

**Development and Evolution of National Financial Systems:
An International Perspective**

by

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I. Introduction

The purpose of this paper is to discuss the different types of financial systems that have been adopted by certain nations, particularly the fifteen countries of the European Union (EU) and the eleven Group of Ten (G-10) countries, and to discuss aspects of the role of regulation in their development and evolution. The focus is on the financial systems of the 19 non-overlapping countries belonging to these two groups because they collectively control an overwhelming majority of the world's financial assets. The paper addresses issues about the lessons that may be learned from the experience of these countries concerning the design of financial systems by the approximately 200 other countries in the world.

As a basis from which to evaluate the different types of national financial systems, the paper discusses the goals of such systems: to facilitate the flow of funds from savers to borrowers and to facilitate payments. These fundamental goals are the same everywhere in the world. The paper also describes how every nation's financial system in facilitating the flow of funds from savers to borrowers and facilitating payments attempts to overcome many of the same problems, such as transaction costs and certain market failures. The ultimate goal is to design a financial system that facilitates the optimal allocation of scarce economic resources to promote economic growth that improves living standards.

Although the basic goals of national financial systems are the same the world over, the methods by which nations attempt to achieve the goals vary dramatically. The differences one observes in financial systems across countries are influenced substantially by laws and regulations. The paper discusses various criteria one may use to determine whether stability, efficiency, and innovation in financial systems are promoted by government intervention through laws and regulations. The paper also discusses how during different stages of a nation's development appropriate governmental intervention in the marketplace may be warranted.

Finally, the paper reaches selected conclusions concerning efforts by international agencies to affect the design of national financial systems by extending to the rest of the world contemporary bank regulatory practices that are widespread in the developed world. The paper also reaches conclusions on the more challenging issues for both developed countries and emerging markets. Developed countries face a pressing issue of how to allow their relatively highly regulated banking sectors to evolve in the face of increasing competition from less regulated competitors. Emerging markets face a fundamental issue of how to establish legal systems that reduce broad transaction costs to a point where their financial systems can become more fully integrated into the financial systems of the developed world.

II. Distribution of the World's Population and Selected Financial Assets

As Table 1 shows, the 19 non-overlapping countries of the EU and G-10 groups of countries contain only 14 percent of the world's population (770 million people), but account for 74 percent of the world's gross

domestic product (GDP). These countries also hold 86 percent of world banking assets, 83 percent of world equity market capitalization, 97 percent of world mutual fund investments (open-end investment company assets), and 76 percent of world international debt securities. As the table also shows, even within this relatively small number of countries, the countries that comprise the G-7 group account for the preponderant shares of everything but population.

By extension, the remaining approximately 200 countries in the world with 86 percent of the world's population (4.7 billion people) account for only 26 percent of the world's GDP. They also hold only 14 percent of world banking assets, 17 percent of world equity market capitalization, 3 percent of mutual fund investments, and 24 percent of world international debt securities.

The information in Table 1 raises several important issues regarding the design of national financial systems. As we discuss in more detail below, each country's financial system is largely an intangible asset that helps to facilitate economic growth. Even the wealthiest countries in the world want to promote growth, and therefore want to be sure their financial systems are stable, efficient, and innovative. Given the enormous disparity in national financial indices shown in Table 1, relatively wealthy countries are also an important source of funds for less wealthy countries. In order for an efficient and innovative integration of the different national financial systems, however, borrower countries' financial systems need some fundamental compatibility with those of lender countries. This suggests that it is extremely important to examine what form developing countries' financial systems should take to facilitate the international flow of funds from savers to borrowers and to facilitate international payments.

III. Financial Systems Facilitate the Flow of Funds from Savers to Borrowers and Facilitate Payments

Aspects of Credit Systems and Payments Mechanisms

Financial systems of all nations exist to facilitate the flow of funds from savers (lenders) to borrowers (investors or spenders) as part of a credit system and to facilitate payments as part of a payment system. For simplicity's sake we will refer in this paper to savers, when referring to savers or lenders, and borrowers, when referring to borrowers, investors, or spenders. Unlike tangible assets that facilitate economic growth, a financial system is largely an intangible asset that promotes growth by facilitating the transfer of funds from savers to borrowers and by facilitating payments. The saver to borrower relationship is depicted in Figure 1. Households, firms, and the government can at any point in time be a saver or lender, a borrower, investor, or spender, or in some way engage in all these roles.

The traditional on-balance-sheet assets and liabilities of a bank exemplify how a given type of financial institution facilitates the goals of a financial system. A bank typically makes loans funded by various types of deposits. In this way a bank intermediates between depositors or savers and borrowers. At the same time, by

offering deposits that are payable on demand at par value (demand deposits) a bank also facilitates payments. All nations have some form of this banking arrangement that is an important component of the financial system.

Traditionally, schematic representations of financial systems such as Figure 1 are designed to describe a given country's financial system. This is increasingly too limited a view. Given technological developments there is no longer any physical or technological impediment to the timely and relatively low cost flow of funds anywhere in the world. Thus, Figure 1 can be seen as a representation of the world financial system in which increasingly savers represent all savers and borrowers represent all borrowers in the world. Given the relatively skewed distribution of financial assets, as depicted in Table 1, different government and private ways are increasingly being found to integrate savers in developed countries with borrowers in emerging markets.

Obviously, at the moment different countries are at different stages of economic development and have adopted different systems of law and regulation. As we discuss in more detail, the stage of development and particular system of law and regulation can greatly affect how well a given country's financial system works, and how well integrated it is with those in the rest of the world. Nonetheless, it is significant, again for reasons that we discuss in more detail below, that given an appropriate economic, legal, and regulatory environment, funds can now flow anywhere in the world.

There are many types of financial firms. Table 2 shows, for example, in the U.S. that there are different types of banking institutions, insurance companies, public and private pension and retirement funds, finance and mortgage companies, mutual funds, security brokers and dealers, real estate investment trusts, specialized issuers of asset-backed securities, and bank personal trusts. Each of these types of institutions functions as part of the credit or payments system, or both. Schematically, the firms in Table 2 would be placed in the top and bottom boxes in Figure 1.

Not only financial firms but also financial exchanges for stocks and bonds exist as part of the credit system facilitating the flow of funds from savers to borrower. These financial exchanges would also be placed schematically in the top box of Figure 1. Through these and other more formal mechanisms individuals can directly transform savings into borrowing. The transformation can also take place less formally in the form of individual investment, such as a founder's investment in a firm, or through venture capital funds, for example.

In the center of Figure 1 is a list of problems or obstacles that must be addressed in the design of every financial system. These problems will be addressed in many ways throughout the remainder of the paper. The problems can be characterized under the general headings of transaction costs and market failures. Issues involving property rights and informational asymmetries, for example, are issues that arise in every financial system and must be resolved if financial systems are going to operate efficiently. As the figure also indicates, these issues may be resolved privately, by the government, or in some combination of private and governmental

action. As the paper emphasizes, the stability, efficiency, and innovative capabilities of different financial systems can be affected significantly by how the problems in the center of Figure 1 are resolved.

Benefits Provided by Financial Systems

Among the benefits provided to individuals by financial systems are diversification of risk, liquidity, and information. In a well-developed financial system savers can hold many different types of assets, and thus diversify risk. Likewise, investors can fund projects in a large number of different ways in a well-developed financial system. Schematically, this means that a well-developed financial system has a mix of financial firms and money and capital markets in both the top and bottom boxes of Figure 1. A well-developed financial system also provides liquidity: the ability to exchange a financial asset for cash on short notice and at low cost. A well-developed financial system also allows for collection and communication of information so that savers and borrowers can evaluate relevant data concerning the risk and return of various financial transactions.

Financial systems provide benefits not only to individuals but also to society. Financial systems benefit society by facilitating the efficient allocation of scarce economic resources -- the primary function of the financial system. The system accomplishes this fundamental goal by essentially fulfilling the two functions of providing an efficient credit system to transfer funds between savers and borrowers to facilitate economic growth and providing an efficient payments system to facilitate transactions. Thus, the benefits to society of a well-developed financial system are the outgrowth of the benefits provided to individuals.

The financial system benefits society by providing the most efficient credit system in several specific respects. Optimally, all firms in all industries should have access to the system. Projects of all sizes should have access to funding. Funding and associated relevant information should be made available, with the exact allocation of financial resources determined by the interaction of individuals and firms in the marketplace, without artificial geographic boundaries. Prices should reflect risk, which in turn should be based upon relevant factors within the context of a well-functioning credit mechanism that facilitates economic growth.

The importance to society of a well-functioning payments system can be seen by realizing what would exist without it -- two-way barter. Transactions would be so cumbersome and costly that they would inhibit economic activity. To the extent that transactions are swift, reliable, and low cost, they promote economic efficiency.

IV. Economic Obstacles to Matching Savers and Borrowers

Transaction Costs

In the process of facilitating the flow of funds from savers to borrowers, all financial systems help resolve problems involving transaction costs and certain types of market failures, predominately involving informational asymmetries, moral hazard (hidden action), and adverse selection (hidden information).

Depending upon the types of transactions and the financial firms that exist, these problems can be resolved through either private contracts, government intervention, or some combination of the two.

All credit market and payment system activities involve transaction costs. An efficient financial system operates with relatively low transaction costs, both broadly and narrowly defined. An important form of broad transaction costs involves the extent to which a broad set of relationships, generally recognized in a legal system and often the focus of government regulation, exist within a society. Such relationships provide a societal basis in which a financial system can operate. In this sense, the extent to which crime or the absence of property rights diverts resources away from their most productive use is a broad transaction cost. Custom and tradition can involve behavior that from the perspective of a financial system raises transaction costs. Governments can also raise transaction costs through inappropriate regulation, corruption, or in extreme cases limiting individual economic freedom. The availability, cost, and reliability of relevant information and an associated accounting system are also important.

Clearly, overcoming these kinds of broad transaction costs is important in integrating the financial systems of the countries of the EU and G-10 not only each with each other but also with the financial systems of the rest of the world, especially those countries referred to as emerging markets. Indeed, these kinds of broad transaction costs may be the single most important obstacle to integrating emerging and developed financial systems. Technology has eliminated physical barriers to integration. As we discuss below, other impediments to the development of efficient national financial systems can be overcome. Yet, if a country does not have a legal and governmental framework that provides for appropriate inter-societal transfers of funds, no amount of technology, for example, is going to link that country's financial system with those in other countries.

More narrow transaction costs can also be substantial. The U.S. government, for example, estimates that it costs 48 cents for it to issue a paper check in contrast to two cents for an electronic transfer of funds. This is an example of how technological developments can lower transaction costs. Economies of scale also exist. Financial institutions can charge lower fees for larger transactions because they result in lower transaction costs. A bank or mutual fund, for example, faces a lower transaction cost if one customer invests \$100,000 in contrast to 100 individuals investing \$1,000 each.

Market Failures

Market failure in the form of information asymmetries exist in all relationships between borrowers and savers. Typically, for example, borrowers undertaking specific projects have better information than lenders. This asymmetric information gives rise to specific kinds of costs involving adverse selection *ex ante*, before a loan or investment is made, and moral hazard *ex post*, after a loan or investment is made. In most cases, these types of market failures can be dealt with privately through contractual arrangements or the use of government coercive powers.

Before a loan is made, for example, the lender is confronted with the problem of distinguishing between good and bad borrowers, when some borrowers may have an incentive to understate the problems that may be associated with their proposed uses of the loan -- especially those problems that are the most difficult for potential lenders to discover on their own. Pricing loans so as to discourage adverse selection is difficult. If a lender raises the interest rate on a loan too high, for example, only the riskiest borrowers will seek the funds. A private solution may therefore be for the lender to simply ration credit.

