

DEPOSIT INSURANCE: DO WE NEED IT AND WHY?

ANTHONY M. SANTOMERO*

The existence of an efficient intermediary sector is an essential ingredient to a productive economy. To protect the real sector from financial fragility, a series of circuit breakers have been established, known collectively as the financial safety net. One part of this system, deposit insurance, has proven the most difficult to manage. While it adds stability, its effects on bank decision making, risk tolerance, depositor behavior, and sector stability are all problematic. This has led many to question its validity as a stability tool, and still others to propose alteration in its coverage and pricing. Nowhere is the problem of appropriate insurance coverage more difficult than in the European Union.

JEL classification: G2, E5, K2, L5

1. INTRODUCTION

Throughout the world, financial institutions are in crisis. To be sure, the nature of the crisis is different in different places, but there is a crisis nonetheless. In the emerging markets of Eastern Europe, the old regime has been swept away, along with the financial institutions that never really provided the service they were supposed to perform. In their place a new structure is emerging, but ever so slowly¹. The developing world is equally in disarray. With the advent of deregulation in places as far apart as India and Brazil, each of these economies is struggling to find a balance between the directed credit system of the past, and a laissez-faire model proposed by advocates of free entry and an expanded financial sector². Then, there is the developed portion of the world economy. In the U.S., consolidation has dramatically contracted the number of institutions, with major players garnering an expanded market share. In Japan, the major institutions have been struggling with bad debt from the bubble economy, and their housing banks are in shambles. In Western Europe, financial integration and the Second Banking Coordinating Directive have participants scrambling for market share, even as some markets are just emerging from credit problems. Here, Scandinavia is a case in point, as is the ongoing French situation. In short, the financial sector is in turmoil everywhere we look.

Regulators realize this. They know that the sector that they are charged with overseeing has been subjected to substantial stress, and they are constantly

* The Wharton School, University of Pennsylvania, USA.

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reevaluating their role in the process. Should they, for example, allow the process of restructuring to continue unabated and unhindered, in the hope that the resultant financial structure will be more efficient in providing financial services? Should they establish, at least, some standards and controls in the new deregulated global financial market? Do they have a responsibility to stop the turmoil that this change is causing, in an attempt to return to a stable financial structure? Should they, indeed, return to an era of directed credit in the name of stability and the attainment of social goals?

These are not easy questions. In fact, knowing where and when to intervene in the financial markets has always been a difficult issue for regulators to address. This is because public policy makers have a dual objective in the interventions. They seek both efficiency and financial stability, even though these objectives are often at cross purposes.

When determining the best course of action in such circumstances, it is often useful to approach the problem from first principles; to address the issue of proper regulation only after the role of institutions - banks, if you will - in the financial sector is understood and the proper place of the regulation of these firms is firmly established. This is the role of the current paper. It is an attempt to review the place of financial institutions in the economy and explain why and how they add value to the financial market. It next explains why, in the very provision of these services, the sector is vulnerable to instability and a crisis of confidence. It then explains how regulators, all over the world, have attempted to remedy this instability problem by erecting a financial safety net to protect the sector, even as it is allowed to function in a competitive manner.

A crucial part of this safety net is implicit or explicit deposit insurance. The paper will go on to explain why it exists and why it causes problems. It offers insight into what can be done to remedy the problems without losing the benefits. But, in truth, the existence of deposit insurance will always be a balancing act. Policy makers rely on it to insure the stability of the system; yet, they lament the problems that insurance introduces into the smooth, efficient operation of the financial sector. Nowhere is this more true than in the financial sector of Western Europe. With the move toward convergence and integration comes unique problems that result from balancing opposing views of gains and losses from a deposit insurance structure. Winners and losers are almost certainly from different geographic regions and have very different objectives. Yet, the release of the Deposit Insurance Directive in 1994 makes it clear that facing these conflicting pressures is essential to the emergence of a robust financial sector. The European Union will have a common view of the deposit insurance issue even if differences in both form and substance of coverage will survive. In the last section of the paper, this difference in perspective on the issue of optimal deposit insurance coverage is discussed in some detail.

2. THE ROLE OF INSTITUTIONS IN THE FINANCIAL SECTOR

The role of institutions in the financial sector has been heavily studied in academic circles recently. This is, in no small part, the result of the expanded role they play in the developed financial markets, as Allen and Santomero (1997) illustrate. But, it may also be due to the evolution, perhaps revolution is a better word, that has occurred in these firms. The once staid financial sector has been growing and innovating since the 1960s in nearly every economic environment³. In any case, the examination has led to a consensus as to what services these institutions perform⁴.

