In the EU, substantial efforts have been devoted to cooperative arrangements and understandings about information sharing. In addition, crisis simulations have been undertaken and memoranda of understandings have been struck in many instances. However, cooperation works best when there is no crisis, nor do simulations involve the same cost-benefit calculations that real crises entail.

Does it matter whether the absolute or relative size of the branches or subsidiary are much larger in the host country than in the home country? Would home countries be more or less likely to declare a bank insolvent sooner or later given that this decision may impact the home and host countries differently? Would host countries permit home countries, whose branch banks comprise a large percentage of the banking assets in that country, to be the final determiner of the insolvency decision or "pull the plug" on their banks in the host countries when the host country has to suffer any excess damage from either overly hasty or overly slow action? In the EU, systemic risk resolution is the responsibility of the local supervisory agencies and central banks. However, in the case of use of the lender of last resort function, large transactions (at present unspecified or at least not publicly available) must be approved by the Governing Council of the European Central Bank. The specifics, however, of the home country treatment of banks whose failure might present systemically important implications for a host country are not explicitly addressed in EU directives. Indeed, it is for this very reason, that Nordic countries have structured their own arrangements specifically designed to deal with Nordea bank, should it experience financial difficulties.

Should countries be able to impose depositor preferences in favor of deposits at their own home office relative to deposits at foreign host offices, as the United States and Australia do? In Europe, EU directives specifically require that EU citizens and claims be treated equally in the event of a bank failure.

Accounting rules are also likely to differ among countries. Thus, the timing of when accounting insolvency occurs is likely to differ in different countries. Solvency in one country may be recorded as insolvency in another and vice-versa. This alone, even if the regulators in different countries move to resolve official insolvencies at the same speed, will result in different timing of resolutions. Accounting for profitability is also likely to differ among countries. This is likely to result in the transfer of activities within a banking organization and across subsidiaries to countries where the activity receives the most favorable accounting treatment (Cardenas, 2003). To the extent that such shifts may not only interfere with the efficient allocation of resources in the host country branches, but also adversely affect the financial condition of subsidiaries in particular countries, they are of concern to the prudential regulators in those countries. Some analysts have argued that requiring foreign bank subsidiaries to have equity outstanding and minority (independent) directors may lessen the likelihood of shifts that impact the host country adversely, in addition to providing additional signals about significant changes in the financial health of the subsidiary or organization as a whole. Despite these concerns, the fact that all EU firms must abide by the International Financial Reporting Standards should serve to at least constrain countries from applying different valuation procedures to some degree.

The effectiveness of home country prudential regulation of its foreign branches and subsidiaries in most countries depends on a number of factors, including the strength and credibility of the home country's deposit insurance scheme and the relative and absolute sizes of the banks in each country (Mayes, 2004 and Eisenbeis 2004). Host countries would prefer home country prudential regulation of foreign branches particularly when the home country deposit insurance scheme is strong and host country branches are large. Home country regulation is least satisfactory to host countries when its deposit insurance scheme is weak and branches in the host country large.

As earlier noted, for subsidiary banks in financial difficulties, host country regulators need to be concerned whether the parent will or will not rescue the sub, and for solvent subsidiary banks of troubled foreign parents, whether or not the parent will attempt to strip assets from the sub, whether the sub's solvency is threatened through reputation risk from the parent's insolvency or whether the parent could continue to supply important services.[28] The table 9 suggests that the severity of the agency problems are dependent on a number of factors, including the absolute and relative sizes of the parent and subsidiary and of the countries involved. Some host countries require capital maintenance agreements between the parent and it foreign subsidiary banks' regulators requiring parental support if the sub gets into financial trouble. But enforcement of such provisions across borders can be difficult. The greatest chance of parents walking away from insolvent subsidiaries is when the parent is small and solvent and the sub is insolvent regardless of size. The least chance is when the parent is large and solvent and the sub is insolvent, again regardless of size. Size matters most when the parent is solvent. Small parents are less likely to rescue insolvent foreign subs of any size.

[28] A similar matrix is developed in Goodhart (2005). A more detailed analysis of the decision to expand cross-border through branches or subsidiaries appears in Dermine(2006) and Eisenbeis and Kaufman(2005b). .

EU member countries have different structures for deposit insurance as well as for financial institution supervision and regulation. Some have split supervision and regulation according to function while others have consolidated supervision and regulation into a single agency. In some instances, the central bank is involved in prudential regulation and in other countries it is not. One implication of the different structures is that policy tradeoffs for regulatory agencies faced with the same set of policy issues may differ. This both sets up many opportunities for individual institutions to pit the countries' agencies against each other and fosters regulatory arbitrage on the part of financial institutions to seek a competitive advantage.[29]

However, relying upon regulatory competition to level the playing field also risks creating a more lax supervisory system and may open the system up to unintended systemic problems should major financial institutions get into financial difficulty, To be sure, the EU has set minimum supervisory standards for the region through directives and agreements in order both to set a lower bound as far as safety and soundness risks are concerned and to promote cooperation and information sharing among the individual country supervisors.[30] While these directives and guidelines are an attempt to limit excessive regulatory competition, except at the margin, there is no EU-wide bank supervisor or other agency responsible for providing Euro-wide deposit insurance or for resolving the failure after declaring an institution insolvent and (establishing and enforcing a common closure rule). This is a major weakness of the current

[29] Kremers, Schoenmaker and Wierts (2003) recognize the importance of the existence of certain of these conflicts involving systemic supervision (the lender-of-last resort) and prudential supervision in comparing the supervisory structure adopted in the Netherlands and the United Kingdom.

[30] One of the more important of these directives sets policy towards capital adequacy through the Capital Adequacy Directive, which led to the Basel I capital standards for EU supervisors to follow. Basel I has now been refined by the Basel Bank Supervisors Committee now known as Basel II. Unfortunately, concentration of supervisory efforts on capital standards substitutes supervisory judgment for market-based risk weights to determine if an institution has sufficient capital. Wall and Eisenbeis (2002) argue that this focus is misplaced and misdirects supervisory attention from prompt corrective action and least cost resolution of troubled institution.

design. It results in one that may seemingly work well during good times, but, as noted earlier, is filled with risks, conflicts, and potential delays in resolving problems in bad times. Indeed, these risks are likely to prove more significant over time, as the EU financial system becomes more integrated and more countries with different economic and financial systems at different stages of development join. That is, one of the biggest threat to lasting EU financial stability hinges upon the design of deposit insurance systems within the EU countries and the structure of bankruptcy resolution in the event that institutions get into financial difficulties.

VI. Deposit Insurance Payout Coordination Problems for the EU

Numerous practical issues arise if a large cross-border institution should experience financial difficulties and have to be legally closed and resolved. Cross border coordination and decision making would be extremely difficult, especially in the absence of explicit ex ante plans.[31] Consider an extreme case in which a cross-border institution operated both branches and separately chartered subsidiaries in each of the current 25 EU countries. In this case there would be 24 home country regulators (one for the parent institution and each of the separately chartered subsidiaries), 24 different deposit insurance funds (with primary responsibility for the home chartered subsidiaries but with overlapping responsibilities for branches in each host country and foreign branches in their own country to the extent that the institution might have chosen to top out its coverage), and 24 separate central banks possibly involved if emergency liquidity had to be provided to keep the institution operating while claims against it were resolved. In the extreme, there could be 72 separate entities that would have a role is some part of the resolution of this institution.

[31] The European Commission is engaged in a review of its Deposit Insurance Directive 94/19 and surveys are still being conduced to provide an up to data compendium of the exact provisions of each country's scheme.

With different deposit insurance coverage, sorting out who would be responsible for what claims would be a daunting task, especially when it comes to the top off coverage claims for cross-border branches. In addition, because of different laws governing claims in bankruptcy across the different countries, there would be the added complication that depositors' claims might be treated differently if held in a branch than a subsidiary. Imagine the difficulty for a depositor, especially a corporate customer, who might have multiple accounts across countries, in choosing an account in his/her own country among say branches of banks headquartered in 23 other countries with different insurance and resolution systems. Any claims might be settled differently depending upon which bank or country the account was held and whether the account was in a branch or subsidiary. Imagine also depositors in a member country with branches of banks chartered, say, in all of the other 24 countries. The depositors would be faced with options involving 25 deposit insurance schemes and 25 insolvency resolution schemes. To make the guarantee system work smoothly, there would have to be no risk that one or more country deposit insurance funds might default or might not be able or unwilling to meet its obligations, particularly when many of the deposits of the insolvent bank are at branches in host countries While this may, in good times, be viewed by the responsible authorities as an unlikely event, there is ample evidence that commitments are not always kept in bad times (see Appendix I for a discussion of the failures of US sponsored nonfederal government deposit insurance systems). For this reason, Goodhart and Schoenmaker (2006) argue for the establishment of explicit ex ante commitments to share the burden should losses occur.

VII. Possible Solutions to the Deposit Insurance Problems and Difficulties in Resolving Problems in Foreign-Owned Banks.

It is well understood that poorly designed deposit insurance, safety nets and regulatory structures encourage both moral hazard behavior by banks and poor bank regulator performance in resolving troubled banks can lead to excess forbearance on problem institutions. These effects increase both the likelihood and costs of a banking crisis.

In the EU, there is little uniformity in the underlying legal structure for resolving bank failures. Only a few regulators have legal closure authority, and failure resolution is covered under general bankruptcy laws. This is in stark contract to the U.S., for example, where there is a separate bankruptcy and administrative process for banking mergers administered by the FDIC.

Part of the difficulties with efficient resolution of foreign-owned bank insolvencies lie 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, which has become the focal point for European efforts to deal with troubled institutions is a necessary but not sufficient condition to solve the problem.[32] What appears to be required is greater harmonization and homogeneity, particularly in closure policies and claims resolution and most likely eventual EU-wide deposit insurance and bankruptcy laws and resolution agencies Indeed, centralized multinational regimes for deposit insurance and insolvency declaration (closure rule) and

[32] This issue has also been addressed by Denmark's Nationalbank (2005).