After a loan is made, lenders must verify that the borrowers are using the loan proceeds as intended. Monitoring, accompanied by periodic draws on the loan as opposed to making the full amount of the loan available at the outset of the loan, plays an important role. In stock-ownership situations, principal-agent problems also arise. Managers, for example, may not act in the best interests of stock holders. In stock companies in which there are also bond holders, additional risks may be taken because all profits beyond the fixed amount of the debt payment accrue to stockholders.

Various private methods exist to deal with these problems, including compensation and other incentive structures, monitoring, covenants, and net worth requirements. In addition, the threat of takeover can be a disciplining force. In this case, government intervention can be a problem in that laws impeding takeovers may reduce the ability to curtail moral hazard and principal-agent problems. In all cases, the legal system in which the loans or investments are made plays a role. The potential for civil or criminal liability may act as a deterrent to forms of adverse selection and moral hazard.

Firm Size and Location, Available Information and Sources of Funds

There is a relationship between firm size, information availability, and sources of funds for investment projects. Very small firms, for example, with a limited history of operation or “track record” and without adequate collateral often have to rely solely on insider seed money. Small firms with certain characteristics may have access to venture capital, commercial loans, or below investment grade bonds. These firms may have a modest track record and display promising growth potential. Small to medium size firms with a notable track record and adequate collateral may have access to commercial loans and private and public placement of equity or debt. Larger firms with significant track records and sufficient collateral have access to all equity and debt markets.

The relationship between firm size, information availability, and sources of funds for capital investment projects is always changing. In general, holding all other things constant, the more information that is available about a given firm in a given industry, the more avenues of funding will be available. Due to technological development that has recently accelerated, more information is becoming more widely available at a lower cost. As a result, smaller firms with relatively limited track records and collateral have greater access than before to

a wider range of funding. In addition, improved technology has allowed a wider range of funding to be available in all parts of the world.

Even today, however, information is not universally available at no cost -- nor will it ever be. Again, in general, there is a relationship between the stage of development of a country and the availability and cost of information. In general, the more developed the country, the more widely available is information and at a lower cost. As a result, for any given firm size, track record, and collateral, the access to alternative sources of funds will be more difficult in less developed countries.

V. Role of Law and Regulation in the Design of Financial Systems

Although the goal of all nations' financial systems is the same, different nations have adopted different financial systems. As just discussed, the differences are influenced by the availability and cost of information and the stage of development of a country. Yet, at the same time, countries at relatively the same stage of development also exhibit significant differences in their national financial systems. For any stage of development, the differences can be significantly influenced by laws and regulations where, again, different laws and regulations address universally similar issues.

Role of Property Rights and Information

Regardless of the stage of development or the type of government a country has, a country can adopt laws that will enhance the development of a financial system that is conducive to stability, innovation, and efficiency. The laws may not directly affect the financial system or its regulation, but rather establish reliable relationships that are necessary for financial systems to become broader and deeper over time. Such laws in general address transaction costs in the broad sense discussed above.

One of the most important relationships deals with property rights and their enforcement. To the extent that property rights are well defined and have been efficiently and consistently enforced over an extended period of time, the more they facilitate the development of a well functioning financial system. Even between individuals and firms whose countries have significantly different forms of government, if a compatible understanding of property rights and their enforcement exists, the more stable, efficient, and innovative financial systems can become. This is increasingly important to developing countries today because technology and the advanced state of development of some financial systems mean that more funds from more places outside developing countries are available.

A similar relationship exists regarding the availability and reliability of information and its cost. If information is inadequate in quantity, unreliable, and excessively costly to obtain, it will thwart the development of a financial system within a country and discourage the inflow of funds from outside the country. Thus, it is

important that a country develop an accounting system that enhances both the availability and the reliability of information.

Role of Regulation

In addition to laws that address the broad sense of transaction costs, the direct regulation of financial systems is an important issue. The most frequently stated goal of financial-system regulation is to maintain confidence and, hence, stability in the financial system, and vice versa.¹ The reason this is so desirable is that only a stable financial system can facilitate the most efficient allocation of scarce economic resources. Thus, the fundamental goal of financial-system regulation is to promote the efficient allocation of scarce economic resources by minimizing disruptions in the credit and payment systems. Government regulation, however, should be based on some set of principles. The economic rationale for government regulation is based on a cost and benefit calculation of existing market failures.

Dealing with Financial System Market Failures

Financial systems are susceptible to intricate and closely related forms of market failure involving public-good problems, externalities, agency problems, moral-hazard problems, adverse-selection problems and barriers to entry and exit. We provide a brief overview.² The market failure most frequently cited as justification for government intervention in the form of the provision of deposit insurance and the accompanying regulation of bank activities involves the public good qualities of information and externalities that can lead to disruptions in the real economy via disruptions in financial systems.

Public Good Qualities of Information

Information possesses public-good qualities in the sense that any costly information that is obtained by one person is not reduced if another person gains access to it, and because once an individual acts upon the information it becomes public. Because a private market, without the coercive powers of the government, cannot impose fees on “free riders” who acquire costly information without paying for it, less information is forthcoming than if free riders were forced to pay for the information.

The public good analysis implies that too little monitoring of banks will occur in the absence of government intervention to provide monitoring. That is, too little information on the condition of banks will be acquired by depositors. With insufficient information available to depositors, depositors will provide inadequate monitoring and banks may engage in excessive risk-taking. If excessive risk-taking arises in banks, it will generally include illiquid assets whose values are difficult for outsiders to discern. The net effect is the increased likelihood of bank failures and bank failure losses.

¹For additional discussion, see Merton (1992), and Kaufman (1996).

²For additional discussion, see Merton and Bodie (1992) and Stiglitz (1992).

Negative Externalities and Bank Runs

The second form of market failure most often discussed in the context of banks is the negative externality that exists when runs occur against solvent institutions. This problem arises when banks accept deposits that are payable on demand at par on a first-come, first-served basis, and the deposits are used to fund illiquid loans whose values are difficult for depositors to assess. Banks are subject to runs whenever depositors believe that the value of the banks assets are insufficient to fulfill their obligations to them.

Depositors who have imperfect information or lack costly-to-obtain information may run against not only insolvent banks but also solvent banks with broadly similar portfolios, thereby creating a negative externality. Actions based upon inaccurate information could in the extreme impair the entire payments mechanism and in the process lead to asset sales at distressed prices that impair the intermediation or credit mechanism. Such situations provide a rationale for deposit insurance to prevent widespread and destructive runs on banks.

Moral Hazard, Agency Problems, and Deposit Insurance

Government regulation designed to overcome one type of market failure, however, can cause problems, including other market failures. Although deposit insurance protects against widespread runs, it simultaneously eliminates the incentive of insured depositors to monitor banks. Nor does deposit insurance impose discipline on risk-taking by the owners because their losses are limited by corporate liability laws to their equity contribution. This gives rise to the moral-hazard problem that is widely associated with deposit insurance. The owners of banks have a put option on their institution's assets because of deposit insurance, and therefore have an incentive to increase the value of the option by choosing riskier portfolios and lower capital-to-asset ratios.³ Thus, government intervention to deal with one type of market failure can create another type of market failure.

For adequately capitalized institutions, the moral-hazard problem is virtually eliminated. As a result, minimum capital requirements have been established by federal law and regulation with the goal of containing the moral-hazard problem. In addition, extensive examination and supervision are designed to detect and prevent excessive risk-taking. In the U.S. savings and loans and banks crises of the 1980s and early 1990s, however, examples of forbearance developed.⁴

The forbearance developed as the cash reserves of the deposit-insurance funds for savings and loans and banks deteriorated, and the regulatory authorities were forced to choose between two broad alternative courses of action. On the one hand, they could request additional funds from Congress to cover the cost of resolving failures that were occurring. On the other hand, they could engage in forbearance by -- among other things --

³For a detailed discussion of the moral-hazard and agency problems as they apply to banks, see Barth and Brumbaugh (1992) and the references cited therein.

⁴See Barth, Brumbaugh, Litan (1992).

delaying the resolution of deteriorated and insolvent institutions. The insurance funds chose the later course, admitting only after being forced to do so that their resources were inadequate for resolving the failures being projected at the time. This forbearance is an example of both moral-hazard and agency problems. The depletion of the insurance funds' reserves created a moral-hazard problem because the deposit-insurance agencies themselves took risks they would not have otherwise taken. This represented a principal-agent problem as well between the deposit-insurance agencies and taxpayers whose interest in prompt closures were not adequately protected. The actions of the regulatory authorities were clearly inconsistent with the interests of taxpayers.⁵

Barriers to Entry and Exit

By not promptly resolving all deeply troubled banking institutions, the regulator blockades exit, preventing such institutions from exiting with the least cost, including costs imposed on competitors. The government also controls entry into banking because institutions must be issued charters in order to engage in certain legally defined activities. Markets that are truly competitive have no barriers either to entry or to exit. By erecting barriers to entry and by not expediting exit, bank regulation introduces market imperfections that cannot only affect competition within the banking industry but also the degree and type of competition within the overall financial system. The returns and risk associated with banking will be similarly affected.

Innovation, Protection of Individuals, and Allocation of Credit

Another goal of regulation is to promote, or at least not to impede, innovation. Innovation promotes interrelated goals by providing for the more efficient allocation of financial services, which in turn provides for the more efficient production and distribution of scarce economic resources in a world of risk and uncertainty. All of this contributes to stability in the financial system and facilitates real economic growth.

Still another goal of regulation is the protection of selected individuals. Deposit insurance is considered to be a desirable guarantee for the small deposits of unsophisticated depositors. The guarantee was not designed to provide protection for all depositors or all deposits. As currently structured, the guarantee is not necessary to protect the credit and payments mechanisms. Regulation is also designed to protect customers of financial firms against selected risks involving fraud.

Finally, a goal of regulation is to allocate credit. Governments can make loans directly, thus providing an intermediation service between taxpayers and selected borrowers. Governments can also affect lending by financial firms by making loan guarantees available to selected borrowers.⁶ More generally, governments can provide broad subsidies through insured banks for selected products or services. In general, direct loans, loan

⁵See Barth and Brumbaugh (1996), Kane (1992, 1993) and Romer and Weingast (1992) for a discussion of this issue.

⁶According to the Office of Management and Budget, the face value of all federal credit and insurance programs in the U.S. amounted to \$6.8 trillion in 1992.

guarantees, and broad subsidies reduce the cost of borrowing below what the private financial system would otherwise provide in order to reduce the cost of selected products. These products, called merit goods, are selected because in some fashion the government decides to reduce their cost and thereby make them more generally available. The most conspicuous such good in the U.S. is housing finance for which the government long supported the savings and loan industry, the development of a secondary market in home mortgages, and the provision of tax advantages to both home buyers and lenders.

Protection of Individual Financial Firms

The goal of stability in the financial system does not mean that regulation should be designed to ensure the solvency of individual financial firms. To the contrary, regulation should facilitate the prompt resolution of firms whose performance in a competitive market leads to financial distress. Prompt resolution at minimum cost reallocates more resources more efficiently than if resolution is slower and more costly. In the process, of course, stockholders, bondholders, and other creditors suffer fewer losses. In the case of banking firms with deposit insurance, prompt resolution means that the deposit-insurance agency suffers fewer losses and the taxpayer, who is a contingent creditor if there are insufficient deposit-insurance fund reserves, faces a lower risk of sharing in those losses. These losses, however, are only part of the total resolution cost, which includes any deadweight losses to society due to the misallocation of resources that are caused by a troubled institution's access to mispriced federally insured deposits.

Promotion of competitive financial markets is a desirable goal for both the financial system and its regulation because the result is in turn a more efficient financial marketplace and a more efficient allocation of scarce resources generally. Thus, a goal of regulation is to promote and to maintain competitive markets and to intervene only when it is cost effective to do so to offset market failures and to facilitate the exit of deeply troubled or insolvent firms from the marketplace.