The consensus view of academics on the role of financial intermediaries is that they serve at least two primary functions. First and foremost, they are generators or creators of assets. These assets are obtained from either the government, to finance deficits, or from the private sector. In the latter case, they are expected to screen the set of borrowing opportunities presented to them, using an expertise and specific-capital that is unique to this sector⁵. In fact, their value to the economy rests primarily on their ability to screen and finance wealth enhancing projects in the economy. Projects found worthy are financed and monitored until repayment. During the later phase of the lending process, on-going servicing and monitoring becomes critical for a number of reasons. Once the loan is made, it is frequently illiquid and difficult to value without substantial effort⁶. In addition, such oversight by firms who are responsible for financing the investment project often leads to higher returns from the endeavor, as investors respond to on-going monitoring by increasing effort and by making operating decisions which are in closer adherence to the proposed purpose of the loan⁷. In both cases, the existence of a monitoring institution improves the performance of the project returns accruing to the stakeholders of the intermediary itself.

The second role normally enumerated is the channeling of savings resources to a higher purpose. This is achieved in two distinct ways. For transaction balances, the financial sector has developed the capacity to use idle balances, even while the payment system functions efficiently. From the perspective of the institution, it provides depository services as a mechanism to finance the lending activity outlined above. To the economy as a whole, the payment system that results from this process is a central part of the financial infrastructure. By extension, therefore, the fact that financial institutions are central to the clearing process suggests a need for regulatory concern and oversight of these institutions to assure the integrity of the payment system⁸. In addition to providing sight deposits, this sector offers deposit liabilities as well, which directly compete with other claims in the financial markets. For these standard savings vehicles, return must be sufficient to warrant the risk and delayed consumption associated with accepting deposit liabilities of the banking firm. In short, the institutions offer standard financial assets to the public which must be priced efficiently. The benefits offered to the economic entity with excess current resources

include the expectation of positive returns for deferred consumption, an additional return to risk-taking, and perhaps some minor liability transfer services, i.e., payment-clearing services, as well.

As an intermediary, the financial institution provides both of these services simultaneously, i.e., it makes loans and assumes liabilities. In fact, it often does so while holding assets that have maturity lengths that differ substantially from the average maturity of its liabilities. As a consequence, the standard asset transformation function includes maturity transformation as well as resource mobilization. While these can be viewed as mostly complimentary services, at times the use of relatively liquid liabilities to finance illiquid and longer-term risky investment projects generates an instability in the system⁹. Yet, this activity is central to providing the economy with the value-added activity of mobilizing savings assets into productive real investment.

Recently, the work of Allen and Santomero (1997) has added two additional functions to the menu of services provided by the intermediary sector, namely risk management and access to an increasingly complex financial sector. To illustrate the importance of the first of these additional services, they point out that institutions of today devote much of their efforts to decomposing and repackaging financial claims to satisfy customer needs. This can only be justified if these services of risk management are valued by the market and lead to profit opportunities. Merton and Bodie (1995) make a similar case, as does Crane et al (1995).

The access story is somewhat new, but actually springs from the early work of Blume and Friend¹⁰. These authors, among others, illustrate that direct participation in the financial sector is quite low. This has been the case for some time, and is even more evident outside the Anglo-Saxon financial markets. The authors argue that indirect access through banks and other intermediaries achieves the same end, by delegating the selection and/or monitoring of financial assets for individual investment to the intermediary's expertise. In their view, a key role performed by institutions is providing such expertise, informing their customers about investment options, and reducing the participation costs associated with the use of various financial markets.

Together, these rationales for the intermediary sector form a clear vision of the sector and the services it performs. It enters the market on behalf of both its equity holders and its deposit liability customers. It invests in financial claims that are both illiquid and risky using their specific capital and the resources of various types of claimants to finance their activity.

3. THE INSTABILITY OF THE SECTOR

Given the above description of the role performed by the sector, it should be apparent that some regulatory oversight of the sector is appropriate. Financial

institutions, providing the services enumerated above, are structurally vulnerable for any number of reasons. They finance the holdings of direct claims, which can be valued only imperfectly, with short-term liabilities that are viewed as redeemable at par. In addition, they provide the valuable service of maturity transformation, which is mutually beneficial to borrowers and savers, but which, nonetheless, may place the financial institution itself in jeopardy¹¹. Imperfections in both the marketability of assets held by the firm and information about their true value are fundamental characteristics of most of the direct claims held by these institutions. At the same time, their depositors and other liability claimants are unlikely to be able to make an accurate assessment of the assets' true values. After all, they purposefully transfer their wealth into the hands of these institutions because of their reluctance or inability to constantly assess the true economic value of projects financed or financial contracts held. Therefore, holders of institutions' debt and/or equity cannot reasonably be expected to readily and accurately evaluate the total value of assets held by these institutions, or even the solvency of these institutions by affirming the fact that the value of assets exceeds the promised value of their aggregate liabilities.