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.[33] This would eliminate the differences that make multiple individual home-host country regulatory regimes and cross-border enforcement a severe problem. But such a system raises numerous questions. Which countries should be include in the arrangement, how to deal with those excluded, how to organize the governing board, how are countries represented on the board, what authority and enforcement power would such a board have, what funding would be available, especially given the lack of a fiscal taxing authority at the pan-European level. and whether the conflicts discussed above are eliminated by a single structure or primarily only 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. We put forward a four point program for efficiently resolving insolvent banks so that both their credit losses and the widespread fear of bank failures are minimized and the adverse moral hazard incentives inherent in deposit insurance become benign. Indeed, with efficient insolvency resolution, deposit insurance provides desirable built-in redundancy in case specific resolutions turn out ex-post not to be effective, much like airplanes that have two or even three brake systems in case the first system fails. But this is a second best solution. The preferred solution is to prevent the occurrence of bank insolvencies through effective market discipline and appropriate regulatory prompt corrective actions.

The proposal is based on a fundamental understanding of the nature of bank failures and where their costs occur. Banks become economically insolvent when the market value of their assets declines below the value of their deposits and other debt funding so that the value of their capital turns negative. At this point, a bank cannot pay out all its debts, including deposits in full

[33] Kane (2005) considers another alternative which involves the sale of options on insolvency losses.

and on time, and the 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 parts 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 insured claims or to the estimated recovery value of their *de jure* uninsured claims. In the case of insured deposits, the insurer must have a fund to provide eligible depositors with immediate and full access before the insurer may collect the proceeds from the sale of the bank or its underlying assets and, in case of losses, to fill the difference between the par value and the recovery value. In the case of uninsured claims, liquidity can be provided either by a direct injection of funds or thought a liquid and active secondary market for receivership certificates given to uninsured claimants by the insurance agency, Second, qualified borrowers may not be able to utilize their existing credit lines immediately. Insolvent banks may be said to be resolved efficiently with least cost to society when the sum of aggregate credit losses and aggregate liquidity losses, or total losses, are at or close to zero.

Insolvent banks in a country may be resolved efficiently if the process employed by bank regulators in the country in which a bank is chartered or licensed can satisfy the following four rules or principles.[34] Each principle focuses importantly on the term "prompt:"

1. Prompt legal closure when the bank's equity capital declines to some pre-specified and well-publicized positive minimum greater than zero (legal closure rule),

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

2. Prompt estimate of the recovery values and assignment of credit losses ("haircuts") to *de jure* uninsured bank claimants when equity is negative to avoid protecting *de-jure* uninsured claimants,
3. Prompt reopening (e.g., 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 re-privatization in whole or in parts with adequate capital.

Adoption of these four principles and the necessary infrastructure to make them work, would largely eliminate most of the agency problems, negative externalities, insurance fund losses, and coordination problems associated with the current EU system that has been identified here and by others as well.

The next sub sections review how each principle is or could be satisfied in bank insolvencies in the United States. We argue that, while not without flaws and not focused on foreign-owned banks, the current system in the U.S. 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.

A. 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.[35] If not

[35] Banks and thrift institutions in the U.S. 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

corrected within 90 days, the bank must be declared legally insolvent, closed by the appropriate federal or state regulator, and placed in receivership or conservatorship.[36] Its charter is revoked. Shareholder controlling interests are terminated and senior management is 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 in terms of book value capital rather than the market value of 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. Thus, there is a risk that use of the book value closure rule may result in de facto forbearance.[37] [38] Nevertheless, specifying a closure rule based on a capital ratio that is greater than zero provides some protection against losses due to the deviation of book from market value and losses due to errors in measuring asset values.

Legal closure according to a well specified, publicized, and credibly enforced closure rule has several desirable attributes. There are 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

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and in-place senior management, and payments to creditors. Bank and financial holding companies are, however, subject to the general corporate bankruptcy code (Bliss and Kaufman, 2006).

[36] Two 90 day extensions are permitted.

[37] While regulators in the U.S. may also declare a bank insolvent for a number of other reasons, such as unsafe and unsound banking, they must do so when the at the closure rule capital ratio is breached.

[38] Wall and Eisenbeis (2002) demonstrate that, on average, institutions in the U.S. have been legally closed long after the market value of equity became negative.

deposits and other short-term deposits and debt than other firms, bad news, impending insolvency, or uncertainty about how creditors would be treated in the event of insolvency typically increase the incentives of those who can withdraw their funds to do so while there are still assets 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 a strong perception of an enforced closure rule at positive capital would greatly reduce the incentive to run. All debt claimants, regardless of the date of maturity of their claims, would know that they would not suffer credit losses. Reducing the incentive for runs also increases the time regulators have to act to deter insolvency or bring about an efficient resolution if the closure trigger is breached. At the same time, equity holders would have greater incentive to attempt to address problems promptly as capital ratios declined, since they would know with greater certainty that they would stand to lose their claims. They would have little incentive to engage in excessive risk taking or moral hazard behavior.

Banks become insolvent in the U.S. and need to be legally closed because another provision of FDICIA – prompt corrective action (PCA) – has failed to incent financially troubled banks to turn around before insolvency. PCA established a series of five capital tranches ranging down from “well-capitalized” to “critically under-capitalized.” Progressively harsher and more mandatory sanctions are applied by the bank regulators on weak financial institutions as their net worth declines through these tranches to discourage their insolvency (Table 10). The sanctions are similar to those that the market imposes on firms in non-regulated industries. Sanctions include change in senior management, reductions in dividends, restrictions on growth and acquisitions, adoption of capital restorations 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.[39] The tranches effectively serve as "speed bumps" to slow a bank's deterioration and to force regulators to become more involved with troubled banks well before insolvency, so that they may be ready to close them legally when necessary and not be caught by surprise and delayed. Thus, PCA effectively "buys time" for the regulators to act efficiently. PCA also grants regulators some discretion to apply appropriate sanctions and actions as a bank's capital position deteriorates depending upon the individual circumstances to turn the bank around to profitability. This is in contrast to the supervisory actions employed prior to FDICIA when intervention was less frequent and discretion was often focused on ways to keep institutions operating after they had become economically insolvent without forcing improvements. This latter policy tended to result in 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.[40] However, it is important to note that PCA and a closure rule at positive capital are not intended to prevent all failures. As in other industries, inefficient and/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.

B. Prompt Estimate and Allocation of Credit Losses

Because the regulators should be scrutinizing troubled banks under PCA well before they approach the capital ratio closure trigger, the recovery value of the institution as a whole or in

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[39] (Price-Waterhouse Coopers, 2003)

[40] See OCC (2003) and FDIC Salmon et al.(2003). Kaufman (2004d) and Wall and Eisenbeis (2002) both suggest, however, that losses in individual cases have been significant.

parts should be able to be estimated quickly upon legal closure for most banks. If the present value of 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 to avoid protecting *de-jure* uninsured claimants. In the US, the FDIC has equal standing with depositors at domestic offices and higher standing than other depositors and creditors.[41] The FDIC stands in the shoes of the insured depositors at domestic offices and is obligated to make them whole. It also shares proportionally in any losses with uninsured depositors at these offices beyond the losses charged first to other creditors and deposits at foreign offices. FDICIA requires the FDIC to share any losses in the insolvency 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," the so-called "systemic risk exemption" or successor to "too-big-to-fail." 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 should, in turn, reduce the number or bank failures.

C. Prompt Reopening of Large Banks

Liquidity losses to depositors can occur through delayed access to or freezing of deposit accounts. This process in effect transforms demand deposits and short-term time deposits involuntarily into longer-term time deposits or even bonds. Liquidity losses also result when credit lines cannot be relied upon or drawn down by borrowers to meet business needs. 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

[41] 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)

many countries the lack of access to deposits and credit lines is more feared than credit losses to depositors and generates as great, if not greater, adverse externalities. The inability to use deposits to make immediate payments greatly reduces the efficiency of the payments system. Additionally, the more likely depositors are to have access to 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, e.g., because of insufficient information on depositors or recovery values or insufficient funds to advance payments. In some countries, both insured and uninsured depositors first need to file claims with the deposit insurance agency after notification in order to attain access to their funds. In others, it is left to depositors to monitor newspapers and file claims. This is a time consuming and costly process during which the funds are effectively frozen. Thus, there is considerable pressure on regulators to avoid legally closing banks promptly. By delaying legal closure, the regulators not only 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 unpleasant task of legal closure. But 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 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 with full access to all accounts. This would provide insured depositors near immediate and seamless access to the par value of their accounts, uninsured depositors and other general creditors to the estimated recovery value of their accounts on due dates, and borrowers to their credit lines.[42] 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, requires an immediate sale of the bank by the FDIC or access to a source of funds either its own or through a pre-designated source of borrowing. The FDIC may also operate the bank temporarily through a newly chartered bridge bank that assumes most or all of the assets and liabilities of the failed bank, 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 bridge bank provides the FDIC with additional time to find qualified private buyers for the bank and wind-down its operations efficiently.

It should be noted that minimizing liquidity losses is not a traditional deposit insurance function, which is to protect targeted depositors against credit losses, Less attention has been paid to the problem of the timing of when depositors gain access to their funds. This depends both on when the insurance agency receives the proceeds from the sale of the bank as a whole or in parts and whether the agency has access to a fund or borrowing facilities to make advance payments to the depositors of both the estimated recovery amount and for insured depositors also of the amount necessary to make them whole.