Although in principle government intervention should occur only to offset market failures, the fact that government intervention itself can cause market failures introduces disturbing possibilities. It is possible that the market failures caused by governmental intervention can lead to problems that are greater than those that would otherwise be experienced without government intervention. It is becoming better understood, for example, that the difficulties experienced in the U.S. with saving and loans and banks in the 1980s and early 1990s were generally the result of inappropriate government intervention. In particular, it is frequently stated that banking institutions are more fragile than other firms because they are highly leveraged, that is, they have a relatively low capital-to-asset ratio. This ratio fell, however, only after the adoption of federal deposit insurance, therefore supplanting depositor vigilance with government regulation.⁷ The issue that results for

⁷See, for example, Kaufman (1996) and Kaufman and Kroszner (1996).

designing a national financial system, then, is how to develop the most appropriate mix of private and governmental reactions to the inherent market failures affecting financial systems.

VI. Contrasting Financial System Designs: the Case of Germany and the U.S.

As the discussion above indicates, all nations have generally the same economic goals for their financial systems. As part of each nation's financial system, savers and borrowers have generally the same economic goals as well. Likewise, the same obstacles confront the different participants in different national financial systems. One might conclude that from these relationships and influences that countries in roughly the same degree of development through some "natural economic process" would homogenize the outcome in the development of national financial systems in terms, for example, of similar roles for similar types of institutions.

In fact, however, although there are meaningful similarities among national financial systems of countries in roughly the same stage of development, there are at the same time significant differences. These differences generally reflect government intervention and regulation, which can reflect cultural or other values that may or may not be contrary to economic efficiency and innovation. Blockading exit of savings and loans by making it difficult to switch from a savings-and-loan to a commercial-bank charter is an example in the U.S.. Unprecedented events, moreover, such as the Great Depression in the U.S., may lead to changes in a nation's financial system that are difficult to change once market participants adjust to them and have achieved relative competitive advantages.

The results of such differences can be dramatic. As a result of such differences, for example, Germany has developed what may be called a "bank-oriented" financial system in contrast to the U.S., which has developed what may be called a "market-oriented" financial system. The source of the contrast is the difference between the ways in which banks have developed and evolved relative to the equity markets of the two countries.

In Germany, for example, the ratio of the value of bank assets to equity market capitalization is 208 percent, and financial institution ownership or control of stock market assets is 33 percent. In the U.S. the comparable ratios are 72 percent and 2 percent. These ratios reflect laws and regulations that in Germany encouraged the growth of bank assets relative to equity markets, and that in the U.S. encouraged equity-market growth relative to bank-asset growth. These ratios also reflect laws and regulations that in the case of Germany have expanded bank ownership of financial assets and in the case of the U.S. have restricted bank ownership of financial assets.

These kinds of comparisons lead inevitably to questions about which system may be better in meeting the goals of a financial system, and which system may be more worthy of emulation. It is argued, for example, that the German system provides a superior mechanism for resolving the principle-agent problem of ensuring

that managers of stock-type firms act in the interest of stockholders. German banks, it is argued, are particularly sophisticated stock owners who are better able than other stockholders to obtain information, monitor managerial behavior, and effect outcomes beneficial to stockholders.

In contrast, one can argue that the U.S. system has developed large and growing institutional ownership of stock through private pension funds and state and local government retirement funds, among others. Sophisticated managers of mutual funds and equity analysts at the firms of security brokers and dealers also exist. In each case they provide opportunities to obtain information, monitor managerial behavior, and effect relevant outcomes for stockholders.

In addition, in the U.S. managers can be disciplined by the threat of acquisition. In particular, hostile takeovers frequently represent a battle in which the acquirer is in essence asserting that the management of the targeted firm is failing to maximize the expected present value of the cash flow to stockholders.

VII. Banking Activities, Bank Ownership, and Organizational Form

Permissible Banking Activities and Bank Ownership

As the contrast between Germany and the U.S. indicates, there are substantial differences in the permissible banking activities and bank ownership opportunities among different countries. Table 3 shows different permissible banking activities and bank ownership opportunities among the 19 nonoverlapping EU and G-10 countries as of 1995. (Back-up tables for Table 3 are provided in Appendix 1.) As the table shows, there are substantial differences in the securities, insurance, and real estate activities that are permissible by banks in the EU and G-10 countries. The table provides a description of the securities, insurance, and real estate activities that are compared across countries. In addition, there are substantial differences in bank opportunities to invest in nonfinancial firms and for nonfinancial firms to invest in commercial banks. Again, the table provides a definition of the range of activities that are allowed in each country.

Table 3 also ranks countries by four levels of powers from “very wide powers” to “restricted powers”. As the table shows, for example, Germany provides “wide powers” for its banks in contrast to the U.S. which provides “restricted powers” for its banks. The two countries with the most restricted powers are the U.S. and Japan, with Japan being the single most restrictive country among the EU and G-10 countries. There is a significant difference between Japan and the U.S. and the remaining 17 countries. Another significant difference exists between the 12 countries whose powers are characterized as either “wide” or “very wide” powers and the other five countries that are characterized as either “somewhat restricted” or “restricted” powers.

Corporate Organizational Form

Banks can be restricted not only regarding permissible activities and ownership, but also regarding corporate organizational form. Tables 4 examines the corporate form a U.S. bank must take in order to be able

to engage in securities, insurance, or real estate activities. As Table 4 shows, corporate form in the U.S. varies from activities being allowed directly in a bank, indirectly through a subsidiary of a bank, and through a nonbank holding company subsidiary of the bank. For national banks, regardless of form, securities, insurance, and real estate activities are “limited”. The only exception is that national banks are not permitted to engage in real-estate activities directly in the bank. As the table also shows, among state banks the relationship between organizational form and activities “varies” a great deal more than among national banks.

Table 5 provides similar information on the organizational form and allowable activities for 14 of the EU and G-10 countries. In general, the table reveals that these countries are less restrictive than the U.S. regarding the corporate form in which securities, insurance, and real estate activities may be conducted. With the single exception of Sweden and real estate activities, all of the countries allow each of the activities to be conducted in some organizational form. With the exception of Canada, all of the other countries allow securities activities to be conducted in a bank, with Canada allowing the activity in a bank subsidiary. With the exception of Austria, all of the other countries allow insurance activities to be conducted either directly in a bank or through a subsidiary. With the exception of Sweden, all of the other countries allow real estate activities to be conducted either directly in a bank or through a subsidiary.

One can compare and contrast the limitations imposed in the U.S. on corporate form and allowable activities and the limitations imposed by the other countries in Table 5. There are significantly greater restrictions imposed in the U.S. than in the other countries studied.

Supervisory and Deposit-Insurance Systems

In addition to regulation of activities and corporate control, all the countries of the EU and G-10 have elaborate supervisory and deposit-insurance systems. These are summarized in Table 6. (For a more detailed analysis, see Barth *et al.* (1997)). As the table shows, each country has a bank supervisory agency that conducts periodic examinations. By far the most elaborate supervisory framework exists in the U.S. where there are three different federal bank supervisory agencies for commercial banks and state agencies for state-chartered banks. Separate supervisory agencies exist for savings and loans and credit unions. In addition, as the table also shows, enforcement actions are subject to public disclosure in the U.S. As the table also shows, each country in the EU and G-10 has some form of deposit insurance system.

VIII. Banking’s Share of Financial Assets and Relative Stability in the U.S.

Distribution of Total Assets of All Financial Firms in the U.S.

As Table 2 shows, since 1950, the share of total assets of all financial firms in the U.S. held by federally insured banking institutions has been more than halved from approximately 65 percent to 30 percent. Commercial banks’ share has been cut in half, and savings institutions’ share has been more than halved. Credit

unions have expanded their share due in part to federal tax benefits and to broadening fields of membership, both of which are coming under increasing congressional scrutiny at the behest of bank competitors.

Over the same period, large increases in asset shares have occurred among mutual funds, pension and retirement funds, finance companies, security brokers and dealers, and issuers of asset-backed securities. Among all of the other nonbank financial firms, only life insurance companies have experienced a decline in their share of assets.

Banks are attempting to maintain profitability by lowering costs, often through mergers with the stated intent of eliminating duplicative operations and achieving economies of scale and scope. Maintaining profitability by cutting costs, however, is essentially a defensive strategy where gains in profitability are ultimately limited. As a result, banks are also seeking access to new activities -- again, often through mergers, increasing operations abroad, and expanding off-balance-sheet activities. Banks are also lobbying continuously for less restrictive laws and regulations.

Essentially, banks are attempting to break down legal and regulatory barriers to entry in order to gain access to geographic areas and allowable activities traditionally not associated with banking in the U.S. At each and every turn, however, banks face competition from less regulated competitors both at home and abroad.

The pattern that emerges is one in which banking institutions, the most highly-regulated firms among financial firms, have experienced a long-term decline in their relative share of assets. Simultaneously, whenever and wherever possible these institutions have attempted to reduce the legal and regulatory barriers that separate them from their less regulated competitors. As the discussion immediately above this section reveals, however, U.S. banking institutions remain relatively restricted not only among their U.S. rivals, but also among their international competitors.

When U.S. banking institutions were nonetheless successful in gaining some new freedom, they have attempted to engage in the activities in which they were formerly forbidden. That is, they have attempted to migrate to less regulated activities where through greater efficiency and innovation -- relative to remaining traditional banks -- they have attempted to compete.

As the discussion above indicates, these assets remain in institutions that face legal and regulatory restrictions relative to domestic and foreign competitors. One way to view these restrictions is as a limitation on the opportunities for U.S. banking institutions to achieve greater efficiency and innovation in the provision of financial services. As Table 2 shows, there are approximately \$18 trillion in assets in all U.S. financial firms, with approximately one-third of the assets, or \$6 trillion, in U.S. banking institutions. Thus, the legal and regulatory restrictions limit the efficiency and innovation with which a significant share of U.S. assets can be used to promote further economic growth.

Failed Federally Insured Banking Institutions in the U.S.: 1980-1995

The extent of the inefficiency with which U.S. bank assets are employed in the U.S. economy extends beyond indirect foregone opportunities to direct and significant losses due to widespread failure of banking institutions in the 1980s and 1990s. As Table 7 shows, between 1980 and 1995, 5,182 commercial and savings banks, savings and loans, and credit unions failed. These institutions held \$910 billion in assets and imposed losses on the three relevant federal insurance funds and U.S. taxpayers of \$192 billion. These losses do not include losses to stockholders or uninsured creditors.

During this period the insurance funds for all the types of banking institutions suffered problems. As is well known, the deposit insurance fund for savings and loans became insolvent and required taxpayer dollars to resolve all failed savings and loans. The deposit insurance fund for commercial and savings banks also became insolvent. It was recapitalized through contributions from the banks and a favorable interest rate environment, after receiving power to borrow at taxpayer-assisted interest rates. The credit unions recapitalized their insurance fund through a deposit made by all credit unions. More generally in the U.S., it is now widely understood that by lowering capital-to-asset ratios, among other things, deposit insurance and government regulation has led to reduced market discipline, higher failure rates, and higher resolution costs for failures.

Implications for Financial Systems in Developed and Emerging Markets

The U.S. credit market is by far the most highly evolved in the world. In the U.S. relative to anywhere else, a larger number and variety of non-financial firms exist about which there is increasingly widespread and reliable information. In addition, in the U.S. a larger number of efficient ways exists through which a greater variety of financial service firms fund investment in non-financial firms.

In this evolution U.S. banking institutions have declined in relative importance as venture capitalists, securities firms, mutual funds, and others, have developed new ways to evaluate risks and fund investments. The development and growth of bond and stock markets also contributed to this decline. In the process, competitive substitutes to traditional bank intermediation have evolved to fund borrowers. The relatively long length of time over which U.S. banking institutions have declined in relative importance suggests that this is not a temporary phenomenon under existing laws and regulations.

