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FINANCIAL SECTOR POLICIES

Analytical framework and research agenda

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INTRODUCTION

Establishing appropriate financial sector policies is of paramount importance to policy makers because financial intermediaries provide services – facilitating transactions and risk management, mobilising and allocating capital, and exerting corporate governance – that are necessary for economic growth.² More ‘efficient’ financial systems provide better financial services, and thereby provide a bigger boost to growth than less efficient financial systems. If inherent characteristics of the market for financial intermediary services suggest that unregulated markets will inadequately supply these crucial services, then governments have a responsibility to consider interventions to improve the provision of financial services. Government policies, however, often play the principal role in reducing the quality of financial services and in obstructing financial development. Consequently, policy makers have the difficult task of enacting interventions that ameliorate market failures, while avoiding government interventions that negatively affect the provision of financial services.

The major purposes of this chapter are to develop a framework for analysing financial sector policy issues, to demonstrate the usefulness of this framework by examining two policies, and to identify important research questions regarding the links between financial sector policies and economic growth. More specifically, I review reasons commonly advanced by economists for government intervention in and regulation of financial markets, use these reasons to develop a five-point checklist for evaluating financial policies, and then use this framework to examine government insurance of financial intermediary liabilities, and official restrictions on the activities of banks. An important by-product of constructing this analytical framework is that it highlights crucial weaknesses in economists’ understanding of the ties between financial sector policies and sustained economic development.

REASONS FOR GOVERNMENT INTERVENTION

This section describes five inherent characteristics of the activities of financial intermediaries that economists frequently argue create a potentially positive role for government intervention in financial markets:³

- 1 Externalities in failure: contagion;
- 2 Externalities in monitoring financial institutions;
- 3 Externalities in appraising and monitoring firms;
- 4 Imperfect competition;
- 5 Missing or incomplete markets.

Although the economics profession generally places great confidence in the ability of free, competitive markets, many financial economists argue that free financial markets – financial markets that are unregulated and unrestricted by the government – will not provide good financial services in a stable fashion, so government supervision and regulation of financial market activities can sometimes improve social welfare. Great care must be taken, however, since government interventions and regulations themselves frequently thwart the stable provision of high quality financial services. Thus, this section reviews five market failures commonly discussed in the literature as justifying government involvement and identifies important areas for future research.

Externalities in failure

Description

Probably the most widely cited and accepted reason for government supervision and regulation of financial intermediaries is the fear of contagion: the fear that the failure of one intermediary will cause other intermediaries to fail. Given poor information about the solvency and performance of financial institutions, investors may interpret weakness in one financial institution as a signal of the poor condition of other financial institutions and withdraw their funds from all intermediaries. Individual financial institutions will not consider that their independent actions could trigger broader, systemic failure. Thus, from society's perspective, individual institutions will tend to engage in excessive risk taking. For this reason, many financial analysts argue that government supervisors and regulators should enact policies to ensure the safety and soundness of the financial system.⁴

Effects of contagion on the provision of financial services

Contagion and the fears of contagion can hinder economic development.

- First, contagion directly disrupts economic activity. For example, bank runs cause banks to demand payment of existing loans and slow the

issuance of new loans, which, under most plausible conditions,⁵ reduces investment, induces bankruptcies, raises unemployment, and slows growth.

- Second, by inducing a contraction in credit and the medium of exchange and by interfering with banking operations, contagion can disrupt a country's payments system and thereby impede all forms of commerce.
- Third, failing financial institutions in a crisis environment will not evaluate firms and monitor managers objectively, or provide risk hedging vehicles as effectively as stable institutions. Thus, resources will be deployed less efficiently than in the absence of systemic financial failure.^{6,7}
- Finally, fears of contagion and financial instability reduce confidence in financial intermediaries. The drop in confidence will make resource mobilisation more difficult.

The importance of contagion and financial fragility to economic activity suggests that contagion and financial stability should be part of our select 'checklist' of issues to consider when evaluating financial policies.

Market response to failure externalities

The market will respond to the threat of contagion. Safe intermediaries will try to establish transparent means for communicating their soundness to the public. Established institutions will try to coordinate their actions when a few isolated failures threaten the financial system. Financial intermediaries will be better able to communicate their condition to the public and coordinate in crises if there are standardized, informative, and consolidated financial statements of financial intermediaries, and the financial system is not very fragmented.

Policy implications

Potential policy responses to externalities associated with financial intermediary failure fall into six categories. First, governments can require information disclosure to make it easier for the public to distinguish troubled from safe financial institutions. Second, governments should avoid financial policies that augment the possibility of contagion. For example, evidence from the United States suggests that financial policies encouraged the proliferation of an excessively large number of fragmented, under-diversified banks that are more sensitive to economic shocks; less able to organise private insurance and self-regulatory mechanisms; and less capable of coordinating effectively when problems arise.⁸ Third, governments may enact financial policies that seek to encourage prudent risk taking by financial intermediaries. This may include restricting the activities and investments of financial

institutions, establishing high-risk based capital requirements, requiring intermediaries to hold portfolios well diversified across different firms, regions and industries, promoting strong liquidity management policies, and even limiting competition to encourage safe practices. Fourth, governments may avoid tax systems that create incentives for high debt-equity ratios which enhance the financial fragility of enterprises. Fifth, governments may develop forward looking contingency plans to minimise the negative consequences of contagion and support private initiatives at coping with potential contagion. Finally, governments may insure investor assets in financial intermediaries to prevent contagion. The crucial research question is which, if any, of these policies will, on net, best reduce the probability of contagion while not creating other problems. Bringing rigorous theoretical and especially empirical work to bear on this question will assist policy makers.

Externalities in monitoring financial institutions

Description

Many financial economists argue that externalities associated with assessing and overseeing financial intermediaries will induce financial market participants to devote too few resources to evaluating and supervising financial intermediaries.⁹ It is very costly and time-consuming to research and evaluate the condition and prospects of complex financial intermediaries. Many financial market participants, therefore, will be unwilling or unable to assess financial intermediaries. Instead, many investors will attempt to observe the behaviour of market participants who have carefully researched and evaluated intermediaries and use these observations in making their own investment decisions. Thus, expenditures by one entity on evaluating a financial institution often create benefits for other investors who do not have to pay the research costs. These externalities suggest that unregulated markets will insufficiently monitor and evaluate financial institutions.¹⁰

This tendency for insufficient monitoring is exacerbated in the case of financial institutions for at least two reasons: one, financial intermediaries frequently have many small creditors (e.g. depositors), so that the incentives for any individual creditor to undertake the expensive monitoring costs are small; and two, it is very costly to evaluate financial intermediaries, so that only very large, sophisticated claim holders would monitor financial institutions. Thus, without government encouragement, many analysts argue that unregulated markets will inadequately monitor financial institutions.

Effects of externality

Insufficient monitoring of financial intermediaries can affect negatively the provision of financial services and stymie economic growth. At the most

general level, insufficient monitoring of financial intermediaries will worsen the principal-agent problem of intermediaries. Financial intermediary managers will not act in the best interests of creditors, and financial intermediary services, therefore, will not be appropriately supplied to the economy. At a similarly general level, insufficient monitoring of financial intermediaries may prevent markets and institutions from arising or severely limit their activities. For example, the mutual fund industry in the United States would probably not have blossomed in the last 15 years unless investors could easily compare funds and maintain sufficient confidence in fund behaviour. Thus, poor monitoring of financial intermediaries will tend to reduce the provision of all financial services and also hinder financial innovation.

Given that poor monitoring of intermediaries worsens financial services, I discuss just three particular negative effects of externalities in monitoring financial intermediaries.