In the U.S., the FDIC usually pays insured deposits at the failed bank at par the next business day even though it may not yet have collected from the sale of the insolvent bank's

[42] Fear of the adverse consequences of liquidity as well as credit losses have at times induced the 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 is often incorrectly termed "too-big-to-fail" (TBTF). This has proven highly costly and inefficient. Losses tend to increase and ultimate resolution is only postponed, at which time losses borne by the FDIC or taxpayer.

assets.. This occurs either through a transfer of the insured deposits to another solvent bank, which assumes the liabilities, generally with and offsetting financial payment from the FDIC, or less frequently, through a payout.[43] The FDIC can generally make such speedy payments as they have been monitoring problem banks carefully under PCA and have access to the bank's records on eligible insured deposits. [44] In contrast, uninsured depositors and other creditors generally receive receivership certificates and are 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 these certificates may suffer liquidity difficulties. To maximize efficiency, these depositors should share in any credit losses but not suffer liquidity losses. To achieve this, the FDIC has the authority to make advance payments to these claimants on the basis of estimated or average recovery amounts before it has actually collected the proceeds (Kaufman and Seelig, 2002). If payments are made at the time of legal closure, this procedure is essentially equivalent to not having physical 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. This further reduces any liquidity losses. The FDIC is able to make advance dividends as it has access to a pool of funds provided by premiums paid by banks and can borrow a limited amount from the U.S. Treasury.

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

[43] Recent survey of deposit insurance practices indicates that few countries (only about 15%) pay insured depositors within 3 months (see Demirgüç-Kunt, Karacaovali, and Laeven, 2005 and Kaufman and Seelig, 2002). In large part this reflects that the insurance agency has insufficient information on the identify of the insured depositors and the amount of deposits insured,and requires the claimant to file a claim. In the US, the FDIC generally has the necessary information and typically does not require depositors to file claims.

[44] The FDIC currently does not have information on all insured depositors at the largest banks but has issued a proposal for obtaining this information.

it underestimates the recovery amounts, it makes additional payments to the claimants later. The FDIC, in its capacity of 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 U.S. since the mid-1990s have involved small banks, the FDIC has not used advance dividends often since.

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 the idea that some banks are "too-big-too-fail."

D. Prompt Re-privatization and Recapitalization

FDICIA requires that insolvencies be resolved at least cost to the FDIC. This also reduces losses to depositors at domestic offices who share the same priority. The requirement encourages rapid sale of bank assets after legal closure and is an attempt to deal with the fact that experience suggests, on average, that assets lose value the longer they are held in receivership. Re-privatization 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 purposes or for 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 U.S., 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" status, 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.

VIII. Proposed Solution To Cross-Border Branching in the EU

To date, little progress has been made to deal with the supervisory and failure resolution issues raised by cross-border banking organizations. The principle focus has been on obtaining cooperation and data sharing among responsible supervisory agencies within the existing decentralized regulatory framework. For example, the major financial public policy authorities of the European Union member countries have recently signed a Memorandum of Understanding on Cooperation in Financial Crisis Situations that announced in a press release (May 14, 2005).[45]

Largely motivated by inquiries by the Nordea Bank about the feasibility of taking advantage of the new European Company Statute in order to reorganize itself, the Nordic countries have pushed ahead and established formal memoranda of understandings on joint supervisory policies and agreements governing the treatment of institutions in financial distress (Mayes 2006).[46] The bank considered replacing its cross-border subsidiaries, which are currently supervised by regulators in the countries where they are chartered, with branches to be supervised by Swedish authorities, where Noreda would remain headquartered. The converted subsidiaries' deposits would be insured by the Swedish deposit guarantee system. But financial stability and lender of last resort functions would remain the responsibilities of host countries, where Nordea is often more significant than in Sweden.

Mayes(2005) describes in detail the contingency efforts of the Nordic country supervisors to plan and assign supervisory activities and sort out ex ante how they might respond to a crisis, should the new Nordea organization experience financial difficulties. While Nordea's plan appears to be stalled at this point, the problems and issues that Nordic country regulators and insurers began to focus on deal with what is likely to become the dominant issue for large European banks in the future. The discussions highlight the complexities in structuring shared regulatory responsibility within the current European framework.

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[45] Press Release, "Memorandum of Understanding Between the Banking Supervisors, Central Banks and Finance Ministries of the European Union in Financial Crisis Situations," May 14, 2005, http://www.ecb.int/press/pr/date/2005/html/pr050518_1.en.html) The MOU is not a public document.

[46] The bank is headquartered in Sweden and operates subsidiary banks in that country as well as Norway, Denmark, Finland and Sweden. In addition it has branches in Estonia, Poland, Singapore and New York City. According to Mayes (2006) Nordea holds the dominant market share in Finland, with a 40% market share; 25% of the market in Denmark; 20% in Sweden and 15% in Norway.

We are skeptical that voluntary cooperative arrangements will work when put to the test in a crisis, especially if substantial commitment of a country's treasury funds should prove necessary to either pay out depositors or to rescue the institution should it experience financial difficulties. However, the efficiency advantages of cross-border branching are too large to discard, and the supervisory issues will arise again.

In lieu of cooperation, we would propose an alternative, when combined with the four point proposal for efficient resolution of trouble institutions discussed earlier, would significantly reduce the home-host country conflict and loss-sharing problems and enhance financial stability, while co-existing within the current regulatory framework. We propose that as a condition of obtaining a single cross-border branching charter under the European Company Statute, any banking institution be required to subject itself to a system of Prompt Corrective Action (PCA) and Structured Early Intervention and Resolution (SEIR) that would be administered consistent with the four point program.

While we leave the ultimate legal structure of such an agreement to the lawyers, necessary provisions would include a critical, positive capital ratio that would trigger resolution. In the event that this trigger capital threshold is breached, the institution's shareholders would be required to return its charter back to the appropriately designed supervisory regulator (presumably the home country) and be put in statutory receivership to be resolved.

The numerical value of the capital-asset trigger ratio could be determined in a couple of ways. It could be set uniformly across the Euro-area. Alternatively, it could be determined by the home country and would be the same for all banks chartered in the country. Competition among countries would prevent this ratio from being chosen inefficiently. If set too high, banks would not choose the country for their charter. If set too low, the deposit insurer would be liable for larger payments to other countries.

The home country or designated supervisor would have several options to resolve the problems. It could liquidate the bank by selling the assets separately, sell the bank as a whole or operate it temporarily as a bridge bank. For large entities, the bridge bank would mean that it could be opened immediately and services would be maintained almost seamlessly. Liquidity losses would be minimized. The bank would not be liquidated, thus avoiding the negative externalities that have caused so much concern.

If the regulator is able to resolve an institution before its capital turns negative, there is no insolvency or bankruptcy and no losses to depositors and other creditors. Only if regulators fail to catch an intuition before its capital turns negative and it becames insolvent would it be necessary to invoke bankruptcy resolution procedures and assign losses to depositors and other creditors. To deal with an insolvent institution efficiently, it would be useful as a condition for granting a charter under the new European Charter statute, for the EU to require member countries to adopt a separate bankruptcy resolution code for banks. Such a statute could be based on that applicable to banks in the United States that gives regulators the power to legally close banks and assign pro-rata losses to depositors and other creditors (Bliss and Kaufman(2006)).

The proposal would have several advantages. If the bank is successfully put into resolution before it's capital is depleted, the home country does not impose losses on depositors in either the home or host countries. Thus, the differences in deposit insurance schemes among countries discussed earlier decrease in importance. The rule requiring the institution to voluntarily give up its charter may be seen as a cost imposed on the banks for the privilege of being able to branch across national boundaries. Since the shareholders, as a condition of obtaining the charter, ex ante have agreed to give up their charter, there are no issues of "taking of property." Any residual value will be returned to the shareholders. This is similar to conditions any insurance company imposes of its insurees in their contracts. Shareholders, who are unwilling to recapitalize a troubled institution to bring it up to regulatory standards, indicate by their lack of action their believe that the institution as presently organized and operated is no longer a going concern. Finally, there would be less incentive on the part of regulatory authorities to engage in forbearance. Both mangers and creditors of the institution would clearly understand when and under what conditions a troubled institution would be forced into resolution mode and this would tend to reinforce market discipline. Finally, regulatory agency problems associated with overlapping jurisdictions and deposit insurance schemes would be eliminated, because the scope and nature of regulatory responsibilities would be specified ex ante and perfectly clear.

IX. Conclusions

The focus of this study has been on the structure of supervisory and deposit insurance systems in cross-border banking through branching with particular emphasis on the EU and the related aspects of failure resolution and coordination when financial problems arise. The issue is of importance and deserves attention because the costs of any resulting crisis may more than offset the efficiency benefits of the branching. We have identified a number of issues and concerns about the present system design that are likely to result in higher than necessary costs of insolvencies in cross-border banking. To date, little progress appears to have been made in the EU in dealing with them. Indeed, as both cross-boarder branches and subsidiaries increase in importance in host EU countries, the resulting potential dangers of the current structure. are likely to become large and may not only reduce aggregate welfare in the affected countries substantially when foreign banks with domestic branches or subsidiaries approach insolvency, but also threaten financial stability. Serious doubts are cast about the longer-term viability of the single passport concept for cross-border branch banking under the existing institutional environment.

To provide a more efficient arrangement, we propose four principles to ensure the efficient resolution of bank failures, should they occur, with minimum, if any, credit and liquidity losses. These include: prompt legal closure of institutions before they become economically insolvent, prompt identification of claims and assignment of losses, prompt reopening of failed institutions and prompt recapitalizing and re-privatization of failed institutions. Implementing these proposals would go a long way towards mitigating or possibly even eliminating many of the potential agency and related problems inherent in the current multiple and confusing EU crisis resolution and deposit insurance regimes across countries. Finally, we propose a mechanism to put such a scheme into place quickly in the case where a cross-border banking organization seeks to take advantage of the liberal cross-border branching provisions in the single banking license available to banks in the EU. In return for the privilege of such a license, the bank agrees to be subject to a legal closure rule as a positive capital ratio established by the EU or the home country.

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Appendix I

The US has experimented extensively with decentralized deposit insurance systems that were not creatures of the federal government. [47]Most of these systems failed within a few years. In every case, the insurance systems were unable to meet unusual demands for a payout when either a very large institution got into financial difficulty or many smaller institutions failed at the same time. The same fate befell funds quite recently in Ohio in 1985 and Rhode Island in 1991 (see Kane (1987) and Pukkinen and Rosengren (1993)). .