Nonetheless, depositors and many other liability holders place funds in these institutions fully expecting to be able to withdraw their deposits whenever they choose. Frequently, their horizon of investment is uncertain and cannot be clearly established at the outset. Accordingly, the financial institution is left in the awkward position of investing in long-term imperfectly marketable assets funded by liabilities with a perceived short, but uncertain maturity. If withdrawals are purely random, as they are likely to be most of the time, they may be statistically predictable. However, if liability holders become concerned about the solvency of the institution, withdrawals may become systematic and jeopardize the liquidity and solvency of the entire industry¹². These sudden but dramatic withdrawals are often referred to as banking panics. They not only destroy the specific capital of the institution under pressure, but also diminish the capacity of the financial sector to fund economically viable projects and monitor them to a satisfactory conclusion¹³.

The management of these institutions know that all informed depositors will behave in this way. For this very reason, they may wish to be less than completely forthcoming about the value of their portfolios. They may attempt to exercise control over information critical to estimating the value of their assets, and they may be tempted to conceal information regarding the deterioration of value. This may be done in the hope that delaying the release of information will give assets time to recover and thus avert giving liability holders an incentive to seek early withdrawal.

For their part, investors are aware that the financial institution's management has both the incentive and capacity to conceal a decline in the value of its imperfectly marketable direct claims. They are also aware that these same institutions are usually highly leveraged, so that a relatively small percentage decline in the value of the institution's direct claims results in a much larger percentage decline in its net worth.

For this reason, as Calomiris and Kahn (1991) illustrate, many depositors require that much of their deposits be held in demand form. If bad news casts doubt on the value of the institution's direct claims, these creditors have a mechanism to withdraw their resources from the troubled firm. This may be accomplished quickly, as soon as they observe an action which reduces their estimate of the institution's net worth, despite assertions by the institution's management that the firm is solvent.

Such runs, once begun, tend to be self-reinforcing. News that the depository institution is selling assets, sometimes at distressed prices, or is borrowing at very high rates, will further undermine the confidence of current and potential depositors. Even those who believe that the financial institution would be able to redeem all of its liabilities if it is given sufficient time, have a motive to join the run. They have reason to fear that the cost of hurried liquidation of direct claims in response to a run by other creditors might render their claims worthless and the institution insolvent¹⁴. Investors know that liquidity losses tend to get larger as the run continues because the most marketable direct claims are sold first.

Sophisticated participants also know that as an institution's net worth approaches zero, the depository institution's managers may be tempted to take increasingly desperate gambles to stay in business. Kane refers to this as the "go for broke syndrome"¹⁵. Thus, the perception of possible insolvency resulting from a decline in asset quality, whether true or not, can become a self-fulfilling prophecy by inducing creditors to take actions which erode the institution's net worth.

This vulnerability to runs is more than the strictly private concern of an individual depository institution and its customers. It becomes a public policy concern when a loss of confidence in the solvency of the sector, or many of its members, leads to a contagious loss of confidence in other institutions. At this point, a bank run becomes a banking panic. The key ingredient for this transition to contagion is a crisis mentality, affecting the general confidence in the system, not any one institution. Contagion may occur through four channels.

- (1) Troubled financial institutions may begin to lose reserves to other unaffected institutions in a classic "flight to quality." These banks are reluctant to relend these funds to the affiliated firm.
- (2) Financial institutions in general may begin to lose reserves because cash drains from failing institutions are not redeposited in other institutions because of a concern about the entire sector.
- (3) Institutions that have or are suspected of having claims against failing institutions may then be vulnerable in the second tier of the crisis.
- (4) Creditors at other institutions may suspect that their institutions are exposed to the same shocks as the failing institution and withdraw funds from totally unrelated firms.

In any of these cases, liability holders run without concern about the legitimacy of their suspicion. This is a particularly serious problem when there are a few large institutions with national or international franchises. The larger the institutions, the greater the likelihood that the failure of any one will attract public attention and undermine confidence in the financial system in general, and in other similar large financial institutions in particular.