It is ironic that the non-bank financial service firms in the U.S. may have developed relative to banks because U.S. banking regulations have essentially blockaded exit of banks in a number of ways. Bank regulations limit the non-bank activities in which a bank can engage, for example, and limit the organizational form in which allowable non-bank activities can be conducted. When a bank fails, the most common method of resolution is government financial assistance in the purchase of assets and assumption of liabilities of the failed bank by a healthier bank. As a result of these kinds of arrangements, non-bank competitors have been

protected against competition from banks that otherwise might have evolved more rapidly into the provision of non-bank activities.

The U.S. system could have evolved differently. Deposit insurance and regulations on allowable bank activities occurred as the result of the Great Depression. Without the Great Depression, the U.S. financial system might have developed more like the German system. It certainly would not have developed the way it has with a banks systematically at a competitive disadvantage to non-bank financial firms, except where banks are explicitly protected by the government from competition -- for example, in access to federal check-clearing functions.

This discussion relates directly to Figure 1. The functional role that banks play as traditional intermediaries between savers and borrowers must necessarily decline as new, widely available, and reliable ways evolve to gather, evaluate, and monitor information about borrowers and lenders. As a result, whereas banks traditionally function as intermediaries between borrowers and lenders in Figure 1 when there are limits on the availability of reliable information, either banks must evolve when reliable information becomes more readily available or other non-bank firms will develop as competitors.

For developed countries with widespread availability of reliable information, functional change does not mean that banks will cease to exist. Rather it means that those banks that do survive will evolve into different financial service firms than they were yesterday and are today. The most relevant questions are how rapidly competitive change will occur and how many banks will evolve profitably in meeting the competition. The process may be one in which there is a relatively smooth transition in which consolidation occurs with few failures, and the failures that do occur do not greatly deplete deposit-insurance reserves. The process may not be so smooth, however, and in the meantime difficulties more directly associated with traditional banking can develop. A significant issue is whether existing deposit-insurance systems are capable of handling the most difficult eventualities efficiently and cost effectively.

These phenomena also have implications for emerging markets in the establishment of financial systems. To the extent that reliable information is difficult to gather, evaluate, and monitor, traditional bank intermediation between borrowers and lenders may be necessary. As the discussion that follows suggest, however, it may not be necessary to impose deposit insurance systems and attendant regulation of activities in the process. As a result, for an emerging market with traditional bank intermediation it may be easier than it has been in the U.S. to plan for future evolution away form traditional bank intermediation.

It may also be possible for emerging markets to “leapfrog” over the limitations of traditional bank intermediation. This can occur where markets are able to adopt available technology. It will be easier in markets where broad and narrow transaction costs are minimized. From the standpoint of borrowers and savers in Figure 1, they are indifferent about whether a traditional bank or another type of firm provides them with the

necessary financial services. Indeed, from their perspective it may be that for their financial system to adopt a model of U.S. banks -- that are the idiosyncratic result of U.S. history -- is to adopt an antiquated financial service provider.

IX. U.S. Taxpayers Remain Vulnerable to Deposit Insurance Fund Losses

Both developed and emerging markets would do well to study the evolution of the U.S. financial system. The current U.S. deposit-insurance structure has evolved only superficially since 1980. The current structure is primarily the result of legislation passed in 1991 that established a number of categories for all insured banking institutions (except credit unions) from “well capitalized” to “critically undercapitalized,” and requires increasing regulatory intervention -- “corrective action” -- as regulatory capital declines. Prompt seizure and resolution of insolvent institutions is required.

Arguments in favor of this particular system emphasize that prompt corrective action can forestall the kinds of difficulties experienced in the 1980s and early 1990s.⁸ If prompt corrective action operated as advertised, however, there would be no need for either federal deposit insurance or the Federal Reserve as lender of last resort to prevent systemic runs caused by a lack of confidence on the part of depositors in the safety of their deposits. The regulators would at all times be able to know the condition of insured depositories, be able to identify difficulties early, and be able to intervene early and effectively to prevent losses from exceeding a bank’s capital.

As the experience of the 1980s and early 1990s demonstrated, despite the existence of an elaborate examination, supervisory, and regulatory system, significant unexpected difficulties can develop quickly and inhibit regulators’ ability to take prompt corrective action. Even with the new legislation regulators rely essentially on the same examination and supervision procedures as they have in the past. In addition, the measures of capital upon which prompt intervention is based are largely historical accounting measures of capital that can significantly overstate the condition of an insured banking institution. As a result, under certain circumstances, the ability to engage in prompt corrective action can be illusory.

Other limitations also exist with the current deposit-insurance and regulatory system. Even if one assumes that the current system makes regulatory forbearance less likely, Congress can still intervene. If a swift and deep industry-wide insolvency were to occur again, and again pose a risk to taxpayers, nothing would prevent the Congress from rewriting the existing statute. As with savings and loans in the 1980s, Congress could have an incentive to avoid committing taxpayer dollars in the hope that unexpected future events would, as they did in the banking crisis, alleviate the problem.

⁸See Kaufman (1996 and 1997) and Kaufman and Kroszner (1996).

Thus, two of the most important lessons of the savings and loan and banking crises of the 1980s are that the possibility of industry wide calamities still exists, and that the deposit-insurance system could still experience losses large enough to require taxpayer assistance.

X. Deposit Insurance is a Source of Instability

Most American's believe that federal deposit insurance is a source of stability not only for banking institutions but also for the entire financial system. This view is largely the result of the fact that no insured depositor has ever suffered a loss as the result of the failure of a federally insured depository. Yet, since most depositors are taxpayers, and taxpayers paid most of the \$192 billion in the banking institution debacle, separating "depositor protection" from "taxpayer liability" is misleading. More important, a thorough understanding of deposit insurance leads to the conclusion that it is really a source of instability for banking institutions.

The central reason is that federal deposit insurance creates the need for government regulation. Because deposit insurance guarantees that insured depositors will ultimately be protected by taxpayer dollars, it requires that examination, supervision, and regulation be established in an attempt to provide for a safe and sound banking system and thereby to protect taxpayers against losses. Yet, the slow and cumbersome way in which the government amends the regulation of activities inhibits banks from adapting promptly to competitive changes. As a result, banking institutions are more fragile than they would otherwise be, and that fragility can then lead to the failures that can overwhelm the financial resources of the deposit-insurance agencies. In the process, the Congress can take risks with taxpayer dollars that can exacerbate already existing problems.

The existence of deposit insurance and regulation, more generally, injects politics into the regulatory process and banking business. Enormous effort and sums of money, for example, have been spent by lobbyists and through campaign contributions by insurance firms, securities firms, and banking institutions either to maintain or to change the existing separation of activities among these industries. Enormous effort and sums of money were spent by various savings and loan interests in the 1980s in pursuit of congressional support of regulatory forbearance. In essence, each group is attempting to have the government use its power to protect the group's interests against competition. This is almost never in the overall interest of economic efficiency and taxpayer protection.

XI. International Banking Protocols and Deposit-Insurance Systems

In the U.S. legislation passed by Congress in 1991 had embedded in it capital standards for federally insured banking institutions based on an accord adopted in 1988 by the Basle Committee of Bank Supervisors and the Bank for International Settlements (BIS). That accord established a set of capital standards that were

voluntary and applied to internationally active banks. In addition, although these capital standards are perceived widely to be uniform, they vary greatly from country to country because different countries include different components of capital (see Barth *et al.* (1997)). The U.S. was unique among the 19 overlapping EU and G-10 countries in imposing an elaborate set of capital standards on all banks and savings and loans, with credit unions being excluded.

The congressional embrace of this approach may turn out to be a significant step toward committing the U.S. and U.S. funds to future international protocols that ignore the lessons discussed above. At the moment the Basle supervisors, the BIS, the International Monetary Fund (IMF), and the World Bank are moving to develop additional international bank regulatory protocols. These developments are taking place with next to no debate despite the fact that they hold important implications for national financial systems worldwide.

In recent months officials of the IMF have begun to discuss their own conclusions about the lessons that should be learned from recent banking crises around the world. As one high IMF official said in October 1996, "There are problems of banking soundness all over the world . . . We are doing a lot of work on improving banking systems; this is a big growth area for us." The IMF points out that since 1980 three fourths of the IMF member countries have experienced significant banking problems and that banking problems in developing and transition economies have cost the public \$250 billion.

The IMF's basic conclusion appears to be that banking crises worldwide would have been less likely to have occurred or less severe if a uniform set of banking standards had been in place. In reaching this conclusion the IMF does not mention that banking problems in the U.S., with its elaborate protection system, had losses of \$192 billion associated with the failures of its savings and loans, banks, and credit unions. These losses, moreover, are the direct losses to deposit insurance funds and taxpayers, and do not include losses borne by stockholders in failed banking institutions or wider social costs.

When the IMF does cite banking problems in the developed countries it often mentions Japan. Yet, since 1971 Japan has required its banks to fund a joint government and industry deposit-insurance corporation. Japan along with the U.S., moreover, has had one of the most restrictive systems of regulation regarding permissible banking activities regarding securities, insurance, real estate, and ownership of non-financial firms. Like the U.S. it also restricts non-financial firm ownership of banks.

The G-10 group of eleven countries has already adopted the capital standards of the Basle supervisors and BIS. Now the IMF and the World Bank appear to want to extend them uniformly to emerging countries and beyond the G-10 group of developed countries. According to a published report in October 1996, "international supervisory banking standards" will be completed within the next few months and will probably be administered jointly by the IMF, the BIS, and the Basle supervisors.

These developments are troubling for a number of reasons. Most important, these international agencies may be in the process of convincing a large part of the world to adopt banking standards that instead should be discarded. In the process, to the extent that these practices proliferate abroad, it will make it more difficult for the U.S. to adopt more market based approaches. Indeed, depending on the success of the efforts by the IMF and the other international agencies to administer the bank supervisory and regulatory policies there will be pressure on the U.S. to conform to their policies.

Many large U.S. banks do business abroad. Citicorp, for example, operates in more than 90 countries and approximately 50 percent of its assets and revenue come from abroad. Therefore, large U.S. based international banks, their shareholders, depositors, and taxpayers have a large stake in the potential effects of deposit insurance and regulatory developments abroad. Other large international banks may also face future problems as they expand internationally.

It is important to note that the IMF and the other international agencies have a conflict of interest that must at some level affect their analysis of these issues. To the extent that these agencies design and administer the resulting regulatory policies, they themselves benefit in many ways. It is reasonable to suspect that these agencies envision becoming the chief administrators of international banking regulation. In part, the new role for international agencies could supplant the role of domestic bank regulators, with resulting prestige, power, influence, and pecuniary benefits.

XII. Conclusions

As discussed above, all 19 separate countries in the EU and G-10 have some form of a deposit-insurance system. Japan has had a joint industry-government deposit insurance system since 1971, and the U.S. has had a government system since 1933. As also discussed above, both these countries have the most restrictive laws and regulations regarding permissible activities and ownership. Moreover, the U.S. has one of the most restrictive systems of corporate organization and allowable activities. Notwithstanding the deep government intervention in Japanese and U.S. banking markets, these two countries have experienced some of the most significant episodes of bank failures in the world. The experience of the U.S. and Japan suggest that the export of deposit-insurance and regulatory schemes that exist in those countries should be examined closely beforehand.

There are, however, more fundamental issues both for developed countries within the EU and G-10 and emerging markets. For both developed countries and emerging markets it is important to develop financial systems that are as efficient and as innovative as possible. This is an important goal because such systems promote economic growth and thus can help improve living standards. This is important for all countries

because even among the most affluent countries in the world wide disparities of income and wealth can exist. The specific issues that exist for developed countries and emerging markets differ, however.

Despite different laws, cultures, and political systems, for example, developed countries in general have found ways to establish relationships that allow different financial systems to integrate with each other. These countries have largely reduced broad transaction costs to the point where international financial transactions can occur. These international financial transactions occur at a cost above domestic transactions associated with narrow transaction costs, such as electronic versus paper transactions, or the costs imposed by distance or different currency valuations.