There were several design flaws in these deposit insurance systems (see Pulkkinen and Rosengren(1993)) that could have significant implications for the EU. First, the systems tended to be critically under funded. Second, they tended to be undiversified in one of two ways. Either they were undiversified because the institutions being insured were not geographically disbursed and hence were vulnerable to regional business cycles or economic shocks, or they were undiversified because the failure of one or two large institutions was sufficient to bankrupt the funds. Third, they often had poorly designed governance systems, and this was particularly the case in the privately sponsored plans. Finally, when threatened with collapse, there was not the recognition that what provided the credibility to the plan was not so much the size of the fund, but the willingness of the sponsoring entity – the particular state legislature – to make good on the guarantees the fund offered.

Many of the same design flaws in these state-sponsored systems appear to be potentially inherent in many of the systems being put in place in the EMU. Any fund whose insured base is not adequately diversified or that does not have the ability or willingness to use taxpayers

[47] These started with the New York State safety fund and culminated with the failure of the Rhode Island Share and Deposit Indemnity Corporation in 1991. Between 1908 and 1917 a total of eight states established deposit insurance systems. These included Oklahoma, Kansas, Nebraska, Texas, Mississippi, South Dakota, North Dakota, and Washington. See Thies and Gerlowski (1989).

resources, should fund resources be depleted, will not likely stand up to the costly failure of a few large banks. These diversification issues are especially important in those EU countries with only one or two major institutions where the failure of even one might endanger the entire fund. Smaller countries, in particular, with only a few relatively large institutions are more likely to experience funding problems than larger countries. At a minimum, this means that reliance upon private deposit insurance systems, which the EU directive permits, seems extremely risky. Moreover, the fact that the fund is private may still not insulate taxpayers from fiscal responsibility, expecially when the fund is jointly managed with both private and public officials from either the central bank, Ministry of Finance, or Supervisory Authority. This government involvement raises the perception of an implicit government backing, even without official recognition of that responsibility.

What most architects of deposit insurance schemes seem to miss is that it is nearly impossible to determine ex ante whether or not a fund is adequately funded. More importantly, what gives the fund credibility, especially when the financial problems in one institution threaten to spill over to others, is not the size of the fund per se but rather the willingness to make good on the guarantees should the fund run out of resources. The differences in arrangements within the EU raise considerable questions about how responsibilities will be handled in the event that a fund gets in trouble. For example, Table 5 shows that some schemes are supposedly fully funded, some are only funded with ex post premiums or levies, some can make special assessments on its members over and above normal contributions, some can borrow from the public or central bank, and some funds, such as in Latvia, have an explicit provision committing the government to provide funds.

Kane (1987) argues that waffling and legislative delay was a major problem in the case of the ODGF that was in part political posturing, but tendency to delay and avoid recognition of losses applies to federally sponsored programs as well. The events surrounding the eventual collapse of the FSLIC in the US demonstrates the propensity of legislators to avoid facing up to the problem.

The circumstances surrounding the ODGF crisis also points to another problem related to the split of responsibilities for systemic risk between the member countries of the EU and the ECB. Specifically, the longer the delay in attempting to deal with the problem, the more likely it is that runs or systemic problems would develop that would convert what might be a problem in one institution into a problem for the deposit system itself. Individual member nation's regulatory and legislative authorities, to the extent that they may be reluctant to impose costs on their own taxpayers, have incentives to delay and gamble that a broader authority would step in and assume the responsibilities for a crisis.[48]

In Ohio, of the losses to the ODGF, amounted to about $170 million, which was more than the state legislature was willing to appropriate to make good on the guarantees implicit in its state sponsorship. This episode illustrates two facts. First, it is the ability to tap into taxpayer resources as needed rather then the size of the fund that provides the credibility of the deposit insurance guarantee. The initial reluctance of the State of Ohio to live up to its commitment with provides an interesting comparison to many of the countries currently in or entering the EU. Ohio's state gross domestic product (GDP) in 1985 was $176 billion. This is larger than 8 of the original EU countries' GDP including: Austria, Belgium, Finland, Greece, Luxembourg,

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[48] This observation is not only rooted in experience but also in theory. See Santos and Kahn(2002), also Garcia and Nieto (2005).

Netherlands, Portugal, and Spain. It is also larger that the real GDP of all the newly admitted countries to the EU.

It is not clear why countries with even smaller resources would be more willing than a relatively richer state like Ohio to honor its deposit insurance liabilities, especially, if payments were to be made to resident depositors in other, larger EU countries. The temptation on the part of poorer counties and their politicians to gamble, in the hope that they will be bailed out by the ECB should a major crisis arise. A chief difference, of course, between the resolution of the ODGF crisis and a potential deposit insurance crisis in the EU is that there is no federal deposit insurance fund in the EU to which losses could be shifted. Table 9 contains an assessment of the combination of factors that would suggest agency problems would be the greatest should a financial crisis or the failure of a large bank materialize that threatened the solvency of the deposit insurance fund. We conjecture based on past experience that the these problems would be greatest in smaller countries, in those countries with unfunded plans, where the banking system is highly concentrated, with a large number of foreign banks operated in the system and there were strong perceptions of implicit or the existence of government guarantees for the insurance fund.

Table 1 Percent of Cross-Border Penetration of Banks as % of Assets						
Country	1997	1999	2001	2002	2003	2004
Austria	3	2	19	21	19	19
Belgium	23	20	23	22	21	21
Denmark	4	4	17	18	17	15
Finland	8	9	7	9	7	59
France	7	6	11	11	10	9
Germany	2	3	3	5	5	5
Greece	11	10	4	6	19	25
Ireland	46	50	48	37	35	36
Italy	6	7	5	5	5	6
Luxembourg	83	88	88	89	89	89
Netherlands	5	4	10	9	10	11
Portugal	13	13	24	24	26	25
Spain	9	7	8	9	10	11
Sweden	15	29	6	6	7	8
United Kingdom	25	26	25	23	23	26
EU 15	13	13	15	15	15	16
Cyprus			16	17	18	23
Czech Republic			68	90	92	87
Estonia			91	90	89	98
Hungary			55	53	56	56
Lithuania			47	56	51	74
Latvia			24	21	22	39
Malta			49	42	40	39
Poland			60	59	59	59
Slovenia			14	16	18	19
Slovakia			na	81	82	88
NEW EU 10			47	53	53	58

Source: Schoenmaker and Oosterloo(2006), Includes subsidiaries and branches

Table 2
Relative Size of Old and Accession Economics

Country name	**Income group**	**GDP 2005** Purchasing Power Parity Basis	**EU GDP Share 2005** Purchasing Power Parity Basis	**GDP per capita 2005** Purchasing Power Parity Basis
Old Members				
Austria	High income	$269,400,000,000	2.22%	$32,900
Belgium	High income	$329,300,000,000	2.71%	$31,800
Denmark	High income	$182,100,000,000	1.50%	$33,500
Finland	High income	$158,400,000,000	1.31%	$30,300
France	High income	$1,816,000,000,000	14.97%	$29,900
Germany	High income	$2,446,000,000,000	20.16%	$29,700
Greece	High income	$242,800,000,000	2.00%	$22,800
Ireland	High income	$136,900,000,000	1.13%	$34,100
Italy	High income	$1,645,000,000,000	13.56%	$28,300
Luxembourg	High income	$29,370,000,000	0.24%	$62,700
Netherlands	High income	$500,000,000,000	4.12%	$30,500
Portugal	High income	$194,800,000,000	1.61%	$18,400
Spain	High income	$1,014,000,000,000	8.36%	$25,100
Sweden	High income	$266,500,000,000	2.20%	$29,600
United Kingdom	High income	$1,867,000,000,000	15.39%	$30,900
New Members				
Cyprus	High income	$16,820,000,000	0.14%	$21,600
Czech Rep.	Upper middle income	$184,900,000,000	1.52%	$18,100
Estonia	Upper middle income	$21,810,000,000	0.18%	$16,400
Hungary	Upper middle income	$159,000,000,000	1.31%	$15,900
Lithuania	Upper middle income	49,410,000,000	0.41%	$14,100
Latvia	Upper middle income	$29,420,000,000	0.24%	$12,800
Malta	High income	$7,485,000,000	0.06%	$18,800
Poland	Upper middle income	$489,300,000,000	4.03%	$12,700
Slovak Republic	Upper middle income	$85,140,000,000	0.70%	$15,700
Slovenia	High income	$42,090,000,000	0.35%	$20,900

Source: CIA, The World Fact Book 2005

Table 3
Deposit Insurance Characteristics by Country*

Country name	**Deposit Insurance Coverage of Foreign Institutions and deposits**
Old Members	
Austria Einlagensicherung der Banken & Bankiers Gesellschaft m.b.H.	Only accounts denominated in EUROs and currencies of other EEA countries
Belgium Deposit And Financial Instrument Protection Fund	Only accounts denominated in EUROs and currencies of other EEA countries
Denmark The Guarantee Fund for Depositors and Investors	Foreign currency deposits are covered if made in Denmark
Finland Finnish Deposite Guarantee Fund	Foreign currency deposits are covered if made in Finland
France Deposit insurance (warranty) Fund	Yes, but only accounts denominated in EUROs and currencies of other EEA countries
Germany The German Private Commercial Banks Compensation Scheme for Depositors and Investor (There are other schemes in Germany as well)	Yes if made in Germany
Greece Hellenic Deposit Guarantee Fund	Yes, covers deposits in branches in EU and in branches of non EU countries unless equivalent coverage is available to those branches
Ireland Deposit Protection Scheme	All deposits made in Ireland
Italy Interbank Deposit Protection Fund	Yes - The Interbank Deposit Protection Fund also compensates the depositors of foreign branches of Italian banks. In the case of Italian banks operating in EU countries, the amount of compensation cannot exceed the protection guaranteed by the host country.
Luxembourg The Luxembourg Deposit Guarantee Association	Yes
Netherlands Collective Guarantee Scheme (CGS)	Yes, but only accounts denominated in EUROs and currencies of other EEA countries
Portugal Deposit Guarantee Fund	Yes, deposits are guaranteed regardless of the currency in which they are denominated, and whether the depositor is resident or non-resident in Portugal.