- First, insufficient monitoring of financial institutions increases opportunities for financial institutions to fund large owners, managers, or related parties without appraising and monitoring objectively the entity receiving credit. Thus, poorly monitored intermediaries will allocate resources less efficiently.¹¹
- Second, insufficient monitoring of financial institutions tends to raise uncertainty about these institutions. This uncertainty will tend to deter investors from entrusting their savings to financial institutions and thereby will hinder capital mobilisation.
- Third, insufficient monitoring of financial intermediaries by the market may encourage concentrated ownership (or the emergence of a few large debt holders) of intermediaries, so that large owners and creditors find it worthwhile to monitor intermediaries. Concentrated ownership of intermediaries may keep intermediaries from growing to optimal size and thereby alter the products offered by them; and create greater incentives and opportunities for financial institutions to behave generously towards large creditors and their related business interests.

Consequently, the effect of financial policies on the incentives for private investors and institutions, as well as on public supervisors and regulators, to evaluate and monitor financial intermediaries must be carefully considered in evaluating and designing financial regulations and policies.

Market response to externality

Unregulated markets may respond to this dearth of creditor monitoring. For example, in the case of banks, small depositors would be wary of putting their savings in banks in which they did not have confidence. Consequently, banks might respond by designing simple, innovative ways to communicate the safety of their portfolios to savers, or by creating capital structures where

financial intermediaries have a few large creditors or owners that are respected by the public and are expected to monitor the intermediary objectively. While these mechanisms may enhance monitoring, they are unlikely to eliminate the under-supply of private sector monitoring of financial intermediaries. Uncertainty about the objectivity of large creditors and the information communicated by the bank would in most cases still imply insufficient monitoring of financial institutions.

Policy implications

Governments should create incentives for self-regulatory agencies and private monitoring arrangements and minimise policies that create disincentives for sound monitoring.¹² Legal systems that define and enforce property rights efficiently will help creditors, rating agencies, and other institutions to monitor financial intermediaries while also facilitating the emergence and functioning of self-regulatory bodies. Similarly, sound accounting standards and information disclosure laws will facilitate the ability of the private sector to monitor financial intermediaries.

If self-regulatory and private arrangements do not monitor financial intermediary activities adequately, however, governments should seek to improve private sector monitoring through legal, accounting, and other reforms; review and reform financial sector policies that are impeding or creating disincentives for private sector monitoring of intermediaries; and help monitor financial institutions directly. Governments often set capital adequacy requirements, monitor the asset quality of intermediaries, establish regulations regarding the liquidity of banks, set limits on large exposures, restrict intermediary financing of intermediary managers, owners, or related parties, monitor trading on insider information, and carefully regulate the entry of new participants. Conducting effective supervision and designing appropriate incentives for self-regulation, however, are very difficult. Some of these details will be discussed below. The essential point in the present context is that one critical criterion for evaluating financial policies is how they affect the monitoring of financial institutions. An essential research issue is that economists do not have ways of comparing supervisory and regulatory systems across countries in a way that generates helpful policy guidance.

Externalities in appraising and monitoring firms

Description

Many authors argue that externalities associated with appraising and monitoring firms imply that financial intermediaries will not devote sufficient resources towards researching and overseeing firms. The externalities arise

because there are large, fixed costs associated with evaluating, appraising, and monitoring firms and managers, and market participants will attempt to free-ride on the efforts of others. For example, once bank A carefully examines a firm, it is unlikely to share this information with other investors. Nonetheless, other intermediaries and investors can easily observe the actions of bank A and thereby infer the results of its appraisal: if bank A funds the firm, other financial market participants will interpret this as meaning that bank A has a positive view of the firm's future; and if bank A does not fund the firm, market participants will presume that this signifies that bank A's evaluation produced doubts about the firm. Similarly, if bank A funds a firm, other investors will presume that bank A will provide corporate governance. Thus, investors and intermediaries who do not research, evaluate, and monitor will use and benefit from bank A's operations without paying for these services; expenditures by one financial intermediary on selecting firms and monitoring managers create external benefits for other investors and financial intermediaries. The intermediaries that supply these financial services do not receive full compensation for appraising and monitoring firms, since other financial market participants free-ride. If evaluators and monitors received full compensation, they would invest more in evaluating firms and monitoring managers.

Effects of externality on the provision of financial services

An undersupply of evaluation and monitoring services will have negative economic implications by reducing the provision of critical financial services:

- First, if intermediaries devote too few resources to appraising firms and evaluating projects, the financial system will allocate resources less efficiently and economic growth will be correspondingly slower than in the absence of evaluation externalities.
- Second, if intermediaries devote too few resources to evaluating and monitoring firms, the public will be more wary of the soundness of intermediary investments, and intermediaries will therefore find it more difficult to mobilise savings.
- Third, too little monitoring of firm managers will provide management with too much independence from firm creditors. Managers may allocate firm resources based on personal interests rather than long-run firm interests, which would hinder the efficient resource allocation and slow economic development.
- Fourth, to the extent that the principal-agent problem is not mitigated by financial intermediaries, firm ownership may become more concentrated (to ease the principal-agent problem) than it would be in the presence of sufficient monitoring services. This could hurt economic efficiency by

forcing investors to have less diversified portfolios than they would like to hold.

Given the economic importance of financial intermediary evaluation and monitoring of firms, the effects of financial policies and regulations on incentives for intermediaries to research and monitor firms should be part of the 'checklist' of issues to be taken into consideration when evaluating the pros and cons of financial policies.

Market response to externalities

Unregulated markets may create methods for internalising some of the externalities associated with financial intermediary monitoring of firms. For example, a firm may pay higher fees and interest rates to financial intermediaries that carefully monitor the firm if it believes that this monitoring will be observed by financial market participants and thereby enhance the firm's access to capital markets and other intermediaries.¹³ Through this market mechanism, intermediaries that carefully evaluate and monitor firms will internalise more of the social benefits of this information-gathering activity and thereby reduce the under-supply of financial intermediary monitoring of firms. Nonetheless, externalities associated with monitoring firms are unlikely to be eliminated, so financial institutions will tend to under-supply evaluation and monitoring services. Even more importantly for the purposes of establishing a useful analytical framework, financial policies may affect the incentives and ability of financial intermediaries to evaluate and monitor firms. Thus, analyses of financial policies should consider the effects of such policies on incentives to monitor firms even in the absence of preexisting externalities.

Policy implications

Two straightforward, though often unachieved, policy strategies for enhancing financial intermediary appraisal and monitoring of firms are worth noting here. First, make it easier for the private sector to evaluate and monitor firms. Information disclosure laws, competent accounting standards, standardised and transparent financial reporting forms, and an efficient corporate legal system that make the ownership, control, and performance of firms more transparent will facilitate the ability of auditors, creditors, rating agencies, and financial intermediaries to evaluate firms. Second, government supervision and regulation can be carefully crafted to encourage sound financial intermediary monitoring of firms. For example, regulators can help ensure that ownership and control of financial intermediaries, non-financial firms, and subsidiaries are transparent to avoid related party transactions and other investments that suffer from conflicts of interest and therefore do not reflect

impartial appraisals. Similarly, regulators can help financial intermediaries establish sound credit review policies and sound procedures for monitoring firms so that they detect problems early and have pre-designed methods for coping with emerging problems. More focused research on which financial sector policies and regulations will induce financial intermediaries to monitor enterprises while not creating negative side-effects will advance the research advice that economists can give to policy makers.

Imperfect competition

Description of imperfectly competitive financial markets

Numerous financial analysts argue that financial markets do not behave in a perfectly competitive manner. Since many economists' faith in unregulated markets is based on models of perfect competition, the belief that financial intermediary relationships are not perfectly competitive has led some economists to cite this as an additional rationale for government overview of financial markets (Stiglitz, 1994).