4. THE FINANCIAL SAFETY NET

It is for these reasons that regulators nearly everywhere have chosen to establish a mechanism to address the problem of weakness in the financial institution sector. The financial safety net, an elaborate set of institutional mechanisms for protecting the financial system, has been constructed, which has largely succeeded in preventing contagious runs in the financial sector. Through this mechanism, most countries have developed a regulatory structure that prevents the amplification of shocks through the financial system. This safety net can be viewed as a set of preventive measures that can and should be triggered at various stages in the evolution of a financial crisis.

Here is how it works. The earliest stage of a financial crisis involves a financial institution's exposure to a shock which could jeopardize its solvency. This may occur because adverse changes in the economy have increased the probability of failure. Alternatively, this may be the result of a sudden decline in the perceived or estimated value of assets which are part of the balance sheet of the institution. In any case, the institution's perceived capital position suddenly declines. If the occurrence of a shock causes creditors to question the solvency of an institution, a run may occur which can lead to the contagious transmission of liquidity problems, and perhaps solvency problems, throughout the financial system as discussed earlier.

An appropriate regulatory structure is designed to stop the sequence of events that follows the disturbance at a number of points, and preserve the integrity of the financial structure and the health of the real economy. The components of a safety net are best described in terms of functions, because the agencies that perform a particular function vary across countries and some functions are shared among agencies within a particular country. For our purposes the safety net can be seen as consisting of seven separate steps¹⁶.

- 1) The Chartering Function is established to screen out imprudent, incompetent or dishonest institution managers who would be likely to take on excessive insolvency exposure.
- 2) In the event that some financial institution managers do attempt to expose their institutions to shocks that could jeopardize their solvency, the Prudential Supervision Function is established to prevent it.

- 3) In the event that prudential supervision does not prevent excessive insolvency exposure and a damaging shock occurs, the Termination Authority should terminate the license of the institution before it becomes insolvent and causes loss to creditors.
- 4) Even if the Termination Authority acts too late to prevent losses, the explicit or implicit Insurance function provided by official or private sources may prevent creditors, most often depositors, from running.
- 5) Even if the depository institution closes abruptly, the Insurance function may prevent contagion by sustaining the confidence of the creditors at other institutions which are thought to be similar.
- 6) Even if runs occur at other institutions, the Lender of Last Resort Function may enable solvent institutions to meet the claims of liability holders, avoiding forced asset liquidations and depressed prices.
- 7) Even if other failures occur, the Monetary Authority may prevent a shift in the public's demand for cash from reducing the volume of reserves available to the financial system as a whole, thereby confining the damage to the institutions directly affected by the original shock.

In the major industrialized countries, the various circuit breakers that comprise the financial safety net generally have been successful in preventing a problem at one institution from damaging the system as a whole. In the United States, for example, the safety net which was constructed in the 1930s has virtually eliminated the contagious transmission of shocks from one depository institution to the rest of the system. In the crisis associated with the 1987 market decline, the central bank made it clear that this security would also be offered to other members of the financial industry.

However, the safety net works best in its early and late stages. The chartering and prudential functions, so key to the integrity of the financial sector, have been responsible for maintaining a reasonably good reputation for the sector as a whole, worldwide. While crises of confidence occasionally arise, they are the noted exception, not the rule. Likewise, since the 1930s, the last stages of contagion control, using the functions of lender of last resort and monetary neutralization of a crisis, have worked reasonably well. Indeed, many would argue that it has been used too often, thereby prohibiting the exit of failed institutions and reducing the cost of risk taking by institutions.

However, there is general agreement that regulators and policymakers have had less success with stages four and five above. When an institution, or the industry as a whole, is faced with a solvency crisis, the track record of this portion of the safety net has been quite mixed. Some regulators have been successful in using deposit insurance to navigate through these waters, insuring depositors at bankrupt institutions and assuring depositors in other banks, even as they close troubled institutions early. In

rare cases, they use only a small amount of resources to resolve the problem. In such cases it is often argued that the key is to resolve the issue of the troubled institutions and contain the solvency crisis to a subset of the industry. All too often, however, when problems are the result of anything more than idiosyncratic behavior of one institution, the record has been disappointing. Sectors have fallen victim to contagion; governments have been left with large bills associated with the bailout and *ex post* guarantee of deposits in the system; and the institutional structure has been badly damaged¹⁷. How should it work? This is the issue to which we now turn.