* Austria has 4 different funds, Germany has 6 funds, Italy has 3 funds, Portugal has 2 funds, Spain has 3 funds- In each case the main insurance funds for commercial banks or credit institutions is listed.

Table 3 (cont)
Deposit Insurance Characteristics by Country

Country name	**Deposit Insurance Coverage of Foreign Institutions and deposits**
Spain Deposit Guarantee Fund for Banking Institutions	Yes Deposits in Spain or in institutions from another member state of the European Union, whatever the currency in which they are denominated, with the exclusion of those deposited by financial institutions, public administrations and certain other persons linked to credit institutions in any of the ways envisaged in the regulations.
Sweden Deposit Guarantee Board	Yes, all deposits made in Sweden
United Kingdom Financial Services Compensation Scheme (FSCS)	Yes, all deposits in EUROs or EEA currencies
New Members	
Cyprus Deposit Protection Scheme	No
Czech Rep. Deposit Insurance Fund	Yes but compensation for foreign exchange deposits is disbursed in the Czech currency.
Estonia Deposit Guarantee Fund	Deposits of foreign credit institutions are guaranteed
Hungary National Deposit Insurance Fund of Hungary	yes
Lithuania State Company "Deposit and Investment Insurance	Yes, Deposits of branches of EU headquartered institutions are eligible for insurance. Excluded depositors' deposits are deposits held with the daughter banks of Lithuanian banks or divisions of these banks operating beyond the territory of the Republic of Lithuania. Deposits in currencies of foreign countries that are not members of the European Union, with the exception of the USA, are non-insurable.
Latvia Deposit Guarantee Fund	yes
Malta Depositor Compensation Scheme	Yes
Poland Bank Guarantee Fund	Yes
Slovak Republic Deposit Protection Fund (DPF)	Yes
Slovenia Deposit Guarantee Scheme	Yes

Source: Hall(2001) and Table 11 Sources.

Table 4
Insured Deposits by Country in the EU

Country name	**Deposit Insurance Coverage**
Old Members	
Austria	EUR 20,000
Belgium	EUR 20,000 on deposits and EUR 20,000 for financial instruments for a total of EURO 40,000
Denmark	DKK 300,000 deposits covered net of loans (about 40,000 EURO
Finland	FIM 150,000 - up to 25000 Euro, deposits will be covered in full if depositor demonstrates that the deposit represented the sale of a residence.
France	EUR 70,000
Germany	30% of bank's equity capital (All non-bank deposits are covered up to a limit of 30% of the liab. capital with a minimum limit is 1.5 million Euro, and given that the average equity size of a commercial bank is 295.5 million Euro, the average limit is around 90 million Euro.); official coinsurance 90% to EUR 20,000
Greece	EUR 20,000
Ireland	90% of EUR 20,000
Italy	ITL 200 Mil.- equivalent to 103,291 Euro
Luxembourg	The total amount of the Guarantee will in no case exceed 20,000 euros (deposit guarantee) + 20,000 euros (investor compensation)= 40,000 euros per customer
Netherlands	EUR 20,000
Portugal	EUR 25,000
Spain	EUR 20,000
Sweden	SEK 250,000
United Kingdom	100% of first £2000 and 90% of next £33,000
New Members	
Cyprus	Cyprus equivalent of EUR 20,000
Czech Rep.	90% with max coverage of 25,000 EURO equivalent
Estonia	EUR 12 782 /EEK 200 000 effective from December 31, 2005 EUR 20 000 / EEK 313 000 effective from December 31, 2007 at the latest
Hungary	EUR 20,000/HUF 6,555,555 at EU accession
Lithuania	Currently 14,481/LTL 50,000, EUR 17,377/LTL 60,000 from 1/1/07 but as of Jan. 1 2008 coverage will be 20,000 euro
Latvia	EUr 8535/6000 lats at present, Eur 12,802/9000 lats from 12/31/07, EUR 18,492/13000 lats from 12/31/08
Malta	EUR 20,000, about 8600 Maltese lira
Poland	Since 2003 the Fund's guarantee has covered in 100% monies up to a sum of PLN equivalent of 1,000 EUR, and in 90% the sums between the value of 1,000 to 22,500 EUR (as counted inclusively regardless of the number of contracts concluded between the depositor and the bank).
Slovak Republic	90%, not to exceed EUR 20,000
Slovenia	5,100,000 tolars,5,1 mio SIT (per depositor per institution)

Table 5 EU Deposit Insurance Fund Governance and Funding			
Country name	**Funding**	**Premiums**	**Administration**
Old Members			
Austria	Government/ Private Funding-no permanent fund-ex post	Not risk based - pro rata, ex post assessments on protected deposit base	Managing directors elected by General Assembly with representation from each trade association. Are accountable to General Assembly
Belgium	Government/ Private Funding State can provide limited funding-permanent fund	Not risk based- flat rate of .02% but if fund liquid assets fall below critical level premiums may be raised by .04%	Joint Private Official
Denmark	Capital must be at least DKK 3.2 billion (thousands of millions). Any of three separate funds may, if necessary and within prescribed limits, borrow from the other sections. In addition, the Fund may raise loans if its capital is insufficient-permanent fund	Not risk based – Flat rate levy with max rate of .2% of covered deposits	Joint Private Official
Finland	Fund members pay an admission fee equal to one-tenth of the total amount of the expenses of actual operations of the Fund for the previous financial period, but at least 17 000 euro. The Fund may borrow from members if funding is insufficient in proportion that their liabilities were of covered liabilities-permanent fund	Not risk based - fixed 0.05% charge and a variable premium that can range up to .25% depending upon need for funds	Privately administered by elected represented from member banks (both domestic and foreign according to rules set by Min. of Fin and supervised by FSA
France	Ex post assessments as needed. Fonds de Garantie des Dépôts can borrow funds from members and/or call for additional funds determined by a ruling of the Comité de la réglementation bancaire et financière (French Banking and Finances Committee)-no permanent fund	Not risk based – ex post levy - on demand but limited. Contribution may not be less than € 2,000 for a half-yearly contribution and € 4,000 for the subscription of certificates of association.	Private

Table 5 (cont)
EU Deposit Insurance Fund Governance and Funding

Country name	**Funding**	**Premiums**	**Administration**
Germany	Private Funding. There is no public funding. Bundesbank may not by law be lender of last resort for the deposit insurance schemes. One time payment of .09%.-permanent funds	Not risk based (but hybrid) – mixture of ex-ante and ex-post premiums. Base rate of .03% but may range from 0.0 to .06% of covered liabilities basis. There can also be an extraordinary premium of up to 100% of a regular premium in case the funds are not sufficient. Banks that have paid for more than 20 years and are classified in the lowest risk category(A), can be exempted from premium payment. Banks that are classified as higher risks(B or C), are required to pay an additional premium of up to 250% of the regular premium.	The scheme is managed by a commission of 10 bank representatives that are accountable to the general assembly of the Association.
Greece	3,000 million GDR with 60% provided by Bank of Greece and 40% provided by Hellenic Banks' Association-permanent fund	Not risk based - Annual premiums are graduated (decreasing) as size of deposits increases from 1.25% for smallest size class up to .025% for largest size class	Administered jointly between Bank of Greece, Hellenic Bank Association and Ministry of Finance by 7-member board chaired by one of the Deputy Governors of the Bank of Greece. The other six members shall be selected from the Bank of Greece (2), the Ministry of National Economy (1), and the Hellenic Banks' Association (3).
Ireland	Private funding-permanent fund	Not risk based - annual premiums of .20% of covered deposits	Public
Italy	Government/ Private Funding - Bank of Italy can make low-interest loans to facilitate payout of large bank-no permanent fund	Risk based (levied ex post) - Premiums base on sliding scale of protected deposits with marginal premiums increasing as size increases from .4% to .8%	Private, but decisions must be approved by Central Bank

Table 5 (cont) EU Deposit Insurance Fund Governance and Funding			
Country name	**Funding**	**Premiums**	**Administration**
Luxembourg	Private Funding-no permanent fund	Not risk based – ex post premiums	Private
Netherlands	Government/ Private Funding - with government providing interest free bridge financing-no permanent fund	Not risk based - Ex post as needed, up to a max of 5% of proportion of bank's deposits to total protected deposits in scheme	Jointly managed by central bank and banking sector trade organizations
Portugal	Government/ Private Funding-permanent fund	Risk-based, 0.1% to 0.2% + more in emergencies The annual contributions are defined according to the monthly average of the deposits made in the previous year and to the fixed contribution rate, weighted by the solvency ratio of each institution (the lower this ratio, the higher the contribution). The payment of the annual contributions may be partly (up to a limit of 75 per cent) replaced by an irrevocable contract, guaranteed where necessary by securities having a low credit risk and high liquidity. If the resources are insufficient to comply with its commitments, the Deposit Guarantee Fund may ask for special contributions or resort to loans.	Public

Table 5 (cont)
EU Deposit Insurance Fund Governance and Funding

Country name	**Funding**	**Premiums**	**Administration**
Spain	Government/ Private Funding - Central bank can make loans to fund – permanent fund	Not risk based - .6% for CBs, .4% for SBs and 1% for credit cooperatives, extraordinary contributions may be required, and exceptionally, extraordinary contributions made by the Central Bank when they are authorized by Law.	Joint Private Official- Board comprised of 4 members from Bank of Spain and 4 from member institutions
Sweden	Government/ Private Funding-permanent fund	Risk-based, 0.5% now, 0.1% later (future date is not available)	Public
United Kingdom	Private Funding-no permanent fund	Not risk based - Fees determined on basis of projections of next year's losses-for banks fees are limited to .3% of protected deposits each year	Government legislated and privately administered. Board appointed by FSA
New Members			
Cyprus	Private Funding—permanent fund	Not risk based - levies determined by the fund after initial contribution is made	Joint and Private Official by Central Bank and 5 member Management Committee consisting of the governor of the Central Bank, the head of the Banking Supervision and Regulation Division of the Central Bank and two representatives of the banks nominated by the Association of Commercial Banks and one representative of the Minister of Finance nominated by the Minister of Finance.