There are large fixed costs associated with evaluating firms and monitoring activities and the information about firms and managers is imperfect and uncertain. Both the cost of obtaining information on firms and the uncertainty surrounding this information create incentives for financial intermediaries to establish long-run relationships with firms; intermediaries will be able to recoup the costs of spending resources to acquire information over long periods, and firms will be able to access cheaper and more secure financing. The cost and imperfect nature of information acquired by financial intermediaries imply that financial markets will operate differently from perfectly competitive markets. Once an intermediary undertakes the costly process of researching a firm, obtaining information on the firm and its market, and establishing a relationship with management, that particular intermediary has a cost advantage relative to other intermediaries in terms of providing credit to that particular firm. Consequently, the specific intermediary can charge higher than marginal cost for credit to that particular firm since other intermediaries would have to spend large fixed costs to research the firm before providing credit. Thus, even if the credit market is contestable, costly and imperfect information makes the credit market imperfectly competitive.

Economic implications

The optimal degree of competition among financial intermediaries is difficult to specify, so the direct economic implications of imperfectly competitive financial markets produced by the high costs of acquiring information on firms are difficult to quantify. Insufficient competition and

contestability will reduce the level of financial services offered by markets and also slow the rate of financial innovation. Similarly, to the extent that imperfect competition creates excessively symbiotic links between financial intermediaries and firms, the objectivity with which intermediaries evaluate firms will deteriorate. On the other hand, to the extent that an oligopolistic financial system reflects the build-up and maintenance of long-run relationships that encourage an efficient exchange of information and more complete monitoring, then apparently lax competition will reflect good monitoring of firms. Similarly, excessive competition may provoke risky practices and insufficient attention to acquiring information on firms and monitoring managers.

Policy implications

One mechanism for limiting competition is through 'franchise' value as explained by Caprio and Summers (1996). By restricting entry, officials can create monopoly profits. These monopoly profits increase the value of having a licence – the franchise value – and increase the costs of losing that licence through bankruptcy. Consequently, financial policies that increase franchise value tend to decrease competition while simultaneously decreasing risk taking.

Supervision and regulation need to balance the negative and positive aspects of competition in the financial sector so as to maximise the efficient processing of information, while minimising arrangements that thwart innovation and encourage excessive risk taking. While easy to say and hard to accomplish, it is a balance that should be kept in mind when evaluating financial policies, and it is an area requiring substantial theoretical and empirical research.

Thus, the effect of financial policies on the level of competition should be carefully considered and therefore forms one of our 'checklist' items.

Missing or incomplete markets

Description of informational asymmetries

Financial institutions are in the business of obtaining and processing information and making funding decisions based on this information. Information obtained by intermediaries, however, is imperfect relative to the information known by the person or entity requesting funding. These information asymmetries imply that some financial arrangements will be limited or non-existent – even though these arrangements would exist in the absence of informational asymmetries. Five examples will help clarify this point.

- *Credit rationing 1*: If it is difficult for banks to obtain accurate information about the riskiness of firms, raising interest rates may cause firms with the safest projects to drop out of the loan market, so that the mix of firms demanding loans would become more risky. Thus, raising interest rates may cause an *adverse selection* of firms requesting loans. To mitigate this adverse selection problem, banks may keep interest rates lower than the rate that would clear the market to maintain a safer mix of firms in the pool of firms demanding credit. At this low interest rate, there will be an excess demand for loans by firms, so banks will have to use non-price mechanisms to allocate credit. The adverse selection problem reduces the issuance of loans below what it would be in the absence of asymmetric information.
- *Credit rationing 2*: If it is impossible to monitor the behaviour of firms perfectly, raising interest rates may induce project managers to change their behaviour and undertake riskier projects. To mitigate this *moral hazard* problem, banks may keep interest rates lower than would clear the loan market. Consequently, there will be an excess demand for loans by firms.
- *Equity issuance*: If firm insiders have more information about the firm than outsiders, then the issuance of new shares by insiders will be perceived as a negative signal by outsiders: insiders willing to sell shares to outsiders must think the price is high. This informational asymmetry between insiders and outsiders will discourage the raising of capital through equity issuance and therefore reduce the usefulness of the stock market as a vehicle for raising capital and diversifying risk.
- *Incomplete insurance 1*: Insurance creates incentives for the insured to do less to avoid the insured-against event. If information were fully available and monitoring were costless, the insurance agency could pre-specify a comprehensive, complex list of actions and behaviours for the insured that would eliminate this *moral hazard* problem. However, all actions cannot be monitored. Thus, insurers will provide less than complete insurance to enhance the incentives for the insured to avoid the insured-against event. The result is incomplete insurance because of information asymmetries.
- *Incomplete insurance 2*: Voluntary deposit insurance schemes will be difficult to organise because of informational problems inherent in evaluating and pricing the riskiness of banks. Good banks may not want to join deposit insurance schemes because they are unsure about the asset quality of other banks; good banks do not want to subsidise bad banks and it may be too difficult and costly to evaluate other banks and set risk-based deposit insurance premia. This *adverse selection* problem induces a deterioration of voluntary deposit insurance schemes.

Financial and economic implications

The above examples illustrate cases of incomplete or missing markets that involve a reduction in financial intermediary services – especially risk management services – from the level of services that would exist in the absence of information asymmetries. Thus, savings mobilisation, resource allocation, and risk diversification will be less efficient because of credit rationing and built-in incentives against the raising of capital through stock offerings. Similarly, moral hazard problems created by insurance may imply incomplete insurance markets that yield less risk reduction opportunities. Finally, because of adverse selection problems, certain types of private insurance – like voluntary deposit insurance and other self-regulatory insurance schemes – may be provided at a sub-optimal level.

Consequently, policy makers should consider the effects of financial policies and regulations on the types of financial contracts and services offered by financial markets to the public.¹⁴

Market response to asymmetric information

Market mechanisms – which rely heavily on the legal infrastructure – can reduce these asymmetries and their negative economic effects. Intermediaries and firms build long-run relationships that facilitate information exchange. The ability to use collateral in loan contracts helps extract information from borrowers that reduces informational asymmetries and expands the availability of financial services. Also, efficient legal systems and registries permit creative financial contracting to service the needs of clients, and sound bankruptcy courts enable intermediaries to seize and dispose of assets of delinquent borrowers quickly and confidently, which further promotes the provision of financial services. Finally, financial systems that allow a single financial intermediary to engage in different financial contracts – like issuing loans and buying equity – may be able to establish relationships with firms that maximise information exchange, thereby reducing the negative effects of asymmetric information. Nonetheless, these informational problems frequently cannot be eliminated. The important policy and research question is: ‘Are the problems sufficiently large to justify government involvement and will government intervention itself negatively affect economic performance?’

Policy implications

The last sub-section makes clear that the government can help minimize the negative effects of informational asymmetries by having an efficient court system, effective means of quickly identifying and disposing of collateral, accurate well-functioning property registries, standardised and useful finan-

cial and accounting standards, etc. In other words, by supplying the best legal infrastructure possible, governments can help the financial system provide high quality financial services. The government may also take more direct steps to fill perceived missing markets. Thus, many governments form development banks and other means of funnelling credit to areas where the financial system is not voluntarily choosing to finance.

Summary statement on market failures

From a policy perspective, the probable existence and economic importance of market failures suggests a potential role for government. Although the market may produce contractual and financial arrangements that mitigate the negative consequences of the five discussed market failures, the inherent characteristics of financial markets imply that some of these market failures are important in all countries. But it is not clear that the potential positive effects of government intervention outweigh the potential negative repercussions of those same interventions. Analysts should evaluate whether policy changes – on net – aggravate or ameliorate the negative effects of market failures.

INSURANCE OF INVESTOR ASSETS IN FINANCIAL INTERMEDIARIES**Government insurance of financial intermediary liabilities¹⁵**

There are many different ways to organise government insurance. Governments may insure all assets, a percentage of assets, or only relatively small asset holders. The design of insurance schemes may also differ. For example, governments may attempt to charge a market price for the insurance they provide based on the riskiness of particular financial institutions. Or, governments may charge a simple fee that is not market or risk based. Furthermore, governments may require financial institutions to insure themselves with private insurers that are authorised and monitored by the government.