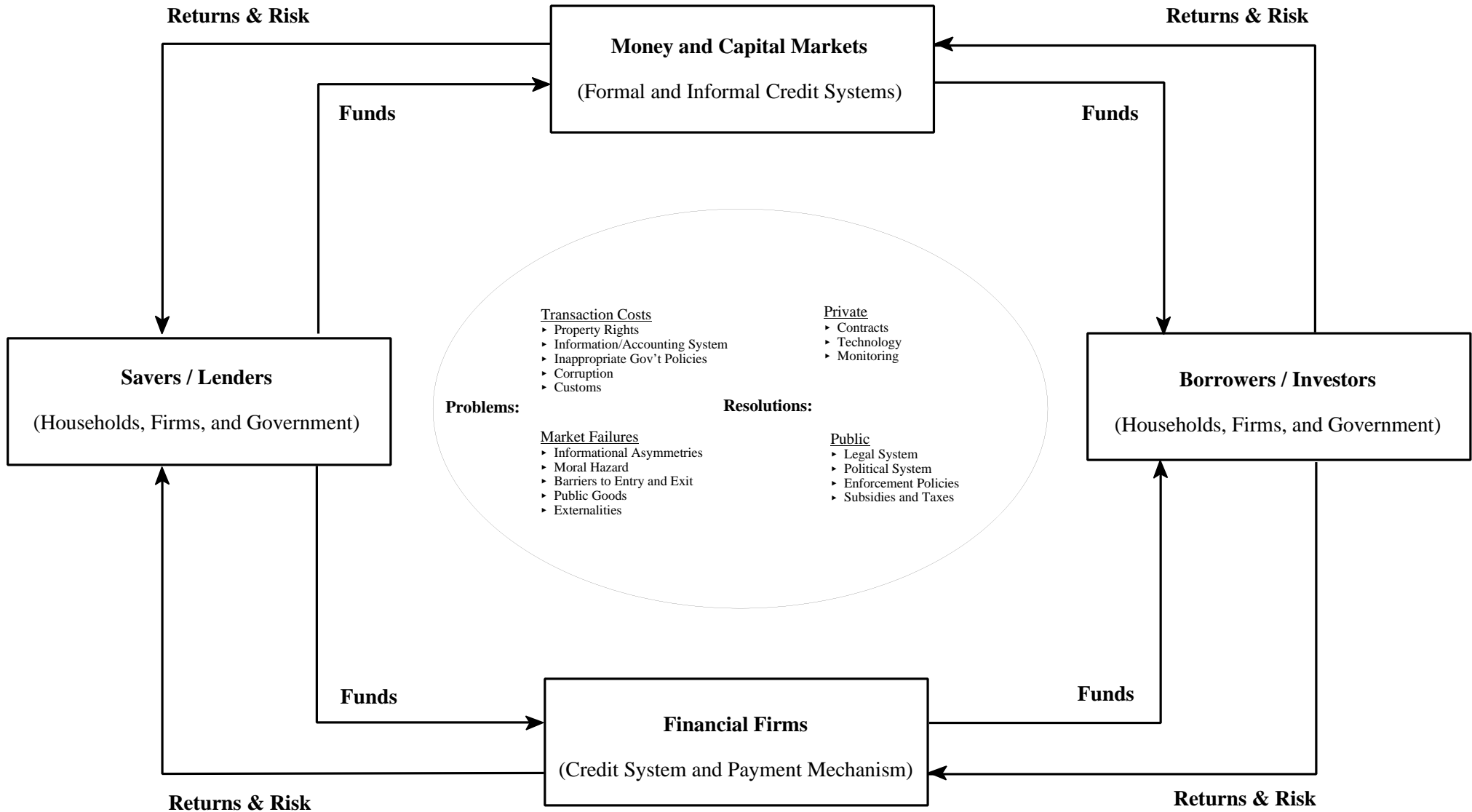
Although reducing both broad and narrow transaction costs is still important, a more important issue for developed countries is how to cope with increasing competition between their relatively highly regulated banking sectors and relatively less regulated non-bank competitors. As the discussion above makes clear, highly regulated banking sectors are vulnerable to both long-term decline in the face of increasing competition and to sudden deterioration that can swamp the ability of supervisory and deposit-insurance systems to cope with the deterioration.

An issue, of course, for emerging countries is whether to design banking sectors that are susceptible to such decline and deterioration over time in the face of less regulated competition. Yet, many emerging countries face a more fundamental issue. That issue is how to design a domestic financial system that can be integrated with the financial systems of the developed countries. Here again, of course, the design of the banking sector is important. More important, however, is to design an overall legal system that reduces broad transaction costs in a way that provides confidence on the part of developed countries. Only with such an overall system can the huge financial resources that are so heavily concentrated in the EU and G-10 countries be integrated with the rest of the world.

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Figure 1
Designing a Financial System



TABLES

Table 1
Comparative Population, Gross Domestic Product and Selected Financial Asset Information
for the EU and G-10 Countries: 1993
(Percentages)

Country	Share of World Population ¹	Share of World GDP ²	Share of World Banking Assets ³	Share of World Open-End Investment Company Assets ⁴	Share of World Equity Market Capitalization ⁵	Share of World International Debt Securities ⁶
Austria	0.15	0.79	1.23	0.44	0.20	2.22
Belgium	0.18	0.91	2.17	0.37	0.56	1.38
Canada	0.53	2.07	1.71	2.10	2.34	7.11
Denmark	0.09	0.51	0.59	0.11	0.30	1.67
Finland	0.09	0.32	0.39	N A	0.17	2.34
France	1.05	5.42	7.56	11.70	3.27	7.51
Germany	1.48	8.27	11.59	5.14	3.32	5.89
Greece	0.19	0.27	0.23	0.08	0.09	0.67
Ireland	0.06	0.19	0.13	0.13	NA	0.69
Italy	1.04	4.29	3.34	1.56	0.98	3.44
Japan	2.27	18.23	25.31	11.01	21.48	16.68
Luxembourg	0.01	0.05	1.51	6.00	0.14	0.10
Netherlands	0.28	1.34	2.19	1.17	1.30	2.59
Portugal	0.18	0.37	0.46	0.23	0.09	0.24
Spain	0.71	2.07	2.58	1.74	0.85	1.11
Sweden	0.16	0.72	0.67	0.59	0.77	3.72
Switzerland	0.13	1.00	2.31	0.83	1.95	0.81
United Kingdom	1.06	3.54	8.46	3.18	8.25	8.67
United States	4.69	27.08	13.18	50.24	36.78	8.68
Total	14.35	77.44	85.59	96.62	82.84	75.52
G-7 ⁸	12.12	68.90	71.04	84.93	76.42	57.98
G-10 ⁹	12.87	72.87	78.38	87.89	81.00	66.48
EU ¹⁰	6.73	29.06	42.99	32.44	20.29 ¹¹	42.24

SOURCE: James R. Barth, Daniel E. Nolle, and Tara N. Rice, "Commercial Banking Structure, Regulation, and Performance: An International Comparison," Economics Working Paper 97-6, Office of the Comptroller of the Currency, March 1997.

NOTES:

1. World Population: 5.5 billion.
2. World GDP: 23,269 billion USD.
3. World Banking Assets: 25,185 billion USD.
4. World Open-End Investment Company Assets: 4,131 billion USD.
5. World Equity Market Capitalization: 13,964 billion USD.
6. World International Debt Securities: 2,038 billion USD.
7. OECD Domestic Debt Securities: 19,715 billion USD.
8. Group of Seven (G-7) countries include Canada, France, Germany, Italy, Japan, the U.K., and the U.S.
9. Group of Ten (G-10) countries include Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the U.K., and the U.S. Switzerland became a full member in 1984, bringing the group to eleven members.
10. European Union countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the U.K. Though Austria, Finland, and Sweden did not become EU members until January 1, 1995, they are included in the aggregate EU figures in the above table.
11. Excluding Ireland.

Table 2
Percentage Distribution of U.S. Financial Assets
by All Financial Service Firms: 1950-1996

	1950	1960	1970	1980	1990	1995	1996
Depository Institutions ¹							
Commercial Banks	50.9	37.8	38.2	34.1	27.5	24.4	23.0
U.S.-Chartered	50.3	37.1	36.1	29.1	21.8	18.0	16.8
Foreign Offices in U.S.	0.4	0.6	0.7	2.3	3.0	3.6	3.5
Bank Holding Companies	NA	NA	1.1	2.4	2.5	2.5	2.5
Banks in U.S. Possessions	0.3	0.1	0.3	0.3	0.2	0.2	0.2
Savings Institutions	13.7	19.6	19.7	18.2	11.2	5.5	5.1
Savings and Loans	5.9	11.8	12.8	14.4	9.1	NA ⁶	NA ⁶
Savings Banks	7.7	6.8	5.9	3.8	2.1	NA ⁶	NA ⁶
Credit Unions	0.3	1.0	1.3	1.6	1.8	1.7	1.6
Contractual Intermediaries							
Life Insurance Companies	21.3	19.2	14.8	10.7	11.3	11.4	10.9
Other Insurance Companies	4.0	4.3	3.7	4.2	4.4	4.0	3.9
Private Pension Funds ²	2.4	6.3	8.3	11.6	13.4	14.3	14.8
State and Local Government Retirement Funds	1.7	3.3	4.4	4.5	6.8	8.3	8.5
Others							
Finance Companies	3.2	4.6	4.7	4.7	5.0	4.5	4.4
Mortgage Companies	NA	NA	NA	0.4	0.4	0.2	0.2
Mutual Funds ³	1.1	2.8	3.5	1.4	5.0	10.1	11.5
Money Market Mutual Funds	0.0	0.0	0.0	1.8	4.1	4.0	4.4
Closed-End Funds	NA	NA	NA	0.2	0.4	0.7	0.7
Security Brokers and Dealers	1.4	1.1	1.2	1.0	2.2	3.1	3.1
REIT's ⁴	NA	NA	0.3	0.1	0.1	0.1	0.2
Issuers of Asset Backed Securities	NA	NA	NA	0.0	2.3	3.7	4.0
Bank Personal Trusts ⁵	NA	NA	NA	5.6	4.3	4.0	3.7
Total Assets (\$ Billions)	294	605	1,356	4,349	12,152	18,414	20,482

SOURCE: Flow of Funds Accounts, Board of Governors of the Federal Reserve System (various issues).

NOTES: 1. Commercial Banks consist of U.S. chartered commercial banks, domestic affiliates, Edge Act corporations, agencies and offices in U.S. Possession. Foreign banking offices in U.S. include Edge Act corporations and offices of foreign banks. IBF's are excluded from domestic banking and treated like branches in foreign countries. Savings and loan associations include all savings and loan associations and federal savings banks insured by the Savings Association Insurance Fund. Savings banks include all federal and mutual savings banks insured by the Bank Insurance Fund.

2. Private pension funds include Federal Employees' Retirement Thrift Savings Fund.

3. Mutual funds are open-end investment companies (including unit investment trusts) that report to the Investment Company Institute.

4. REIT's are real estate investment trusts.

5. Bank personal trusts are assets of individuals managed by bank trust departments and nondeposit noninsured trust companies.