Table 5 (cont)
EU Deposit Insurance Fund Governance and Funding

Country name	Funding	Premiums	Administration
Czech Rep.	Government/ Private Funding - Gov't provides 50% of funds for compensation of depositors, Central Bank and Gov't will provide loans to cover short fall. .In case the Fund's reserves are not sufficient to disburse compensation, the Fund has to acquire any and all funds on the market. There is no government guarantee for its borrowing-permanent fund	Not risk based - 0.1% of insured deposits including accrued interest and .05% for building and savings banks .	Fund is independent institution managed by a five-member Board of Administration. At least one member of the Board is appointed from among employees of the Czech National Bank and at least two members are appointed from among members of the boards of directors of banks.
Estonia	Government/ Private Funding – Govy't provided initial funding and banks paid EEK 50,000. Fund cn borrow with out gov't guarantee and can ask gov't to borrow limited amt on its behalf. Initial contribution for Deposit Guarantee Sectoral Fund - 50 000 kroons-permanent fund	Not risk based - quarterly contributions for Deposit Guarantee Sectoral Fund – 0.07 per cent of guaranteed deposits for Investor Protection Sectoral Fund	8 member supervisory board: two members appointed by the Riigikogu; one by the Government on recommendation of Minister of Finance; one by the President of the Bank of Estonia; one by the Financial Supervision Authority; one by the organizations representing credit institutions; one member appointed by the organizations representing investment institutions; one member appointed by the organizations representing pension management companies.
Hungary	Government/ Private Funding, - one-off admission fee on entry (0.5% of the member 's registered capital) – permanent fund	Not risk based - .5% of deposits up to 1 mil. HUF, .3% between 1 and 6 mil HUF, and .05 above 6 mil. HUF	Board of Directors consists of Central Bank president, administrative secretary of Ministry of Finance, president of inspections, two delegates from insured institutions and managing director of DIF
Latvia	Government/Private Funding with initial contribution of 50,000 lats. If funds are insufficient, then payments will be made by gov't	Not risk based - .2% of deposits	Public
Malta	Private Funding –permanent fund	Not risk based – ex post assessments, administrative fees and income from investments	Management Committee appointed by the MFSA. made up of persons representing MFSA, the Central Bank of Malta, investment firms, the banks and customers.

Table 5 (cont)
EU Deposit Insurance Fund Governance and Funding

Country name	**Funding**	**Premiums**	**Administration**
Poland	Permanent fund-joint gov't private funding	Not risk based – Fees determined yearly and levied on deposits and off-balance sheet liabilities separately.	Fund Council and Fund Management Board. The Fund Council consists of a chairman and ten members having appropriate university degrees and professional experience. The Fund Management Board shall consist of five members, including the President and his deputy. Management Board is appointed by the Fund Council from among persons having the appropriate university degree and five years of service in the banking industry.
Lithuania	Funded by banks and by government	Not risk based. Commercial banks and branches (departments) of foreign banks pay the Insurance Company insurance premiums, annually amounting to 0.45 percent of all insurable deposits	Public - The Council is comprised of 6 members, appointed by the Government of the Republic of Lithuania. The Ministry of Finance proposes 3 candidates, the Bank of Lithuania – 2 candidates, the Securities Commission – 1 candidate.
Slovak Republic	Government/private-permanent fund	Not risk based – and range from 0.1% to 0.3% for banks	Joint Private Official
Slovenia	Private funding –no permanent fund	Not risk based – fee calculate on the basis of each bank's share of guaranteed deposits	Public, Bank of Slovenia

Table 6
Deposit Insurance Provisions and Characteristics

Country name	**Top-up Permitted**	**Co-Insurance**	**% Co-Insurance Percentage**	**Private v Publicly Managed**
Old Members				
Austria		Co-insurance	10	Managing directors elected by General assembly with representation from each trade association. Are accountable to General Assembly
Belgium		Co-insurance	10	Joint Private Official
Denmark		No Co-insurance	0	Joint Private Official
Finland		No Co-insurance	0	Privately administered by member banks according to rules set by Min. of Fin and supervised by FSA, The Fund shall be administered by a Delegation elected by the member deposit banks and branches of foreign credit institutions and by a Board of Directors elected by the Delegation. At ;east one of the directors shall reprsent the branches of the foreign credit institutions that are members of the fund.
France		No Co-insurance	0	Private
Germany		Co-insurance	10	The scheme is managed by a commission of 10 bank representatives that are accountable to the general assembly of the Association. All groups of commercial banks are represented in the commission.'
Greece		No Co-insurance	0	Administered jointly between Bank of Greece, Hellenic Bank Association and Ministry of Finance, law provides it is not a public institution,TEK is managed by a 7-member Board. The Board shall be chaired by one of the Deputy Governors of the Bank of Greece. The other six members shall be selected from the Bank of Greece (2), the Ministry of National Economy (1), and the Hellenic Banks' Association (3).
Ireland		Co-insurance	10	Public
Italy		No co-insurance	0	Private, but decisions must be approved by Central Bank
Luxembourg	Yes - EU member chartered institutions may join and obtain supplemental insurance	No Co-insurance	0	Private
Netherlands		No Co-insurance	0	Jointly managed by central bank and banking sector trade organizations

Table 6 (cont)
Deposit Insurance Provisions and Characteristics

Country name	**Top-up Permitted**	**Co-Insurance**	**Co-Insurance Percentage**	**Private v Publicly Managed**
Portugal		No Co-insurance	0	Public
Spain		No Co-insurance	0	Joint Private Official- Board comprised of 4 members from Bank of Spain and 4 from member institutions
Sweden		No Co-insurance	0	Public
United Kingdom	Top- up is permitted	Co-insurance	10%	Government legislated and privately administered. Board appointed by FSA
New Members				
Cyprus		Co-insurance	10%	Joint and Private Official by Central Bank and Management Committee. The Committee shall consist of five members, the chairman, the vice-chairman and three other members. Chairman and vice-chairman shall be ex-officio the governor of the Central Bank and the head of the Banking Supervision and Regulation Division of the Central Bank, respectively. The three other members of the Committee appointed by the governor of the Central Bank and shall be two representatives of the banks nominated by the Association of Commercial Banks and one representative of the Minister of Finance nominated by the Minister of Finance.
Czech Rep.		Co-insurance	10%	Public, The Fund is an independent institution managed by a five-member Board of Administration. The president, vice president and the other members of the Board are appointed and removed by the Finance Minister. At least one member of the Board is appointed from among employees of the Czech National Bank and at least two members are appointed from among members of the boards of directors of banks. The Board is the statutory body of the Fund and manages its activities.
Estonia		Co-insurance	10%	Joint Private/Official-The supervisory board shall consist of eight members appointed as follows: two members appointed by the Riigikogu; one member appointed by the Government of the Republic on the proposal of the Minister of Finance; one member appointed by the President of the Bank of Estonia; one member appointed by the Financial Supervision Authority; one member appointed by the organizations representing credit institutions; one member appointed by the organizations representing investment institutions; one member appointed by the organizations representing pension management companies.
Hungary		Co-insurance	10	Joint Private Official, Board of Directors consists of Central Bank president, administrative secretary of Ministry of Finance, president of inspections, two delegates from insured institutions and managing director of DIF
Lithuania	Yes for EU member banks	Co-insurance	10	Public

Table 6 (cont)
Deposit Insurance Provisions and Characteristics

Country name	**Top-up Permitted**	**Co-Insurance**	**Co-Insurance Percentage**	**Private v Publicly Managed**
Latvia	Top off is mandatory and coverage is only for difference between insurance provided by home country	No Co-insurance	0	Public
Malta	Effectively yes since all foreign branches are required to participate regardless of coverage in home country	No Co-insurance	0	Joint Private Official, Management Committee which is appointed by the MFSA. This Committee is made up of persons representing MFSA, the Central Bank of Malta, investment services intermediaries, the banks and customers.
Poland	Branches of EU banks when guarantee is lower than provided in Poland may join fund to increase coverage.	Co-insurance	10%	Joint Private Official Fund Council and Fund Management Board. The Fund Council consists of a chairman and ten members having appropriate university degrees and professional experience .The Fund Management Board shall consist of five members, including the President and his deputy. The Management Board is appointed by the Fund Council from among persons having the appropriate university degree and five years of service in the banking industry.
Slovak Republic	Foreign bank can join fund if its deposits are not insured or available insurance is less than provided by Fund.	Co-insurance	10%	Joint Private Official
Slovenia	Participation is required unless home country has equivalent scheme.	No Co-insurance	0	Public, Bank of Slovenia

Table 7
EU Insolvency Resolution

Country name	**Closure Decision Controlled by**	**Claim Notification and Verification**	**Authority Controlling Resolution**	**Legal Payment Requirements for Insured Deposits**
Old Members				
Austria	Financial Market Authority	NC	Financial Market Authority and bankruptcy court	Within 3 months
Belgium	Bankruptcy Court Notice is published in the Moniteur belge	Claimants have two months to file claim,	Bankruptcy court	2 months
Denmark	Closure is by The Danish Financial Supervisory Authority (DFSA)	Must request another institution to file claim. Depositors of failed bank will be notified within one month of failure,	The Danish Financial Supervisory Authority (DFSA)	Shall be effected as soon as possible and not later than 3 months after the commencement of the suspension of payments or compulsory winding-up.
Finland	FSA declares that the bank had failed to meet its obligations. The FSA has 21 days to make this decision.	The fund will notify depositors and also publish notice of its decision to pay out funds.	Courts and/or FSA	3 months - Failure to receive payment within the required time limit gives the depositor a claim against the fund in court.
France	Commission Bancaire's notice prior court's declaration	Customers notified by Fund and have 15 days to respond.	Resolution overseen by banking supervisor	3 months with the possibility for the Supervisory Commission to extend by 3 months again.
Germany	Petition filed by Financial Supervisory Authority to court	Creditors are notified by German compensation scheme within 21 days of notification of insolvency and claims must be filed in writing by creditors with the German compensation scheme within one year.	Financial Supervisory Authority	Payments must be made within 3 months.