For simplicity, I first discuss complete government insurance in the absence of risk-based premiums, risk-based capital requirements, or private insurance arrangements to get the blunt, first-order effects of government insurance on the five market failures defined above. Below, I broaden the discussion to more sophisticated insurance schemes. It is important to emphasise from the outset, however, that this section does not review comprehensively the design of financial intermediary liability insurance schemes. This section has the more modest objective of identifying a few features associated with insuring saver assets, especially bank deposits.

Contagion and financial stability

Insurance of assets in financial intermediaries will tend to reduce the probability that the failure of one institution will spread to other institutions; credible government insurance lowers the probability of contagion. Nonetheless, insurance of intermediary liabilities – especially in conjunction with a low capital–asset ratio – may increase financial fragility by generating incentives and capabilities for excessive risk taking and looting on the part of intermediaries.

Evaluation and monitoring of intermediaries

Insuring investor assets in intermediaries reduces private sector monitoring of financial intermediaries. If investor assets are credibly insured, they will have fewer incentives to monitor the intermediary.

In addition to reducing private sector monitoring of intermediaries, insurance also increases incentives for risk taking by financial intermediaries.¹⁶ For example, the capital strength of banks is a way of signalling wary depositors about the security of the bank. Deposit insurance lowers the benefit of maintaining high capital standards to reassure depositors. Thus, banks with deposit insurance have incentives to reduce capital/asset ratios. Similarly, banks with insured deposits have weaker incentives to signal depositors that the bank is managing interest rate and exchange rate risk well and screening clients more carefully than banks without insured deposits. Furthermore, banks with deposit insurance have greater incentives to lend to riskier clients than banks with no deposit insurance. Bank owners keep most of the benefits from lending to clients with very risky but potentially high return projects, but if the risks do not pay off and the bank fails, some of the losses will be passed to the government insurance fund. This incentive to gamble with insured deposits is intensified as the capital position worsens.

Thus, the combination of greater incentives for financial intermediaries to assume risk and lower incentives for private creditors to monitor financial intermediary behaviour implies that government insurance dramatically augments the need for compensating government actions that intensify monitoring of intermediaries.¹⁷

Besides increasing incentives and opportunities for excessive risk taking, government insurance – by reducing private sector monitoring of intermediaries – enhances incentives for owners of financial intermediaries to bankrupt the intermediary for profit.¹⁸ If an owner's capital plus expected future long-run profits are less than what the owner can extract from the intermediary through dividend payouts and investments that yield large payments in the short run (with large losses in the future), the owner will extract those short-run profits and let the intermediary go bankrupt in the future. Although governments often enact regulations to restrict this type of

behaviour, these regulations are sometimes poorly designed, insufficiently supervised, and ineffectively enforced. As described in great detail in Akerlof and Romer (1993), sometimes the ability to extract short-run profits involves fraud and sometimes lax or inappropriate accounting conventions or regulations permit owners to extract intermediary resources in the short run even though this leads to bankruptcy in the long run. Thus, bankruptcy for profit need not involve breaking the law. Regardless of the mechanisms through which owners may bankrupt intermediaries for profit, this analysis has an important policy implication: government insurance enhances opportunities for bankruptcy for profit by reducing private creditor monitoring of financial institutions and therefore reinforces the desire for policies that strengthen sound assessment and monitoring of insured intermediaries. This monitoring should include maintaining sufficient capital to reduce incentives for bankruptcy for profit as well as assessing asset allocation carefully.¹⁹

Evaluation and monitoring of firms

Government insurance tends to reduce the intensity with which insured financial intermediaries monitor firms.²⁰ One way in which intermediaries compete for funds is by having a reputation for carefully monitoring the firms in which they invest. Careful monitoring by the intermediary lowers the probability that the intermediary will experience losses. Thus, in the absence of insurance, safe intermediaries should be able to raise funds less expensively than intermediaries who do not monitor firms intensively. Investors with assets in insured intermediaries, however, are less concerned about losing their savings than if these savings were not insured. Therefore, in the presence of insurance, intermediaries have less of an incentive to monitor firms carefully, invest in a diversified portfolio of relatively safe firms, and communicate this information credibly to savers.

Competition among financial intermediaries

Insurance will also influence the level and form of competition. For example, with deposit insurance, depositors view banks as closer substitutes than without deposit insurance. Banks will compete in terms of services and interest rates, but banks will have fewer incentives to transmit information to depositors about the quality of their loans. In the absence of insurance, however, intermediaries would need to convey information about the quality of their assets to attract investors. Insurance may also change the overall level of competition. For example, in an oligopolistic banking system with a few large, well-established banks that are able to self-regulate each other and self-organise a deposit insurance system that excludes other banks, the introduction of government deposit insurance for all banks may increase the level of competition for deposits in the system. Thus, it is difficult to draw clear

conclusions about the effect of government insurance on the level and form of competition.

Incomplete or missing markets

Mandatory government insurance may be a mechanism for overcoming a market failure. As discussed above, incomplete or missing insurance markets often exist because of adverse selection: if the costs of acquiring information and monitoring other intermediaries and designing risk-based insurance fees and capital requirements are very high, safe financial intermediaries may opt out of privately organised, voluntary insurance schemes because they do not want to subsidise more risky intermediaries. The existence of a large number of banks, for example, will tend to aggravate the adverse selection problem by making monitoring of banks and coordinating a voluntary, private insurance system more difficult. Thus, voluntary insurance systems will tend to deteriorate when adverse selection is particularly acute; there will be an incomplete – or missing – market of insurance of financial intermediary liabilities. Mandatory government insurance is one means of coping with this missing markets problem.

Political economy and the fallacy of choice

While lowering the likelihood of contagion, insurance of intermediary liabilities reduces monitoring of insured financial intermediaries and often curtails the intensity with which financial intermediaries assess and monitor firms. These negative consequences have led some analysts to argue that the costs of insuring investor assets in intermediaries are greater than the benefits, and many recommend abolishing or avoiding government organised insurance. Typically, this is not an option.

Given the huge macroeconomic implications of financial failure, governments will act, typically, to prevent individual financial intermediary failures from spreading and becoming systemic failures. Many governments have insured assets when faced with financial failures even in the absence of preexisting commitments and even after stating beforehand that the government would not insure assets in the case of financial failure.

Thus, most governments cannot credibly commit themselves not to interfere in the presence of financial failure. The *belief* by the public that the government insures their investments creates the moral hazard problem; there is a reduced incentive to monitor financial institutions on the part of the public because people expect that the government will insure their assets in the case of failure. Thus, the policy choice between government insurance and no government insurance is generally irrelevant. The more useful concerns are explicit versus implicit insurance, and the level and design of the coverage.

Different societies expect different levels of government insurance. Some societies expect governments to protect the assets of small savers in banks, others expect deeper coverage (e.g. insuring large bank accounts), while some societies expect the government to insure a broader set of institutions (insurance policies, private pension accounts, and even the returns on investment company assets). The extent of the moral hazard problem produced by insurance is a by-product of these expectations and therefore also depends on political and historical ingredients that vary from country to country.

Public expectations about the coverage of government insurance may also change systematically with financial development and even respond to changes in financial policy. Two examples will help illustrate these points. As a country's financial system develops, households may shift their assets out of insured demand deposits into uninsured, relatively unregulated money market mutual funds. As this shift occurs, public expectations concerning government responsibility towards money market mutual funds may change. Specifically, expectations may expand to include money market mutual funds under the umbrella of government insurance. Thus, the 'understanding' between the public and government is critical in designing financial policies because this understanding – or social contract – between the public and the government concerning what saver assets are insured by the government determines the depth and scope of the moral hazard problem.