6. The Flow of Funds Accounts were restructured in the second quarter of 1993, thereby omitting this breakdown.

Table 3
Permissible Banking Activities and Bank Ownership in the EU and G-10 Countries: 1995

	Securities	Insurance	Real Estate	Commercial Bank Investment in Nonfinancial Firms	Nonfinancial Firm Investment in Commercial Banks
Very Wide Powers:					
Austria	Unrestricted	Permitted	Unrestricted	Unrestricted	Unrestricted
Switzerland	Unrestricted	Permitted	Unrestricted	Unrestricted	Unrestricted
United Kingdom	Unrestricted	Permitted	Unrestricted	Unrestricted	Unrestricted
France	Unrestricted	Permitted	Permitted	Unrestricted	Unrestricted
Netherlands	Unrestricted	Permitted	Permitted	Unrestricted	Unrestricted
Wide Powers:					
Denmark	Unrestricted	Permitted	Permitted	Permitted	Unrestricted
Finland	Unrestricted	Restricted	Permitted	Unrestricted	Unrestricted
Germany	Unrestricted	Restricted	Permitted	Unrestricted	Unrestricted
Ireland	Unrestricted	Prohibited	Unrestricted	Unrestricted	Unrestricted
Luxembourg	Unrestricted	Permitted	Unrestricted	Unrestricted	Restricted
Portugal	Unrestricted	Permitted	Restricted	Permitted	Unrestricted
Spain	Unrestricted	Permitted	Restricted	Unrestricted	Permitted
Somewhat Restricted Powers:					
Italy	Unrestricted	Permitted	Restricted	Restricted	Restricted
Sweden	Unrestricted	Permitted	Restricted	Restricted	Restricted
Belgium	Permitted	Permitted	Restricted	Restricted	Unrestricted
Canada	Permitted	Permitted	Permitted	Restricted	Restricted
Greece	Permitted	Restricted	Restricted	Unrestricted	Unrestricted
Restricted Powers:					
Japan	Restricted	Prohibited	Restricted	Restricted	Restricted
United States	Restricted	Restricted	Restricted	Restricted	Restricted

SOURCE: James R. Barth, Daniel E. Nolle, and Tara N. Rice, "Commercial Banking Structure, Regulation, and Performance: An International Comparison," Economics Working Paper 97-6, Office of the Comptroller of the Currency, March 1997.

NOTES: Securities activities include underwriting, dealing and brokering all kinds of securities and all aspects of the mutual fund business.

Insurance activities include underwriting and selling insurance products/services as principal and as agent.

Real estate activities include investment, development and management.

DEFINITIONS: Unrestricted- A full range of activities in the given category can be conducted directly in the bank.

Permitted- A full range of activities can be conducted, but all or some must be conducted in subsidiaries.

Restricted- Less than a full range of activities can be conducted in the bank or subsidiaries.

Prohibited- The activity cannot be conducted in either the bank or subsidiaries.

Table 4
Permissible Corporate Organizational Form in which to Conduct Selected Bank Activities in the U.S.*

Corporate Organizational Form ⁴	Securities Activities ¹	Insurance Activities ²	Real Estate Activities ³
Directly in Bank:			
National Bank	Limited ⁴	Limited ⁵	No ⁶
State Bank	Varies ⁷	Varies ⁸	Varies ⁹
Indirectly Through Subsidiary of:			
National Bank	Limited	Limited	Limited
State Bank	Varies	Varies	Varies
Bank Holding Company Nonbank Subsidiary	Limited ¹¹	Limited ¹²	Limited ¹³

* Information as of January 1997.

SOURCE: James R. Barth, Daniel E. Nolle, and Tara N. Rice, "Commercial Banking Structure, Regulation, and Performance: An International Comparison," Economics Working Paper 97-6, Office of the Comptroller of the Currency, March 1997.

NOTES: (1) Securities activities include underwriting, dealing and brokering all kinds of securities and all aspects of the mutual fund business.

(2) Insurance activities include underwriting and selling insurance products/services as principal and as agent.

(3) Real estate activities include investment, development and management.

(4) National banks are not permitted to underwrite or deal in securities, except for governmental obligations or other designated securities. 12 U.S.C Sections 24(Seventh) and 378. National banks may engage in brokering all types of securities and investment products.

(5) National banks operating in a place of 5,000 or less are permitted to sell all insurance products. Other national banks are limited to selling credit related insurance.

(6) With the exception of bank premises and property acquired in connection with credit activities, national banks are not permitted to hold or deal in real estate.

(7) The permissibility of state bank securities activities varies from state to state. Under the Federal Deposit Insurance Act, however, insured state banks may not engage as principal in any type of activity that is not permissible for a national bank unless the Federal Deposit Insurance Corporation determines that the activity does not pose a significant risk to the insurance fund and the state bank is in compliance with applicable capital standards. 12 U.S.C. 1831a(a) (the "FDI Act Limitation").

(8) The permissibility of state bank insurance sales activities varies from state to state subject to the FDI Act Limitation. State banks may not underwrite insurance except to the extent that activity is permissible for national banks. 12 U.S.C. 1831a(b)(1).

(9) The permissibility of state bank real estate activities varies from state to state subject to the FDI Act Limitation.

(10) Subsidiaries of national banks may engage in activities that are authorized for their parent banks or are part of or incidental to the business of banking.

(11) In addition to brokerage activities, and subject to specific approval, bank holding company subsidiaries may underwrite a limited amount of bank-ineligible securities. 12 U.S.C. Section 337.

(12) Bank holding companies generally are limited to sale of credit related insurance except in small towns or other places with inadequate insurance agency facilities. 12 C.F.R. Section 225.25(b)(8)(iii).

(13) Bank holding companies may perform appraisals of real estate and, under certain conditions, act as an intermediary for the financing of commercial or income producing real estate. 12 C.F.R. Sections 25(b)(14) and (15).

Table 5
Permissible Corporate Organizational Form in which to Conduct Selected Bank Activities in Selected EU and G-10 Countries*

Country	Bank Holding Company Permitted	Securities Activities ¹				Insurance Activities ²				Real Estate Activities ³			
		Directly in the Bank	Bank Subsidiary	Bank Holding Company Subsidiary	Most Frequently Conducted in	Directly in the Bank	Bank Subsidiary	Bank Holding Company Subsidiary	Most Frequently Conducted in	Directly in the Bank	Bank Subsidiary	Bank Holding Company Subsidiary	Most Frequently Conducted in
Austria	Yes, but infrequently used	Yes	Yes	Yes	Bank ⁴	No	No	Yes	Bank Holding Company Subsidiary ⁵	Yes	Yes	N A	Bank
Canada	No	No	Yes	No	Bank Subsidiary	No	Yes	No	Bank Subsidiary	Yes	Yes & No	No	Bank Subsidiary
Finland	Yes, but infrequently used	Yes	Yes	Yes	Bank	Yes & No ⁶	Yes	Yes	Bank Subsidiary	No	Yes	No	Bank Subsidiary
Germany	Yes, but infrequently used	Yes	Yes	Yes	Bank	No ⁷	Yes	Yes	Bank Subsidiary	Yes	Yes	Yes	Bank Subsidiary
Greece	No ⁸	Yes ⁹	Yes	No	Bank Subsidiary	Yes ¹⁰	Yes	No	Bank Subsidiary	No ¹¹	Yes	No	Bank Subsidiary
Ireland	Yes, but infrequently used	Yes	Yes	No	Bank Subsidiary	Yes ¹²	Yes ¹²	No	Bank	Yes	Yes	No	Bank
Italy	Yes, widely used	Yes	Yes	No	Bank	Yes	Yes	Yes	Bank Subsidiary ¹³	No	Yes	Yes	Bank subsidiary
Luxembourg	No ¹⁴	Yes	Yes	No	Bank	No	Yes	No	Bank Subsidiary	Yes	Yes	No	Bank Subsidiary
Netherlands	Yes, widely used	Yes	Yes	Yes	Bank	No	Yes	Yes	Bank Holding Company Subsidiary	No	Yes	Yes	Bank Subsidiary and Bank Holding Company Subsidiary
Portugal	Yes, but infrequently used	Yes	Yes	Yes	Bank & Bank Subsidiary	Yes	Yes	Yes	Bank & Bank Subsidiary	No	Yes	Yes	Bank Subsidiary
Spain	Yes, but infrequently used	Yes	Yes	N A	Bank & Bank Subsidiary ¹⁵	No	Yes	N A	Bank Subsidiary	No	Yes	N A	Bank Subsidiary
Sweden	No	Yes	Yes	No	Bank	No	Yes	No	Bank Subsidiary	No	No	No	N A
Switzerland	Yes, but infrequently used	Yes	Yes	Yes	Bank	Yes	Yes	Yes	Bank Subsidiary	Yes	Yes	Yes	Bank Subsidiary
United Kingdom	Yes, but infrequently used	Yes	Yes	Yes	Varies	Yes	Yes	Yes	Bank Subsidiary ¹⁶	Yes	Yes	Yes	Varies

* Information as of January 1997.

SOURCE: James R. Barth, Daniel E. Nolle, and Tara N. Rice, "Commercial Banking Structure, Regulation, and Performance: An International Comparison," Economics Working Paper 97-6, Office of the Comptroller of the Currency, March 1997.

NOTES: (1) Securities activities include underwriting, dealing and brokering all kinds of securities and all aspects of the mutual fund business.

(2) Insurance activities include underwriting and selling insurance products/services as principal and as agent.

(3) Real estate activities include investment, development and management.

(4) Securities activities fall under the banking activities provisions of Section 1 Austrian Banking Act. Hence, such business may be conducted exclusively by a bank.

(5) Insurance activities require a license by the insurance supervisory authority (Ministry of Finance).

(6) Insurance activities in Finland may be conducted in the bank as agent but not as principal.

(7) Except as agent for insurance companies.

(8) Holding companies may own the majority of shares in a Greek bank, but there is no specific legal framework referring to such companies.

(9) Only underwriting and custodian services.

(10) Only selling insurance products combined with deposits - no insurance risk may be assumed by banks.

(11) Excluding investment in bank premises.

(12) Only includes selling insurance products and services as agent.

(13) Italian banks are not directly involved in insurance activities; these must be conducted by insurance companies subject to specific rules. Banks usually act as an agent of insurance companies, selling product through their branches.

(14) Pure holding companies are permitted to incorporate under Luxembourg law, but the statute of a bank holding company does not exist. This type of company is not submitted to any prudential control by any authority.

(15) Public debt directly in bank and stock exchange in bank subsidiary.

(16) With the exception of selling insurance as an agent, which is commonly conducted directly in the bank.

Table 6
Selected Supervisory and Deposit-Insurance Scheme Information for EU and G-10 Countries: 1995

Country	Bank Supervisor	On-Site Examinations	Banks Pay for Examinations	Public Disclosure of Enforcement Actions	Administration of Deposit Insurance Scheme	Funding for Deposit- Insurance Scheme	Coverage USD	1993 Per Capita GNP USD
Austria	Federal Ministry of Finance	Yes	Yes	No	Industry	Ex post	25,791	23,835
Belgium	Banking and Finance Commission	Yes	No	Yes	Government/Industry Jointly	Ex ante, but banks may have to contribute ex post as well.	19,608	21,559
Canada	Office of the Superintendent of Financial Institutions	Yes, annually.	Yes	No	Government	Ex ante	43,719	20,101
Denmark	Danish Financial Supervisory Authority	Yes, usually every 3 years.	Yes	No	Government	Ex ante	53,552	27,800
Finland	Financial Supervision	Yes, but no regular schedule.	Yes	No	Industry	Ex ante	NA	19,438
France	Credit Institutions Committee, Bank Regulatory Committee and Banking Commission	Yes	No Information.	No Information.	Industry	Ex post	80,136	22,324
Germany	Federal Banking Supervisory Office	Yes	Yes	No	Industry	Ex ante, but banks may have to contribute ex post as well.	NA	23,537
Greece	Bank of Greece	Yes, generally every 2-3 years.	No	No	Government/Industry Jointly	Ex ante	26,144	7,340
Ireland	Central Bank of Ireland	Yes, usually every 18-24 months.	No	No	Government	Ex ante	19,608	12,519
Italy	Bank of Italy	Yes, usually every 4-8 years.	No	Yes	Industry	Ex post	491,129	19,842
Japan	Ministry of Finance and Bank of Japan	Yes	No Information.	No Information.	Government/Industry Jointly	Ex ante	106,315	31,451
Luxembourg	Luxembourg Monetary Institute	Yes, on an ad hoc basis.	Yes	No	Industry	Ex post	16,960	25,878
Netherlands	Bank of Netherlands	Yes, depends on size/risk profile.	No	No	Government/Industry Jointly	Ex post	26,144	20,546
Portugal	Bank of Portugal	Yes, usually annually.	No	Yes	Government	Ex ante	44,118	7,853
Spain	Bank of Spain	Yes	No	No	Government/Industry Jointly	Ex ante	12,030	13,674
Sweden	Financial Supervisory Authority	Yes	No	No	Government	Ex ante	35,047	24,579
Switzerland	Swiss Federal Banking Commission	No.	Yes	No	Industry	Ex post	25,370	35,534
United Kingdom	Bank of England	Yes, but limited and usually biennially.	Yes	Yes, but not explicitly naming institutions.	Government	Ex ante	28,413	17,885
United States	Federal Reserve System, Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency, State Authorities	Yes, annually.	Yes	Yes	Government	Ex ante	100,000	24,763

SOURCE: James R. Barth, Daniel E. Nolle, and Tara N. Rice, "Commercial Banking Structure, Regulation, and Performance: An International Comparison," Economics Working Paper 97-6, Office of the Comptroller of the Currency, March 1997.