NC=not clear

Table 7 (cont)
EU Insolvency Resolution

Country name	**Closure Decision Controlled by**	**Claim Notification and Verification**	**Authority Controlling Resolution**	**Legal Payment Requirements for Insured Deposits**
Greece	Bank of Greece and courts, 21 days after an institution has failed to make payment on contractual obligations, then failure will have occurred	Notification will take place in the press	Bank of Greece and court	HDGF pays compensation in respect of unavailable deposits within three months of the date when the deposits became unavailable. This time limit may be extended by no more than two further 3month periods.
Ireland	Determination by either the Irish Central Bank and Financial Services Regulatory Authority or a court ruling	Claims must be filed by depositors	General Insolvency Laws	3 months
Italy	The Courts have the legal power to declare the insolvency status. However, the Bank of Italy, independently form the Courts' declaration, can propose to the Minister of the Economy and Finance the compulsory administrative liquidation of a bank in each of the following cases: exceptionally serious violations of prudential requirements, exceptionally serious irregularities in the bank's administration, exceptionally serious financial losses.	FITD subrogates in the right of depositors and carries out pay-offs directly.	The 1993 Banking Law Bank of Italy appoints liquidator	The reimbursement of depositors shall be made, up to the equivalent of EURO 20,000 (twenty thousand) within three months of the compulsory liquidation order. The Bank of Italy may extend this term in exceptional circumstances or special cases, for a total period not to exceed nine months

Table 7 (cont) EU Insolvency Resolution				
Country name	**Closure Decision Controlled by**	**Claim Notification and Verification**	**Authority Controlling Resolution**	**Legal Payment Requirements for Insured Deposits**
Luxembourg	Petition filed by bank regulator-Commission de Surveillance du Secteur Financier (CSSF)-or institution itself to the court	Claims must be made by depositors the AGDL and declaration to be made through the liquidators of the establishment.	Law on the Financial Sector of April, 1993 Court will appoint a bankruptcy judge who will appoint a liquidator	Reimbursement starts as soon as claims have been verified and must be finished three months after the occurrence of in-availability of funds. The Luxembourg supervision authority may grant 3 extensions of 3 months each of this deadline.
Netherlands	Nederlandsche Bank which is the supervisor must petition the court	Nederlandsche Bank can leclare insolvency and idvertises in the newspapers for lepositors to apply for compensation.. Victims of the bank failure can then register with De Nederlandsche Bank during a period of five months	Act of the Supervision of the credit system 1992, Bankruptcy Act	As soon as possible but in any case no later than three months of the date on which the creditor or investor duly submitted his claims, recompense that creditor or investor for the amount of the claims covered by the scheme. In very exceptional circumstances, decide that the period of three months shall be extended by a maximum of another three months.
Portugal	The Banco de Portugal, as the banking supervisory authority Management is required to notify the Banco de Portugal of the bank's inability to meet its obligations, but Banco de Portugal may also intervene		Banco de Portugal may force a winding up pursuant to Credit Institutions and Financial Companies: Legal Framework (approved by Decree-Law No. 298/92 of 31 December and amended by Decree-Laws No. 246/95 of 14 September, No. 232/96 of 5 December, No. 222/99 of 22 June, No. 250/2000 of 13 October, No. 285/2001 of 3 November, No. 201/2002 of 26 September, No. 319/2002 of 28 December and No. 252/2003 of 17 October).	Repayment shall take place within a maximum of three months of the date on which deposits became unavailable; in exceptional circumstances and on a case-by-case basis, the Fund may apply to the Banco de Portugal for a maximum of three further extensions of the time limit, neither of which shall exceed three months. Without prejudice to the period of limitation set forth in the general law, the expiry of the time limit prescribed in the foregoing paragraph does not affect the depositors' right of compensation.

Table 7 (cont)
EU Insolvency Resolution

Country name	**Closure Decision Controlled by**	**Claim Notification and Verification**	**Authority Controlling Resolution**	**Legal Payment Requirements for Insured Deposits**
Spain	Bank of Spain petitions court	Depositors are not required to file a claim. The insurer makes a record of the depositors who are entitled to compensation and informs depositors of the events through ordinary mail of their right to compensation	General insolvency laws and DISCIPLINE AND INTERVENTION OF CREDIT INSTITUTIONS Law 26/1988, of 29 July (BOE day 30) (Correction of errors, BOE of 4 August 1989), Authority to impose sanctions for very serious infractions shall rest with the Minister of Economy and Finance, at the proposal of the Bank of Spain, except for revocation of authorization, which shall be imposed by the Council of Ministers.	Will start as soon as possible and shall take place within a maximum of three months of the date on which deposits became unavailable; the Funds may apply to the Banco de Espana for a maximum of three further extensions of the time limit, neither of which shall exceed three months.
Sweden	Finansinspektionen	NA	Companies Act	Reimbursements will start as soon as possible. They have to be done no later than 3 months after the institution is declared bankrupt.
United Kingdom	Bank files with court	If a bank or building society that becomes insolvent depositor will be contacted by the liquidator or by Financial Services Compensation Scheme and file a claim form	Insolvency Act 1986, Banking Act 1987	All claims should be paid within 3 months (can be extended by a further 3 months or by actions of the court)

Table 7 (cont) EU Insolvency Resolution				
Country name	**Closure Decision Controlled by**	**Claim Notification and Verification**	**Authority Controlling Resolution**	**Legal Payment Requirements for Insured Deposits**
New Members				
Cyprus	Bank Supervision Dept., Central Bank of Cyprus or a court order determines if bank unable to repay deposits	Deposit Protection Scheme will collect information on depositors eligible for claims.	Banking Law specifies that upon declaration by a court or revocation of the banking license by the Central Bank constitutes grounds for its winding up by the Court on the application of, the Central Bank and the appointment of a receiver.	Publish an announcement in the Official Gazette The Fund's Management Committee must proceed with the compensation payment within three months from the date deposits became unavailable, unless the Central Bank of Cyprus approves an extension in accordance with the provisions of the Regulations.
Czech Rep.	Banking Supervision of CNB can impose conservatorship. Bank management responsible for notifying CNB of impending insolvency	Compensation for an insured deposit claim shall be paid from the Fund to an eligible person after the Fund receives notification in writing from the Czech National Bank	General bankruptcy statutes and Act No. 21/1992 Coll. of 20 December 1991, on Banks as amended If a bank is wound up and liquidated, the Czech National Bank shall have exclusive authority to submit a proposal for the nomination of the liquidator. In addition, the Czech National Bank shall have exclusive authority to submit a proposal for the dismissal of the liquidator and for the nomination of a new liquidator or a proposal for the winding up of the joint-stock company if the bank's license has been revoked. The court shall rule on the Czech National Bank's proposal the within 24 hours of the proposal being submitted.	Reimbursement starts within 3 months after deposits become unavailable (may be prolonged twice by 3 months), ends within 5 years

Table 7 (cont)
EU Insolvency Resolution

Country name	**Closure Decision Controlled by**	**Claim Notification and Verification**	**Authority Controlling Resolution**	**Legal Payment Requirements for Insured Deposits**
Estonia	Banking Supervision Department of Estonia Central Bank can withdraw a banking license.	Within three working days after the date on which deposits become unavailable, the Fund shall publish a notice in at least two daily national newspapers on at least two occasions setting out the name of the bank, the term and procedure for payment and a list of the documents required upon the payment of compensation	Bankruptcy Act, Act on Credit Institutions – A bank may be wound up by the central bank (Eesti Pank) or on the basis of a court order the Bankruptcy Law . When legal insolvency is declared, the Liquidation Board or trustee in bankruptcy takes over.	Payment must begin not later than thirty days after the date on which deposits become unavailable and completed within three months The Fund may extend the term by up to three months at a time, but not for more than a total of nine months.
Malta	Malta Financial Services Authority	According to rules established by MFSA	Receiver appointed by bankruptcy court and a liquidator	Within 3 months
Latvia	Insolvency petition to Bankruptcy Court or to the Finance and Capital Market Commission or by that Commission	Guaranteed compensation after the occurrence of a case of unavailability of deposits have submitted their claims to the liquidator or administrator or Commission	Liquidator appointed under the Credit Institutions Law under the control of the Finance and Capital Market Commission	Payment within 3 months with up to 3 extensions of 3 months each
Slovak Republic	National Bank of Slovakia files petition	Failed bank or conservator must announce in media and publicize inside the bank	Conservator	Within 5 days after deposits are inaccessible (frozen, become unavailable) the DPF decides a start of reimbursement; reimbursement ends within 3 months (may be prolonged twice by 3 months), special cases may be reimbursed within 3 years
Slovenia	Bank of Slovinia	If bank or savings bank is declared bankrupt guaranteed deposits will be repaid by a bank designated by the Bank of Slovenia to act as successor. This bank will provide the funds necessary for repaying guaranteed deposits.	Bankruptcy court appoints trustee recommended by Bank of Slovinia	Liability for guaranteed deposits will be assumed by Bank of Slovinia Payment must be made within 3 mo.