A second example illustrates that using financial regulation to limit the scope of government insurance is a complex task that mixes economics and sociology. Some analysts propose the creation of 'narrow' banks.²¹ These narrow banks would enjoy 100 per cent deposit insurance and would be the only institutions tied to the nation's payments system. These narrow banks would also be very restricted and tightly regulated. They could only make loans that were almost risk free; they would not be permitted to assume interest rate risk; and they would face high capital requirements. Thus, households would have a safe place to save, with correspondingly low returns. If savers sought higher returns, they could invest in uninsured financial institutions. This would limit the moral hazard problem created by insurance since the intermediaries receiving government insurance would be tightly restricted and supervised. One problem with this scheme is that it may not be compatible with public expectations. While in some contexts the population may adjust its expectations of the scope of government insurance to this new regulatory structure, this may not occur in all countries. For example, savers may believe the government would also insure intermediaries that are *not* narrow banks if faced with a financial crisis. This expectation would lower the incentives of private creditors to monitor non-narrow bank financial intermediaries carefully. Thus, the narrow bank scheme may not control the moral hazard problem.

The greater are public expectations of a government safety net, the greater

is the need for financial policies that strengthen monitoring of insured intermediaries.

Implicit instead of explicit government sponsored insurance

We now evaluate the relative strengths and weaknesses of explicit versus implicit government sponsored insurance using the five-point framework for studying financial policies.²² Authorities could forgo a formal, government operated insurance system. Instead, the government could intervene following a financial failure. This 'implicit' insurance has been used in many countries. It must be emphasised, however, that implicit insurance does not avoid the moral hazard problem created by public expectations of government insurance; using implicit instead of explicit insurance does not circumvent the reduction in monitoring of intermediaries by creditors created by public expectations of government insurance. Implicit insurance provides flexibility in terms of the amount and form of protection since preexisting rules and procedures restrict decision making. Nonetheless, on balance, *this section argues that explicit insurance generally has important advantages over implicit insurance.*

Financial stability

Implicit insurance will often not offer the same stability as explicit insurance. Implicit insurance implies ad hoc, unsystematic procedures for coping with failures, does not foster the build-up of an insurance fund that could withstand potential financial crises, and therefore may not significantly enhance public confidence in the safety of their assets.²³

Monitoring financial intermediaries

Explicit insurance seems to offer greater opportunities and encouragement for governments to enact forward-looking financial policies that bolster private and public sector overview of financial intermediaries, rather than implicit insurance. Although proponents of implicit insurance argue that greater uncertainty concerning government insurance enhances incentives both for private creditors to monitor intermediaries, and intermediaries to form private insurance and self-regulatory bodies, this argument relies on the assumption that uncertainty surrounding the extent and form of government insurance creates positive incentives for private sector monitoring of intermediaries that are greater than the negative incentives for private creditor monitoring of intermediaries generated by expectations of government insurance.

More importantly, under the premise that the public expects the government to insure assets in the presence of a financial crisis, governments will be

able to counteract the moral hazard problem created by government insurance to a greater degree than with implicit insurance. By explicitly recognizing a social responsibility to insure some class of saver assets, governments will be able to design and enact forward-looking financial regulations that augment the monitoring of financial intermediaries and enhance financial stability better than could be achieved with an implicit insurance system. For example, governments could use risk-based insurance premia with explicit insurance. Government organised risk-based insurance premia would send confusing signals with implicit insurance. Other forward-looking policies include the building up of an adequate insurance fund, restrictions on insured intermediary activities, coordinated use of self-regulatory bodies, private insurance arrangements, trustworthy rating agencies, and reputable auditing firms to intensify monitoring of financial intermediaries. Moreover, a credible, explicit insurance system may be able to limit public expectations regarding the size and set of financial instruments insured by the government. For example, with explicit insurance and universal banks, it may be possible to limit the government safety net to small checking accounts. It may be impossible to draw this line *ex post* with implicit insurance.

Monitoring firms

As mentioned above, insurance tends to reduce the intensity with which intermediaries monitor firms. Insurance reduces incentives for intermediaries to establish a reputation for carefully monitoring firms, because investors are less concerned about losing their investments. Although choosing explicit or implicit insurance does not appear to affect firm monitoring incentives differentially, explicit government insurance encourages better regulatory strategies. Specifically, in the absence of explicit government insurance, governments may believe there is not a moral hazard problem. Therefore, officials may not design financial policies appropriately, because they will ignore, or insufficiently weigh, the distortions created by expectations of government insurance.

Competition

For similar reasons, explicit insurance may prompt the government to consider raising the franchise value of insured intermediaries. This would reduce risk taking and further work to counterbalance the moral hazard created by government insurance. This would be recommended only if there were sufficient competition to spur innovation and efficient provision of financial services.

Market incompleteness

Finally, in terms of the effects on the availability of financial arrangements, there does not appear to be much difference between explicit and implicit insurance.

Vignettes on private insurance

An alternative or complement to government organised insurance is private insurance. For example, a group of banks could create a deposit insurance fund. If credible, private insurance will limit the probability of contagion, stimulate self-regulation, and encourage financial stability. Private insurance also has advantages with respect to government insurance. Kane (1985, 1989) has noted that, in the United States, government officials are slow to recognise the existence of a problem and also slow to take action to cope with the problem once it is recognised. Kane argues that the interests of government officials often differ from those of taxpayers. Taxpayers want to cope with bank problems in the least expensive way, while government officials want to project a favourable image of their capacity.²⁴ Government officials, therefore, focus on minimising the number of failures recorded on their watch and assigning the blame for failures to others rather than focusing their energies on expeditiously minimising the aggregate expense to the insurance fund. Private insurance may reduce some of these problems by establishing better incentives for the owners and managers of private insurance funds.

Private insurance funds that eliminate fears of contagion will be difficult to organise, however, for a number of reasons. First, losses in a crisis could be larger than the reserves of the private insurance fund, in which case members would face two difficult options: to inject more capital, which could weaken otherwise healthy institutions and contribute to the contagion; or not to inject more capital, which could reduce public confidence in the private insurance scheme and precipitate a spread of the crisis. Thus, in many cases private insurance may not be sufficiently credible to lower the probability of contagion substantially. Second, if the public still believes that the government ultimately stands behind these private insurers, the public will not evaluate carefully whether the private insurance system has adequate funding and staff. Under these conditions, private insurance will not substitute for government insurance in the case of a sufficiently large financial failure. Governments will still have to choose between implicit and explicit government insurance and the precise form of the insurance system if they choose explicit insurance. Third, as mentioned above, adverse selection problems in participating in voluntary private insurance schemes will hinder the functioning of these voluntary schemes. For example, safe banks may not want to subsidise risky banks and it may be very difficult, complex and costly to set risk-based insurance premiums. Thus, safe banks may opt out of private

insurance schemes. With mandatory government insurance, safe banks could not leave the insurance system. Fourth, many countries have large publicly-owned banks, so that organising an effective private insurance fund would be very difficult. Finally, an alternative to having banks form their own private insurance system is to use insurance companies to insure bank deposits. But in most countries the banking system is larger than the insurance industry, so that the insurance industry may not have the capacity to underwrite bank deposits. Also, if an insurance company cancelled the insurance of an individual bank, this would tend to precipitate a run on that bank. Governments may not wish to give private insurers such powers.

Private insurance, therefore, may only work in special cases. Where a few banks have very good historical reputations and have established sound mechanisms for self-regulation, the public may have confidence in their ability to self-regulate, insure deposits, and screen other intermediaries. Using examples from different states in the United States in the 1800s, Calomiris (1989) shows that in states where a few banks created self-insurance organisations with strong self-regulatory powers and where each bank's liability to the insurance fund was *unlimited*, there was much tighter monitoring of banks and many fewer bank failures than in other states.²⁵

Instead of viewing private and public insurance as substitutes, Kane (1993) views the two methods of insuring saver assets as complements. He proposes that banks with insured deposits should be required to have insurance with a private company. These private insurance companies would have to be authorised, monitored and reinsured by the government. While not solving all problems, Kane argues that this type of institutional arrangement would make evaluation and monitoring of banks more responsive to market conditions since private insurers – with their financial capital on the line – would have incentives more aligned with those of taxpayers than government supervisors who do not have their financial capital exposed. It is important to note, however, that even in Kane's proposal, the government ultimately stands behind the liabilities of financial institutions.