Table 7
Failed Federally Insured Depository Institutions: 1980-1996
Number, Assets, and Resolution Costs
(\$ Millions)

Year	Failed Commercial and Savings Banks			Failed Savings and Loans			Failed Credit Unions		
	Number	Assets	Costs	Number	Assets	Costs	Number	Shares	Costs
1980	10	236	31	11	1,458	167	239	NA	33
1981	10	4,859	782	28	13,908	1,018	349	136	44
1982	42	11,632	1,169	76	27,748	1,213	327	156	79
1983	48	7,207	1,425	54	19,655	1,024	253	102	55
1984	80	3,276	1,635	27	5,783	833	130	208	20
1985	120	8,735	1,044	36	7,066	1,025	94	47	12
1986	145	7,638	1,728	51	24,182	3,605	94	116	29
1987	203	9,231	2,028	47	10,921	4,509	88	327	52
1988	221	52,683	6,866	222	113,965	52,203	85	297	33
1989	207	29,402	6,215	327	146,811	51,140	114	285	74
1990	169	15,729	2,889	213	134,766	21,473	164	339	49
1991	127	62,524	6,037	144	82,626	10,823	130	267	77
1992	122	45,485	3,707	59	45,980	4,741	114	223	107
1993	41	3,527	655	9	6,339	532	71	265	20
1994	13	1,402	208	2	142	14	33	255	36
1995	6	753	104	2	456	66	26	545	13
1996	5	190	NA	NA	NA	NA	19	19	2
Total	1,564	264,319	36,523	1,313	641,996	154,386	2,330	3,587	735

SOURCE: Federal Deposit Insurance Corporation and information personally supplied by Tun Wai, Kenneth Ryder and Eric Hirschhorn.

Appendix I

Permissible Banking Activities and Bank Ownership in the EU and G-10 Countries: 1995

Country and Bank Supervisor(s)	Securities ¹	Insurance ²	Real Estate ³
AUSTRIA Federal Ministry of Finance	Unrestricted; conducted either directly in bank or through subsidiaries. No firewalls mandated.	Permitted; conducted only through subsidiaries. However, a bank may broker insurance policies.	Unrestricted; conducted either directly in bank or through subsidiaries. The total book value of a bank's investment in real estate, plant and equipment, furniture and fixtures must not exceed liable capital.
BELGIUM Banking and Finance Commission	Permitted; conducted either directly in bank or through subsidiaries. No restrictions on bonds. However, a bank may not underwrite stock issues. No firewalls mandated.	Permitted; conducted directly in the bank for those activities licensed by the Insurance Supervisory Authority, and through insurance companies (subsidiaries), in which banks can own either controlling or minority participating interests, if certain framework conditions are fulfilled.	Restricted; investments limited to real estate used in the exercise of the bank's activities. May serve as an agent and manager of real estate for clients as well as engage in real estate leasing through subsidiaries.
CANADA Office of the Superintendent of Financial Institutions	Permitted; conducted only through subsidiaries. No firewalls mandated.	Permitted; conducted only through subsidiaries.	Permitted; conducted only through subsidiaries.
DENMARK Danish Financial Supervisory Authority	Unrestricted; conducted either directly in bank or through subsidiaries. Firewalls are mandated.	Permitted; conducted only through subsidiaries.	Permitted; banks are permitted to hold real estate to a book value not exceeding 20% of the bank's own funds. Real estate in which the bank performs banking activities are not included in this 20% limitation. Mortgage-credit activity is only permitted through subsidiaries.
FINLAND Financial Supervision	Unrestricted; conducted either directly in bank or through subsidiaries. No firewalls mandated.	Restricted; only selling of insurance policies as an agent is permitted.	Permitted; may hold real estate and shares in real estate firms up to 13% of the bank's total assets, either directly in bank or through subsidiaries.
FRANCE Credit Institutions Committee, Bank Regulatory Commission, and Banking Commission	Unrestricted; conducted either directly in bank or through subsidiaries. No firewalls mandated.	Permitted; sale of insurance products/services may be conducted directly in bank, but underwriting must be done through subsidiaries.	Permitted; either conducted directly in bank or through subsidiaries, but limited to 10% of the bank's net income.
GERMANY Federal Banking Supervisory Office and Deutsche Bundesbank	Unrestricted; conducted directly in bank. No firewalls mandated.	Restricted; conducted as principal only through insurance subsidiaries, which are supervised by the Insurance Supervisory Office. Insurance regulation does not allow any business other than insurance business being carried out by an insurance firm. However, a bank may conduct insurance activities as agent without restrictions.	Permitted; investment in equity and real estate, calculated at book value, may not exceed a bank's liable capital, but unlimited through subsidiaries.
GREECE Bank of Greece	Permitted; underwriting may be conducted directly in bank, whereas dealing and brokerage must be conducted through subsidiaries. However, the selling of mutual funds products directly by banks is permitted. Some firewalls are mandated. For example, persons responsible for the management of a bank cannot hold similar positions in a securities firm.	Restricted; selling of limited combined bank/insurance products by banks is permitted, but selling of separate insurance products by banks is not. The latter is allowed through bank subsidiaries.	Restricted; direct investment in real estate is limited to 50% of own funds for purposes of conducting banking activities. Real estate investment for commercial purposes is not permitted. The setting up of a subsidiary engaging in real estate management requires Bank of Greece permission. Subsidiaries engaging in real estate development are considered nonfinancial firms and are regulated according to the EC Second Banking Directive.
IRELAND Central Bank of Ireland	Unrestricted; conducted directly in bank or through subsidiaries. No firewalls are mandated.	Prohibited. (6)	Unrestricted.
ITALY Bank of Italy	Unrestricted; conducted either directly in bank or through subsidiaries. However, for brokering and dealing in securities listed on an Italian exchange other than Italian government and government-guaranteed securities, only through a special subsidiary. Firewalls are mandated.	Permitted; sale of insurance products/services may be conducted directly in bank, but underwriting must be done through subsidiaries.	Restricted; generally limited to bank premises.
JAPAN Ministry of Finance (primary responsibility) and Bank of Japan	Restricted; only bonds (not equities) and only through securities subsidiaries. A bank can only own more than 50% of a securities firm with permission from the Ministry of Finance and Fair Trade Commission. Firewalls are mandated. ⁴	Prohibited.	Restricted; generally limited to bank premises.
LUXEMBOURG Luxembourg Monetary Institute	Unrestricted; conducted either directly in bank or through subsidiaries. No firewalls mandated.	Permitted; bank employees may obtain an insurance license and thereby sell insurance products/services as an agent of insurance firms within the bank. However, a bank is allowed to carry out insurance activities through a subsidiary or by taking an equity stake in an insurance firm, with prior approval.	Unrestricted; conducted either directly in bank or through subsidiaries.
NETHERLANDS Bank of Netherlands	Unrestricted; conducted directly in bank or through subsidiaries. No firewalls mandated.	Permitted; sale of insurance products/services may be conducted directly in bank, but underwriting must be done through subsidiaries. More generally, an insurance company is not allowed to pursue the business of a bank within one corporation (Insurance Companies Supervision Act).	Permitted; but real estate other than bank premises may not exceed 25% of the actual own funds of the bank.
PORTUGAL Bank of Portugal	Unrestricted; conducted either directly in bank or through subsidiaries. However, for the organized stock exchanges, brokerage and dealer activities must be conducted through subsidiaries. No firewalls mandated.	Permitted; conducted only through subsidiaries for underwriting and selling as principal. May sell as agent directly in bank.	Restricted; generally limited to holding bank premises. Moreover, the net value of fixed assets shall not exceed own funds.
SPAIN Bank of Spain	Unrestricted; conducted directly in bank or through subsidiaries, but banks do not have direct access to official stock exchanges. No firewalls mandated.	Permitted; sale of insurance products/services may be conducted directly in bank, but underwriting must be done through subsidiaries.	Restricted; generally limited to bank premises. Real estate and other immobilized tangible assets are limited to 70% of own funds. Banks may also hold such assets in payment of debts for up to 3 years.
SWEDEN Financial Supervisory Authority	Unrestricted; conducted directly in bank or through subsidiaries. No firewalls mandated.	Permitted; bank may only directly sell insurance products/services. However, both banks and insurance firms are allowed to form "concern constellation" (financial groups) as long as the two activities are conducted in different firms.	Restricted; generally limited to bank premises.
SWITZERLAND Swiss Federal Banking Commission	Unrestricted; conducted either directly in bank or through subsidiaries. No firewalls mandated.	Permitted; conducted only through subsidiaries.	Unrestricted; investments in a single real estate project are limited to the equivalent of 20% of the bank's capital. However, the Swiss Federal Banking Commission can allow this limit to be exceeded.

Appendix I (continued)

Country and Bank Supervisor(s)	Securities ¹	Insurance ²	Real Estate ³
UNITED KINGDOM Bank of England	Unrestricted; conducted either directly in bank or through subsidiaries. However, gilt-edged market making must be conducted through a subsidiary. No firewalls mandated.	Permitted; sales of insurance products/services may be conducted directly in bank, but underwriting only through subsidiaries. However, the bank's investment in the subsidiary must be deducted from the bank's capital when calculating its capital adequacy if the bank ownership share in the subsidiary exceeds 20%.	Unrestricted; conducted either directly in bank or through subsidiaries.
UNITED STATES Federal Reserve System, Comptroller of the Currency, Federal Deposit Insurance Corporation, and State Authorities.	Restricted; national and state member banks generally are prohibited from underwriting or dealing in corporate debt and equity instruments or securities. They may, however, engage in discount and full service brokerage as well as serve as agent for issues in privately placing securities. State non-member banks are subject to the same restriction as national banks, unless the FDIC determines the activity would not pose a significant risk to the deposit insurance fund. Bank holding companies may, on a case by case basis, be permitted to underwrite and deal in corporate debt and equity securities through a Section 20 subsidiary so long as the subsidiary's revenues for these activities do not exceed 10 percent of total gross revenues. Firewalls are mandated.	Restricted; banks generally may engage in credit life and disability insurance underwriting and agency activities. National banks, in addition, may engage in general insurance agency activities in towns with less than 5,000 in population.	Restricted; banks generally are restricted to investment in premises or that which is necessary for the transaction of their business.
EUROPEAN UNION (7)	Not applicable; permissibility is subject to home country authorization and limited host country regulation, primarily notification requirements. (A single EU "passport" exists.)	Not applicable; permissibility is subject to home country regulation.	Not applicable; permissibility is subject to home country and host country regulation.