Table 7 (cont) EU Insolvency Resolution				
Country name	**Closure Decision Controlled by**	**Claim Notification and Verification**	**Authority Controlling Resolution**	**Legal Payment Requirements for Insured Deposits**
Hungary	Hungarian Financial Supervisory Authority	Claim filed by customer. Bank and fund are obliged to inform depositors through daily press and announcements which provide information on where indemnity claims can be submitted and when the payments start.	The consent of the Minister of Finance and of the President of the NBH is required for the HFSA to withdraw a credit institution's operating license. *(CIFE Section 30 (4))* When it withdraws a license, the HFSA shall make a resolution for winding up the credit institution or initiate liquidation. The HFSA shall initiate the liquidation of the credit institution if the operating license is withdrawn because the credit institution ails to pay any of its undisputed debts within five days of the date on which they are due or no longer possesses sufficient own funds (assets) for satisfying the known claims of creditors. In any other case, an order for the winding up of the institution may be issued. The special rules laid down in Section 176/A -185/H of the CIFE are applicable to the winding up and liquidation of credit institution, in addition to the rules of the Bankruptcy Act and the Companies Act. As a general rule, the winding up and liquidation proceeding of financial institutions may be conducted only by the HFSA's nonprofit company.	Payments must start within 15 days after deposits were frozen or after the bank's operational license was withdrawn, or after the bank's liquidation was announced, and complete the proceedings within three months. Two 3 month extensions are permitted.

Table 7 (cont)
EU Insolvency Resolution

Country name	**Closure Decision Controlled by**	**Claim Notification and Verification**	**Authority Controlling Resolution**	**Legal Payment Requirements for Insured Deposits**
Poland	Commission on Supervision which is part of the Polish National Bank files a petition with the bankruptcy court. Petition must be considered by the court within on month of receipt	Payouts are made on the basis of a list of depositors of the bank, for which bankruptcy has been declared by a court. A list of depositors is drafted by the trustee in bankruptcy within 30 days from the date of announcing bankruptcy and is presented to the Fund Management Board. After checking the list of depositors, within 7 days the Fund Management Board assumes and issues to the public information for a written nationwide announcement, as well as informs the entities covered by the guarantee system of the resolution on transferring to the trustee in bankruptcy the sum of guaranteed funds which is to be paid out	Receiver appointed by bankruptcy court	The trustee in bankruptcy executes payment of the guaranteed funds according to the schedule accepted by the Fund Management Board, but not later than 30 days from receiving the sums from the Fund for payment for the guaranteed deposits.
Lithuania	The Central Bank of Lithuania as banking supervisor is empowered to close a bank	The Council of the Insurance Company announces the procedure for paying insurance compensations in the Valstybės Žinios. The Co. announces the place and time of paying insurance claims in at least 2 Lithuanian daily newspapers. To get paid, a depositor must submit a personal identification document .	Administrator appointed by the Central Bank of Lithuania is empowered to initiate bankruptcy proceedings which are in turn administered by a court appointed receiver.	Payment must be made within 3 months after funds are unavailable or bankruptcy declared. May be extended 3 months twice by the Council of the Insurance Company.

Table 8

POSSIBLE DEPOSIT INSURANCE SYSTEMS DIFFERENCES IN DIFFERENT COUNTRIES

- Account coverage
  - Maximum amount
  - Type of account, e.g., inter-bank
  - Foreign currency deposits
  - Coinsurance
  - Netting
- Ownership
  - Private vs. public (government)
- Funding (premiums)
  - Ex-ante vs. ex-post
  - Magnitude
  - Risk-based vs. flat
  - Regular vs. “topping up”
- Reserve fund
  - Minimum magnitude
  - Voluntary or required
- Government support
  - Explicit (official) vs. implicit
  - Credibility of private funding (premiums)
- Speed of payment if insolvency
  - Insured depositors - to par value
  - Uninsured depositors - to market (recovery) value
  - Advance dividends vs. as assets sold
- Claim filed
  - Automatically
  - By claimant
- Pre-insolvency intervention
  - Prompt correction action (PCA)
- Declaration of insolvency
  - Private creditors or government agency
  - Insurance agency vs. other
  - Closure rule vs. discretion (forbearance)
- Insolvency resolution
  - Administered by insurance agency, other agencies, or bankruptcy court
  - Least cost resolution (LCR)
  - Insurer serves as receiver/conservator
  - Too big to fail
- Membership
  - Mandatory or voluntary
- Other
  - Coinsurance
  - Offsetting

Table 9

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 10

SUMMARY OF PROMPT CORRECTIVE ACTION PROVISIONS OF THE FEDERAL DEPOSIT INSURANCE CORPORATION IMPROVEMENT ACT OF 1991

			Capital Ratios (percent)		
			Risk Based		Leverage
Zone	**Mandatory Provisions**	**Discretionary Provisions**	**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 inter-affiliate 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* 3. Restrict inter-affiliate transactions* 4. Restrict deposit interest rates* 5. Pay of officers restricted	1. Any Zone 3 discretionary actions 2. Conservatorship or receivership if 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* 3. Receiver if still in Zone 5 four quarters after becoming critically under-capitalized 4. Suspend payments on subordinated debt* 5. Restrict certain other activities				<2

• 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.

	Table 11
Country name	Sources of Information
Old Members	http://www.oba.hu/index.php?m=article&aid=190, http://www.worldbank.org/research/interest/2003_bank_survey,http://ec.europa.eu/civiljustice/bankruptcy/bankruptcy_gen_en.htm http://www.efdi.net/participantsDetails.asp?IdParticipants=1&Category=members
Austria	Hall(2001), http://www.einlagensicherung.at
Belgium	http://www.fondsdeprotection.be/files/reglement_dintervention_en.pdf, http://www.protectionfund.be
Denmark	http://www.gii.dk/, http://www.indskydergarantifonden.dk
Finland	http://www.pankkiyhdistys.fi/english/index.html, http://www.talletussuojarahasto.fi
France	http://www.garantiedesdepots.fr/spip/rubrique.php3?id_rubrique=16, http://www.garantiedesdepots.fr
Germany	Deposit Guarantee and Investor Compensation Act 1998. http://wdsbeta.worldbank.org/external/default/WDSContentServer/IW3P/IB/2001/03/30/000094946_01032007445638/Rendered/PDF/multi0page.pdf, http://www.bankenverband.de/pic/artikelpic/082006/0607_entschaedigung_en.pdf, http://www.bdb.de
Greece	http://www.hdgf.gr/binary/hdgf_Law.pdf, http://www.hdgf.gr
Ireland	http://www.ifsra.ie/frame_main.asp?pg=/consumer/cr_cs_dp.asp&nv=/consumer/cr_nav.asp, http://www.centralbank.ie
Italy	http://www.fitd.it/en/deposit_guarantee/deposit_insurance.htm, http://www.fitd.it
Luxembourg	http://www.agdl.lu/pdf/FAQ_0505_EN.pdf,http://www.pwc.com/lu/eng/ins-sol/publ/pwc_banking_050493_uk.pdf, http://www.agdl.lu
Netherlands	Hall(2001),http://www.finansbank.nl/finansbank/netherlands/english/consumer_banking/savings/top_interest_base_account/cgs, http://www.dnb.nl
Portugal	http://www.bportugal.pt/default_e.htm, http://www.bportugal.pt/publish/legisl/rgicsf2004_e.pdf, http://www.fgd.bportugal.pt
Spain	http://www.fgd.es/Indexin.htm, http://www.fgd.es
Sweden	http://www.ign.se/English/index.html, http://www.ign.se
United Kingdom	FSCS annual report 2003/2004 and International deposit insurance survey, http://www.fscs.org.uk http://www.fscs.org.uk/consumer/how_to_claim/deposits/
New Members	http://www.oba.hu/index.php?m=article&aid=190, http://www.worldbank.org/research/interest/2003_bank_survey
Cyprus	http://www.centralbank.gov.cy/media/pdf/BCRGE_DEPOSITPROTECTION.pdf, Establishment of Deposit Protection Scheme Regulations of 2000, http://www.centralbank.gov.cy
Czech Rep.	http://www.iadi.org/html/App/SiteContent/Member%20Profile%20DIF%20Czech%20Republic.pdf, http://www.fpv.cz http://www.cnb.cz/www.cnb.cz/en/legislation/acts/download/act_on_banks.pdf, http://www.fpv.cz/index00en.html
Estonia	http://www.legaltext.ee/text/en/X60018K3.htm,http://www.eestipank.info/pub/en/dokumendid/dokumendid/oigusaktid/seadused/_3.html, http://www.tf.ee
Hungary	http://www.iadi.org/html/App/SiteContent/Member%20Profile%20Hungary.pdf, www.ndif.hu, http://english.pszaf.hu/engine.aspx?page=pszafen_authorizationguides, http://www.ndif.hu
Latvia	http://www.fktk.lv/en/,http://www.fktk.lv/downloads/news_en/NoguldgarantijulikumsAngl.doc, http://www.fktk.lv/texts_files/NoguldgarantijulikumsAngl.doc, http://www.fktk.lv/en/law/credit_institutions/laws/credit_institution_law
Lithuania	http://www.idf.lt/eng/about.html, http://www.tdd.lt/idf , http://www.lrkt.lt/dokumentai/1996/n6a0418a.htm
Malta	http://www.compensationschemes.org.mt/pages/default.asp,http://www.compensationschemes.org.mt/pages/files/DEPOSITOR%20COMPENSATION%20SCHEME%20REG-LN369%20[English].pdf, http://ec.europa.eu/civiljustice/bankruptcy/bankruptcy_mlt_en.htm, http://www.compensationschemes.org.mt
Poland	http://www.bfg.pl/u235/navi/27927;THE LAW of 14 December 1994 on the Bank Guarantee Fund, http://www.bfg.pl/_itemserver/pdf/rap2005_ang_03_ok.pdf, http://www.bfg.pl
Slovak Republic	http://www.slovak.sk/business/legislation/protection_bank_5.htm, http://www.fovsr.sk
Slovenia	http://www.bsi.si/html/eng/deposit_insurance_system/description/description1.htm, http://www.bsi.si/en/bank-of-slovenia.asp?MapaId=84, http://www.bsi.si