THE LEGAL ORGANISATION OF FINANCIAL INTERMEDIARIES

Introduction

This section uses the five-point checklist to examine some of the ways in which the permitted legal organisation of financial intermediaries may affect the provision of financial services. Financial intermediaries may be organised in a myriad of ways. For simplicity, consider three cases. First, define 'universal banking' as the case when all financial activities can be performed by a single legal entity. Thus, deposit-taking, loan-making, equity purchasing, securities underwriting, mutual fund management, insurance, etc. can all

occur in one legal entity called a universal bank. Second, define a 'financial group' as the case when a holding company owns separately capitalised subsidiaries that perform different financial functions. Thus, banking functions – deposit-taking, loan-issuance, and direct links to the payments system – occur in the 'bank' subsidiary of the holding company, securities underwriting occurs in the investment bank subsidiary, mutual fund operations happen in the mutual fund subsidiary, and insurance practices occur in the insurance subsidiary of the financial group. Third, define 'separate banking' as the case when banking functions must be performed in a separate legal entity called a bank, and all other financial functions must be performed outside of the bank. Thus, deposit-taking, loan-making, and direct links to the payments system occur in the bank. Investment banking, mutual fund management, and insurance operations occur in intermediaries unrelated to the bank. Banks cannot own or be owned by other financial institutions, and large owners of banks cannot own other financial intermediaries in the separate banking model. These three cases allow us to examine how the legal organisation of financial institutions influences the provision of financial services.

Financial stability and contagion

Financial groups and universal banks will tend to be larger than any single financial intermediary in a separate banking system. Thus, failure of a financial group or a universal bank will create larger economic disruptions than failure of a single bank in a separate banking system. While failure of a large financial institution will tend to cause more disruptions than failure of a small financial institution, universal banks and financial groups may be able both to reduce the risk of failure of any individual universal bank or financial group and also reduce the risk of contagion. Contagion may be reduced because a few large universal banks or financial groups may be able to coordinate more effectively when faced with a failure than many small financial intermediaries in a separate banking system.

In terms of the risk of failure of an individual financial institution, broadening financial powers from a separate banking system to a financial group to a universal banking system has ambiguous effects. The ability to engage in a broader set of financial activities may permit greater mechanisms for diversifying geographical, sectoral, interest rate, credit, liquidity, and exchange rate risk. On the other hand, securities trading and investment banking activities tend to be relatively risky. These activities may be particularly risky when combined with banking activities, as will be detailed below.²⁶ Thus, moving from separate banking to financial groups to universal banking may increase or decrease the likelihood of financial intermediary failure, and the change in financial fragility will depend on the measurement and control of risks that arise from combining different financial functions.

Analysts often propose financial groups as a mechanism for reducing the economic disruptions of the failure of any single financial institution while maximising the benefits from combining different financial functions in a multifaceted group (e.g. loan-making, equity ownership, mutual fund management, securities underwriting, etc.). Proponents argue that failure or weakness of one subsidiary in a financial group may be contained in that subsidiary. Nonetheless, the financial group can coordinate subsidiary activities to enhance the provision of financial services. Thus, financial groups may be safer than universal banks while still capturing the economies of scope and scale fostered by universal banking.

Sceptics of the financial group system, however, argue that the holding company structure will not really insulate the bank subsidiary of a financial group from problems in another subsidiary. If the 'firewalls' are not fireproof – or even very fire repellent – the main advantage of the financial group system would vanish. As Talley (1993a) notes, there are at least three ways in which problems may spread through a financial group. First, creditors of a failing subsidiary may be able to convince the courts to 'pierce the corporate veil' and require other subsidiaries of the financial group to support the failing subsidiary. Second, the holding company may try to support a failing subsidiary with the capital and assets of other subsidiaries even in violation of existing regulations. This support will be difficult to detect and control because subsidiaries of a financial group will interact and transact in many areas, from information processing, to marketing, to coordinating loans, insurance, underwriting, trading, and mutual fund activities. Third, problems in one subsidiary may affect public confidence in other subsidiaries, including the bank. Thus, financial distress in the investment banking subsidiary may reduce confidence in the management and financial conditions of the bank subsidiary and cause depositors to switch their funds to another bank in another financial group. Given that the public is likely to view the financial group as a single entity, banks in a financial group will probably not abandon a failing subsidiary, and contagion may occur within financial groups. Thus, financial groups may not provide the advertised degree of insulation between subsidiaries.

One important complication in moving from a separate banking system to a financial group to a universal banking system is that increasing the linkages between banking and other financial functions may expand the set of financial instruments presumed to be insured by the government. In particular, with a separate banking system, governments may be able to define the set of financial instruments insured by the government more narrowly than with financial groups or universal banks. For example, in a separate banking system, governments may be able to insure bank deposits credibly up to \$100,000 but not returns to investments in mutual funds. When all of these financial services are provided by a universal bank, the government may find it difficult to insure credibly only specific financial instruments. As public

expectations regarding government insurance of financial instruments spread, private sector monitoring of financial intermediaries will diminish. A decrease in private sector supervision of financial intermediaries will raise financial fragility unless counterbalanced with official actions to intensify the overview of financial intermediary activities.

Financial groups are often suggested as a compromise vehicle. The deposits in the bank subsidiary may enjoy deposit insurance but financial instruments in other subsidiaries do not enjoy government insurance. But, as argued above, the public may view the financial group as a homogeneous entity, and this may make it very difficult to designate only certain financial instruments as government insured.

Monitoring financial intermediaries

Monitoring universal banks and financial groups that mingle different financial functions may be much more difficult than assessing the condition and overseeing the activities of separate financial institutions. Importantly, the complexity of measuring exposure to specific firms, industries, and geographical locations, and of evaluating the riskiness of the intermediary in general may grow more than proportionally as the diversity of functions performed by the intermediary grows. Analysts find it very difficult to measure credit risk, liquidity risk, interest rate risk, exchange rate risk, and the risk and expected return on equity and real estate investments separately. When various financial functions are combined in a universal bank or financial group, assessing the total risk and exposure of an intermediary may prove exceedingly complex. Computing capital standards in light of these measurements will also be difficult and controversial since intermediaries may have very different combinations of the various risk components. Furthermore, broadening financial intermediary powers may encourage the development of larger, more powerful intermediaries. The political influence that will likely accompany this power may also hinder the ability of officials to force full disclosure of information and supervise intermediaries effectively and objectively.

The potential for conflicts of interest and insider manipulations will also grow as one moves from a separate banking system to a financial group system to a universal banking system. Monitoring transactions between the financial intermediary and significant shareholders, directors, officers, and their important and relevant business concerns will be more difficult, since the intermediary will be involved in more transactions and more complex transactions. Similarly, there will be greater opportunities for conflicts of interest. For example, banks with problem loans to a client may try to extricate themselves by underwriting and selling shares to an investment company or trust account run by the bank itself. Or, banks may issue a bridge loan to support a new equity sale being underwritten by the investment

banking arm of the bank and thereby use insured deposits to support lucrative but risky investment banking activities.²⁷

Financial groups are often proposed as a compromise. The optimistic view holds that financial groups are easier to monitor than universal banks, since each subsidiary can be assessed and monitored individually. A more sceptical view, however, suggests that financial groups are not easier to monitor than universal banks, and the *belief* itself that financial groups are easier to monitor may produce poor monitoring. Regarding the first point, transactions between subsidiaries in a financial group will be difficult to detect and monitor accurately as detailed above. Thus, assessing the risk, asset quality, and capital adequacy of individual subsidiaries without examining the consolidated financial group may be at best difficult and probably misleading. This implies that to gauge the condition and capital adequacy of subsidiaries within a financial group, creditors and supervisors will have to measure the consolidated state of the financial group. The second sceptical point regarding supervision of financial groups is that financial groups may produce a false sense of security. Supervisors may believe that each subsidiary is sufficiently capitalised to support the risk associated with each subsidiary. This belief may stymie a consolidated assessment of the overall condition of the financial group.