Appendix I (continued)

Country and Bank Supervisor(s)	Commercial Bank Investment in Nonfinancial Firms	Nonfinancial Firm Investment in Commercial Banks	Geographical Branching Restrictions on Commercial Banks within Country		
			Domestic Banks	Non-Domestic Banks	Prior Regulatory Approval Required
AUSTRIA Federal Ministry of Finance	Unrestricted; complies with the EC Second Banking Directive. Subject to this limitation, a bank may own 100% of the equity in a nonfinancial firm. ⁴	Unrestricted; complies with the EC Second Banking Directive. ⁵	None.	None.	No.
BELGIUM Banking and Finance Commission	Restricted; single share holding may not exceed 10% of bank's own funds and such share holding on an aggregate basis may not exceed 35% of own funds. More restrictive than the EC Second Banking Directive during a transition period ⁴	Unrestricted; complies with the EC Second Banking Directive. However, the Banking and Finance Commission examines the "fit and proper" character of those shareholders holding at least 5% of the bank's capital.	None.	None.	Yes.
CANADA Office of the Superintendent of Financial Institutions	Restricted; limited to 10% of the outstanding shares of a nonfinancial firm, with aggregate holdings not to exceed 70% of bank capital.	Restricted; limited to 10% of the outstanding shares. Since no shareholders may exceed this 10% limit, Canada is attempting to assure that banks are widely held.	None.	Limited Restrictions.	Yes.
DENMARK Danish Financial Supervisory Authority	Permitted; complies with the EC Second Banking Directive. However, a bank may not hold a permanent decisive participation in nonfinancial firms. ⁴	Unrestricted; complies with the EC Second Banking Directive. ⁵ However, a bank may not without supervisory authority have engagement with a firm that through its ownership of shares or otherwise directly or indirectly has a decisive influence on the bank.	None.	None.	No.
FINLAND Financial Supervision	Unrestricted; complies with EC Second Banking Directive. Subject to this limitation, a bank may own 100% of the equity in any nonfinancial firm. ⁴	Unrestricted; complies with the EC Second Banking Directive. ⁵ In the case of commercial banks, a firm is not allowed to vote at the annual meeting with more than 5% of the total voting rights presented at the meeting.	None.	None.	No.
FRANCE Credit Institutions Committee, Bank Regulatory Commission, and Banking Commission	Unrestricted; complies with EC Second Banking Directive. Subject to this limitation a bank may own 100% of the equity in any nonfinancial firm. ⁴	Unrestricted; complies with the EC Second Banking Directive. ⁵	None.	None.	No.
GERMANY Federal Banking Supervisory Office and Deutsche Bundesbank	Unrestricted; complies with EC Second Banking Directive. Subject to this limitation a bank may own 100% of the equity in any nonfinancial firm. ⁴	Unrestricted; complies with the EC Second Banking Directive. ⁵	None.	None.	No.
GREECE Bank of Greece	Unrestricted; complies with EC Second Banking Directive. Subject to this limitation, a bank may own 100% of the equity in any nonfinancial firm. ⁴	Unrestricted; complies with the EC Second Banking Directive. ⁵	None.	None.	Yes.
IRELAND Central Bank of Ireland	Unrestricted; complies with the EC Second Banking Directive. Subject to these limitation, a bank may own 100% of the equity in a nonfinancial firm. ⁴	Unrestricted. However, advance notification is required for any application of more than 5% of the voting rights in a bank, and prior approval is required for any acquisition of 10% or more of the total shares or voting rights or any holding or interest that confers a right to appoint or remove directors. ⁵	None.	None.	No.
ITALY Bank of Italy	Restricted; more restrictive than the EC Second Banking Directive. Most banks are subject to an overall investment limit of 15% of own funds (7.5% in the case of unlisted firms) and to a concentration limit of 3% of own funds in each holding in nonfinancial firms or groups. Some banks, due to their size and proven stability, are subject to less stringent limits (overall and concentration limits of respectively 50% and 6% for leading banks, and 60% and 15% for specialized banks). Consistency with the principle of separation between banking and commerce is ensured by a further investment limit of 15% of invested firms' capital for all banks. ⁴	Restricted; more restrictive than the EC Second Banking Directive. Persons who engage in significant business activity in sectors other than banking and finance are forbidden from acquiring an equity stake which, when added to those already held, would result in a holding exceeding 15% of the voting capital of a bank or in control of the bank. ⁵	None.	None.	No.
JAPAN Ministry of Finance (primary responsibility) and Bank of Japan	Restricted; a single bank's ownership is limited to 5% of a single firm's shares, including other banks (Article 9, Anti-Monopoly Law).	Restricted; total investment is limited to firms capital or net assets. The Anti-Monopoly Law prohibits establishment of a holding company whose main business is to control the business activities of other domestic companies through the holding of ownership.	None.	None.	Yes.
LUXEMBOURG Luxembourg Monetary Institute	Unrestricted; complies with EC Second Banking Directive. Subject to this limitation a bank may own 100% of the equity in any nonfinancial firm. ⁴	Restricted; nonfinancial firms may legally be the majority shareholders in banks. However, general policy is to discourage nonfinancial groups or private persons from being major shareholders in banks.	None.	None.	Yes.
NETHERLANDS Bank of Netherlands	Unrestricted; complies with the EC Second Banking Directive. Subject to this limitation a bank may own 100% of the equity in any nonfinancial firm. ⁴ However, a declaration of non-objection from the Minister of Finance (or the Nederlandsche Bank on behalf of the Minister) is required for any bank investment exceeding 10% of the capital of a nonfinancial firm.	Unrestricted; complies with the EC Second Banking Directive. ⁵ However, a declaration of non-objection from the Minister of Finance (or the Nederlandsche Bank on behalf of the Minister) is required for an investment exceeding 5% of a bank's capital.	None.	None.	No.
PORTUGAL Bank of Portugal	Permitted; complies with the EC Second Banking Directive. However, a bank may not control more than 25% of the voting rights of a nonfinancial firm. ⁴	Unrestricted; complies with the EC Second Banking Directive. ⁵	None.	None.	No.
SPAIN Bank of Spain	Unrestricted; complies with the EC Second Banking Directive. Subject to this limitation, a bank may own 100% of the equity in any nonfinancial firm. ⁴	Permitted; complies with the EC Second Banking Directive. However, a nonfinancial firm cannot hold more than 20% of the shares of a new bank during the first five years of its existence. ⁵ Specified shareholder thresholds require authorization by the Bank of Spain before additional investment.	None.	None.	No, for EU banks. Non-EU banks require authorization by the Ministry of Economy.
SWEDEN Financial Supervisory Authority	Restricted; investments on an aggregated basis are limited to 40% of a bank's own funds. Ownership in a firm is limited to 5% of this base (i.e. 1.5% in a firm or group of firms related to each other). Furthermore, ownership in a firm must not exceed 5% of the total voting power in the firm concerned. These limits do not apply when a bank has to protect itself against credit losses. In this case the bank must sell when market conditions are appropriate. ⁴	Restricted; ownership is limited to 50% except under certain circumstances when a bank is near insolvency and there is a need for external capital injection. In the latter case, greater ownership may be permitted, based upon suitability of new owners. ⁵	None.	None.	Yes.
SWITZERLAND Swiss Federal Banking Commission	Unrestricted; a single participation is limited to the equivalent of 20% of the bank's capital. However, the Swiss Federal Banking Commission can allow this limit to be exceeded.	Unrestricted; a nonfinancial firm may own 100% of the equity in a bank.	None.	None.	Yes, but only for non-domestic banks.

Appendix I (continued)

Country and Bank Supervisor(s)	Commercial Bank Investment in Nonfinancial Firms	Nonfinancial Firm Investment in Commercial Banks	Geographical Branching Restrictions on Commercial Banks within Country		
			Domestic Banks	Non-Domestic Banks	Prior Regulatory Approval Required
UNITED KINGDOM Bank of England	Unrestricted; complies with the EC Second Banking Directive. Subject to this limitation, a bank may own 100% of the equity in any nonfinancial firm. However, an ownership share of more than 20% requires that the investment be deducted from the bank's capital when calculating its capital adequacy on a risk basis. Otherwise, the investment is treated as a commercial loan for the risk-based calculation.	Unrestricted; complies with the EC Second Banking Directive. However, a firm would have to make application to the Bank of England to become a shareholder controller and receive the Bank's non-objection.	None. But need to comply with the local requirements and have adequate systems and controls for the function.	None. However, a bank must make an application to open a branch unless passporting into the UK under the EC Second Banking Directive.	Yes (see adjacent column).
UNITED STATES Federal Reserve System, Comptroller of the Currency, Federal Deposit Insurance Corporation, and State Authorities.	Restricted; national and state member banks generally are prohibited from making direct equity investment in voting or nonvoting stock. State nonmember banks generally are limited to investments that are permissible for national banks. Bank holding companies are limited to an investment not to exceed 25 percent of a nonfinancial firm's capital.	Restricted; a nonfinancial firm may make equity investments in banks and bank holding companies. However, the investment must not exceed 25 percent of the bank's capital to avoid becoming a bank holding company. In other words, banks may only be acquired by companies that limit their activities to those deemed to be closely related to banking by the Federal Reserve Board.	Yes.	Yes; same restrictions that apply to domestic banks.	Yes.
	EU Banks	Non-EU Banks			
EUROPEAN UNION (7)	Unrestricted; the EC Second Banking Directive (Article 12) limits "qualifying investments" to no more than 15% of a bank's own funds for investment in a single firm, and to no more than 60% for all investment in nonfinancial firms. In exceptional circumstances, these limits may be exceeded, but the amount by which the limits are exceeded must be covered by a bank's own funds and these own funds may not be included in the solvency ratio calculation. A qualifying investment is defined as a direct or indirect holding in an undertaking equal to at least 10% if its capital or voting rights or permitting the exercise of significant influence over its management.	Unrestricted; subjects qualifying investments to regulatory consent based only on the suitability of shareholders.	None. (A Single EU "passport" exists.)	Restricted; branches are fully regulated by the authorities of the EU member state in which they are situated and do not have access to the single EU "passport" to provide services or establish subsidiary branches throughout the EU.	

SOURCE: James R. Barth, Daniel E. Nolle, and Tara N. Rice, "Commercial Banking Structure, Regulation, and Performance: An International Comparison," Economics Working Paper 97-6, Office of the Comptroller of the Currency, March 1997.

NOTES: (1) Securities activities include underwriting, dealing and brokering all kinds of securities and all aspects of the mutual fund business.

(2) Insurance activities include underwriting and selling insurance products/services as principal and as agent.

(3) Real estate activities include investment, development and management.

(4) The EC Second Banking Directive (Article 12) limits "qualifying investments" to no more than 15% of a bank's own funds for investments in a single nonfinancial firm and to no more than 60% for aggregate investments in nonfinancial firms. In exceptional circumstances these limits may be exceeded, but the amount by which the limits are exceeded must be covered by a bank's own funds and these own funds may not be included in the solvency ratio calculation. A qualifying investment is defined as a direct or indirect holding in an undertaking equal to at least 10% of its capital or voting rights or permitting the exercise of significant influence over its management.

(5) The EC Second Banking Directive (Article 11) subjects qualifying investments to regulatory consent based only on the suitability of shareholders.

(6) However, 3 commercial banks are authorized to engage in assurance activities.

(7) The EU members are Austria (January 1, 1995), Belgium (original member), Denmark (January 1, 1973), Finland (January 1, 1995), France (original member), Germany (original member), Greece (January 1, 1981), Ireland (January 1, 1973), Italy (original member), Luxembourg (original member), the Netherlands (original member), Portugal (January 1, 1986), Spain (January 1, 1986), Sweden (January 1, 1995), and the United Kingdom (January 1, 1973).

DEFINITIONS: Unrestricted- A full range of activities in the given category can be conducted directly in the bank.

Permitted- A full range of activities can be conducted, but all or some must be conducted in subsidiaries.

Restricted- Less than a full range of activities can be conducted in the bank or subsidiaries.

Prohibited- The activity cannot be conducted in either the bank or subsidiaries.