Monitoring of firms

Moving from a separate banking system to financial groups to universal banking should have generally positive effects on how the financial system evaluates and monitors firms, though there are reasons for caution. Expanding the array of services provided by a single entity – or related entities within a financial group – may broaden and deepen the relationship between the intermediary and firm and facilitate the flow of information. Also, banks that hold equity in firms and sit on the boards of directors will tend to exert better corporate governance. On the other hand, universal banks and financial groups may have a greater tendency than more narrowly defined institutions to become over-exposed to a few firms and thereby lose their ability to monitor corporations objectively.

Competition

Merging financial functions in financial groups or universal banks should increase competition in the short run but may decrease competition in the longer run. By allowing banks to compete against investment banks, securities companies and insurance companies, universal banks would initially increase competition. Similarly, by allowing banks to form insurance companies and mutual funds within the structure of a financial group, for example, should spur competition in the short run. On the other hand, if

economies of scale and scope are important, decompartmentalising financial powers may eventually encourage the consolidation of financial power in the hands of a few large financial groups or universal banks. This consolidation of power could work to reduce competition and contestability. Furthermore, such consolidation would concentrate considerable economic and, therefore, political power in the hands of the few individuals who control these financial groups and universal banks.

Market completeness

With the ability to provide a broader array of financial services, universal banks and financial groups should be better able to service clients than individual financial entities in a separate banking system. With an expanded array of interactions with clients, universal banks and (perhaps to a lesser degree financial groups) should be able to obtain more information about clients. Economies of scope from bundling several services will reduce information acquisition costs. Thus, financial intermediaries that enjoy greater flexibility in performing a broad spectrum of financial functions for clients, should be able to overcome – to a greater degree than compartmentalised financial intermediaries – the informational asymmetries that cause incomplete or missing markets. With more information, financial intermediaries should be able to provide better financial services.

Messages on the legal organisation of financial intermediaries

The analysis yields two helpful messages. First, as banks become more closely linked with other financial intermediaries, either by being associated within financial groups or by being moulded into a single universal bank, it will become increasingly difficult to limit the set of financial instruments that are either implicitly or explicitly insured by the government. The government safety net may extend beyond demand deposits to money market mutual funds and other instruments. The broadening of the social safety net increases the importance of the government spurring sound supervision of financial intermediaries, so that the financial system provides stable high quality financial services. The second message is that as banks become more closely associated with other financial intermediaries, assessing, monitoring, supervising, and regulating the riskiness, performance, and regulatory compliance of financial institutions will become increasingly difficult. These two messages suggest that as banks become more closely tied with other financial intermediaries either within financial groups or in a universal bank, both the difficulty and the importance of effectively monitoring and supervising financial intermediaries rise.

CONCLUSIONS

Economists advance a number of reasons for why free, unregulated financial markets will under-supply growth-promoting financial services. These reasons are often termed 'market failures'. Since economists generally have confidence that unregulated, competitive markets effectively allocate resources and generate improvements in living standards, these market failures form the analytical justification for government interventions in and regulation of financial markets. But, market failures are not sufficient conditions for government action, for such actions may not alleviate the market failure, and the interventions themselves may cause or aggravate other market failures. Thus, financial sector policies must be evaluated and compared in terms of whether they improve or aggravate these five market failures, and researchers must provide insights and tools for deciding whether government interventions in particular circumstances will, on balance, improve or worsen financial services.

This chapter proposed a five-point checklist for evaluating financial policies. Specifically, how will financial policies affect

- 1 financial stability and the possibility of contagion;
- 2 private and public sector evaluation and monitoring of financial intermediaries;
- 3 financial intermediary evaluation and monitoring of firms;
- 4 the degree of competition among financial institutions; and
- 5 the spectrum of financial arrangements available to firms and individuals?

Using this checklist, I evaluated two financial policies: insurance of saver assets in financial intermediaries and the powers and activities in which particular financial intermediaries should be allowed to engage. While I believe that this checklist is helpful for organising discussions of financial sector policies, much more rigorous research is required on the links between financial sector policies and the secure provision of financial services.

NOTES

- 1 I received very helpful suggestions from Herb Baer, Jerry Caprio, Maria Carkovic, Asli Demirgüç-Kunt, Tom Glaessner, Niels Hermes, Robert Lensink, David Scott, Dimitri Vitas, Sara Zervos. The findings, interpretations, and conclusions are my own and should not be attributed to the World Bank, its Board of Directors, its management, staff, or member countries.
- 2 See King and Levine (1993a,b) and Caprio *et al.* (1994).
- 3 Any study of the role of government in financial markets owes a great debt to Joseph Stiglitz. This chapter relies heavily on Stiglitz's (1994) review. Consequently, I do not cite all of Professor Stiglitz's contributions which have shaped and guided the study of financial economics, but instead point the reader to Stiglitz (1994) for citations.
- 4 Note, however, that this is different from ensuring the existence of any individual

- financial institution. Individual financial intermediary failures may have very positive repercussions by stimulating better practices in other intermediaries and weeding out relatively poor intermediaries. Also, individual failures may encourage privately organised insurance schemes, self-regulatory organisations, and better monitoring by creditors. The external social costs of an individual financial intermediary failure stem from potential contagion; poor information may induce a failure to spread to otherwise healthy intermediaries.
- 5 If firms could costlessly identify new channels of finance and if bankruptcy courts costlessly and instantly redeployed assets, then the economic disruptions of contagions would be much smaller.
 - 6 Evidence in the United States suggests that bank failure – or bank distress more generally – harms client firms because of the intrinsic, though non-tradeable, long-run relationships that develop between banks and their customers. Increases in the probability that the bank–borrower relationship will be negatively disrupted reduces the share price of the borrower, while the rescue of a bank expected to fail increases the stock price of client firms. See Slovin *et al.* (1993).
 - 7 The disruptions caused by financial intermediary bankruptcies will be particularly acute and long term because financial intermediaries are primarily involved in the production, assessment, and dissemination of information. This information capital is not as easily sold and transferred in bankruptcy courts as physical capital. Thus, bankruptcy of financial institutions will entail the loss of information. The loss of financial intermediary information on a large scale through bankruptcy will significantly diminish the ability of society to evaluate firms and monitor managers efficiently for an extended period. These arguments should not be used to justify excessive forbearance, however, since insolvent financial institutions with little or no capital at risk will not provide good financial services and will tend to undertake extremely risky and imprudent activities.
 - 8 For example, Calomiris (1989) notes that in the 1800s, many states in the United States prohibited branch banking. This led to the emergence in those states of many, under-diversified banks. The lack of diversification increased exposure to idiosyncratic risk. The large number of banks made it difficult for banks to (a) establish private deposit insurance funds with sound monitoring mechanisms and (b) coordinate effectively when confronted with a drop in depositor confidence. In fact, states with financial policies that restricted branching suffered more banking failures than states with fewer, better diversified banks.
 - 9 The terms ‘evaluating’ and ‘monitoring’ should be interpreted broadly to include assessing the quality of management, the performance of the intermediary, the accuracy of disclosed information, the connections between management and firms or other intermediaries, the quality of the business plan, and changes in the character of the intermediary without the consent of creditors.
 - 10 Another way to see that free markets will tend to under-monitor financial intermediaries is to note that to a significant degree, information about the management and solvency of financial institutions is a public good: many people can have this information at the same time and it is difficult to exclude others from using the information. For example, if I know mutual fund A is good, you can know it also without it detracting from what I know; if I invest in mutual fund A and you know that I am well informed, my actions will convey information to you without me telling you. The public good characteristic of monitoring financial institutions suggests that too little monitoring will occur. This example relies on ‘you’ knowing that ‘I’ am well informed. If market participants cannot determine easily who is well informed and where the well informed invest, then

- the public good characteristic diminishes in importance.
- 11 Furthermore, poor information about the management and performance of specific financial intermediaries will make it difficult for savers to evaluate and compare financial institutions and funnel their resources to those financial intermediaries best able to allocate capital efficiently.
 - 12 For how to create incentives for self-regulation of securities markets, see Glaessner (1992).
 - 13 In the United States, borrowers experience abnormally positive stock returns when they announce that they have renewed loans with their banks. These abnormal returns do not materialise for non-bank debt (James, 1987; Lummer and McConnell, 1989). This illustrates the importance the market gives to bank monitoring of firms.
 - 14 Caprio (1992) analyses the interactions of financial reform and asymmetric information. He concludes that the long-run relationships that form between financial intermediaries and firms to mitigate informational asymmetries must be carefully considered in designing financial reforms, so that the negative economic implications of asymmetric information are not unnecessarily aggravated by reform.
 - 15 Talley and Mas (1993) provide an excellent analysis of deposit insurance. The discussion here draws liberally from their insights.
 - 16 See Merton (1992).
 - 17 See Dowd (1993).
 - 18 See Akerlof and Romer (1993).
 - 19 Governments can promote better monitoring through a combination of mechanisms. Governments can monitor directly: they can (a) restrict activities and investments, (b) require intermediaries to hold well-diversified portfolios, (c) review the owners, management, and organisation of intermediaries, and (d) use risk-based capital requirements and risk-based insurance premiums to create appropriate incentives for intermediaries. Governments may insure only small investors, which would maintain incentives for large investors to monitor intermediaries. Besides direct government supervision and regulation, governments may require and use audits from internationally reputable accounting firms and assessments by rating agencies to evaluate financial institutions. Furthermore, by increasing the franchise value of insured intermediaries through reduced competition, governments reduce incentives for risk taking and thereby counterbalance enhanced incentives and opportunities for risk taking created by government insurance.
 - 20 Recall, I am assuming that insurance premiums and capital requirements are not risk-based and that regulations and official supervision of intermediaries do not fully compensate for the incentives created by insurance.
 - 21 See the discussion and citations in Talley (1993b).
 - 22 To be precise, no country can have a perfectly explicit deposit insurance scheme. There may, in almost all countries, exist a difference between public expectations of what the government would insure in the case of a crisis and the formal legislation on deposit insurance. By definition, therefore, the implicit part of deposit insurance is the difference between public expectations and explicitly written laws and regulations on deposit insurance. Consequently and formally, this section should be viewed as analysing the positive and negative consequences of writing laws and regulations that more precisely match public expectations.
 - 23 It should also be noted that the public expenditure effects from financial failure can be very large (as the savings and loan experience in the United States

- demonstrates). Therefore, building an insurance fund prior to a failure may mitigate the macroeconomic implications of a systemic financial failure.
- 24 See also Glaessner and Mas (1995) on principal-agent problems in regulatory agencies.
- 25 Another example is West Germany. In 1966, a purely private consortia of banks formed a mutual-type, deposit insurance fund. The Federal Association of German Commercial Banks organised cross-monitoring of banks to ensure stability of the banking system. In 1976, this purely private insurance fund came under public sector regulation, but administration and monitoring are still organised and conducted by the private Federal Association of German Commercial Banks.
- 26 Note, however, that empirical evidence suggests that security affiliates' operations of banks did *not* deleteriously affect the soundness of banks in the United States prior to the Glass-Steagall Act of 1933 that legally separated commercial banking from securities operations (White, 1986).
- 27 See Edwards and Edwards (1991) for examples of the activities of financial and industrial groups in Chile. Also, see Akerlof and Romer (1993).

REFERENCES

- Akerlof, G.A. and P.M. Romer (1993), 'Looting: The Economic Underworld of Bankruptcy for Profit', mimeo, University of California.
- Calomiris, C.W. (1989), 'Deposit Insurance: Lessons From the Record', *Economic Perspectives*, Federal Reserve Bank of Chicago, May/June, pp. 10-30.
- Caprio, G., Jr (1992), 'Policy Uncertainty, Information Asymmetries, and Financial Intermediation', *World Bank Policy Research Working Paper*, No. 853, World Bank.
- and L.H. Summers (1996, forthcoming), 'Financial Reform: Beyond Laissez Faire', in D. Papadimitriou (ed.) *Financing Prosperity in the 21st Century*, New York: Macmillan Press.
- , I. Atiyas, J.A. Hanson and Associates (1994), *Financial Reform: Theory and Practice*, New York: Cambridge University Press.
- Dowd, K. (1993), 'Deposit Insurance: A Skeptical View', *Review*, Federal Reserve Bank of St Louis, January/February, pp. 14-17.
- Edwards, S. and A. Cox Edwards (1991), *Monetarism and Liberalization: The Chilean Experiment*, Chicago: University of Chicago Press.
- Glaessner, T. (1992), 'External Regulation vs Self-Regulation. What is the Right Mix?: The Perspective of the Emerging Securities Markets of Latin America and the Caribbean', Washington, DC: World Bank manuscript.
- Glaessner, T. and I. Mas (1995), 'Incentives and the Resolution of Bank Distress', *World Bank Research Observer*, 10, pp. 53-73.
- James, C. (1987), 'Some Evidence on the Uniqueness of Bank Loans', *Journal of Financial Economics*, 19, pp. 217-35.
- Kane, E.J. (1985), *The Gathering Crisis in Federal Deposit Insurance*, Cambridge: MIT Press.
- (1989), 'How Incentive-Incompatible Deposit-Insurance Funds Fail', *Working Paper*, No. 2836, National Bureau of Economic Research.
- (1993), 'An Agency-Cost and Bonding Paradigm for Analyzing Deposit-Insurance Reform', mimeo, Boston College.
- King, R.G. and R. Levine (1993a), 'Finance and Growth: Schumpeter Might Be Right', *Quarterly Journal of Economics*, 108, pp. 717-37.
- (1993b), 'Finance, Entrepreneurship, and Growth: Theory and Evidence',

- Journal of Monetary Economics*, 32, pp. 513-42.
- Lummer, S.L. and J.J. McConnell (1989), 'Further Evidence on the Bank Lending Process and the Capital Market Response to Bank Loan Agreements', *Journal of Financial Economics*, 25, pp. 99-122.
- Merton, R.C. (1992), 'Operation and Regulation in Financial Intermediation: A Functional Perspective', mimeo, Harvard University.
- Slovin, M.R., M.E. Sushka and J.A. Polonchek (1993), 'The Value of Bank Durability: Borrowers as Bank Stakeholders', *Journal of Finance*, 48, pp. 247-66.
- Stiglitz, J.E. (1994), 'The Role of the State in Financial Markets', *World Bank Economic Review*, 8, pp. 19-52.
- Talley, S.H. (1993a), 'Bank Holding Companies: A Better Structure for Conducting Universal Banking?', in D. Vitas (ed.) *Financial Regulation: Changing the Rules of the Game*, Washington DC: World Bank, pp. 321-51.
- (1993b), 'Are Failproof Banking Systems Feasible? Desirable?', *World Bank Policy Research Working Paper*, No. 1095, World Bank.
- Talley, S.H. and I. Mas (1993), 'The Role of Deposit Insurance', in D. Vitas (ed.) *Financial Regulation: Changing the Rules of the Game*, Washington DC: World Bank, pp. 419-38.
- White, E.N. (1986), 'Before the Glass-Steagall Act: An Analysis of the Investment Banking Activities of National Banks', *Explorations in Economic History*, 23, pp. 33-45.