5. THE ROLE AND USE OF DEPOSIT INSURANCE

Given the importance of the banking sector, coupled with its inherent instability, governments and social policy planners have often suggested that deposit insurance has a clear role in the safety net structure. Its presence, designed to protect depositors from a crisis in the bank's balance sheet after it has begun, protects investors and adds systemic stability. Insurance prevents or reduces losses associated with the crisis for less informed depositors, and may be seen as part of a broader consumer protection program in place in many countries. To the financial sector it adds stability to its funding base and reduces the effect of a crisis. For the troubled institution, deposit insurance is aimed at stabilizing the deposit base of the bank so as to prevent an emergency liquidation of assets and a bank run. For other institutions, the existence of insurance is seen as a mechanism to prevent a panic by assuring depositors in other banks of the integrity of the system as a whole. In short, insurance has a beneficial effect of reducing the likelihood of a bank run and the on-set of a banking panic.

Proponents of deposit insurance note that uninformed - or at least ill-informed - depositors are frequently incapable of knowing the true nature of the bank's balance sheet for the reasons that have been discussed above. Therefore, they warrant protection both because of their limited ability to make economically rational decisions, and because of their imperfect information. These features of the market may lead to needless banking panics and destruction of the sector's lending capacity.

Armed with this rationale, policy makers in the US established the Federal Deposit Insurance Corporation to provide depositor insurance in 1933. The formal system of explicit deposit insurance for small depositors was established in response to the banking crisis of the Depression, and its attendant bank holidays and closings. However, it is noteworthy that other countries did not follow suit, choosing instead to leave insurance to the discretion of policymakers. European regulators for example have relied on implicit insurance, which has been ruled more by political considerations than law. Deposit insurance in this region has been quite real, nonetheless. Implicit insurance in Europe has led to any number of bank bailouts, and a recent spate of *de facto* total guarantees. One needs to look no further than the

recent crisis in Scandinavia, or France. Likewise, it is reasonable to argue that the Italian banks such as BNL or Banco de Napoli, could not reasonably be in operation without the strong belief of Italian consumers and their corporate counterparts that the national state was prepared to insure the money on deposit.

The net result is that the financial system throughout the world has significant deposit coverage by deposit insurance schemes of one sort or another. Whether implicit or explicit; whether affirmed, as they have been in Europe, or denied, as they were in New Zealand, they are very real. And, it is probably fair to say that the arguments in favor of at least some coverage are legitimate. Deposit insurance has prevented most financial crises, reduced the frequency of bank runs, banking panics, and financial disruption. It has maintained the integrity of the financial system even as bankers finance risky projects, and entrepreneurs invest in projects with risky, but potentially profitable, payoffs.

However, deposit insurance poses its own set of problems. First among these is that it affects the willingness of banks to take risks, making an unstable system even more susceptible to instability. Second is the issue of who should bear the financial burden that is associated with any insurance scheme. We need to know not only who will pay the cost, but also how it should be priced. Can it be instituted in a way that does not adversely affect the relative seniority of claimants across the insured sector, and without distorting the incentives in the financial sector itself? Third and finally, there are the political issues associated with any government intervention. Here, as elsewhere, once the government enters the scene, it brings with it issues that are distinct from those discussed here, and secondary agendas which must be addressed to understand the real world workings of any government supported initiative.

Let's examine each of these issues in turn, beginning with the incentive effects listed first. It should be quite clear that the existence of deposit insurance alters the landscape facing the banking firm. Depositors are no longer interested in the bank's portfolio risk if they believe that all of their liabilities are insured by a government agency¹⁸. They effectively have substituted the bank deposit with a government deposit. They no longer need to watch or even worry about bank risk or bank solvency, as their claim is on the government, not the bank itself.

Bank management recognizes this fact and its full implication. The bank is now capable of borrowing funds at a risk-free rate and it is freed from the constraints of market discipline and risk-based liability pricing. This encourages risk taking by the firm and large commitments to risky project finance. While some may view this as a beneficial outgrowth of the system¹⁹, it clearly alters its behavior. In the limit, it distorts risk taking by encouraging excessive risk on the part of the bank, leading to a negative feedback on bank solvency²⁰.

To a large extent, this incentive toward risk is a result of inefficient insurance pricing. If the government's insurance liability could be accurately and efficiently

priced, many of the incentive issues would disappear²¹. However, nowhere in the world has appropriate risk-based pricing of deposit insurance been instituted. There are many reasons to explain why this is the case. First, in those countries where such insurance is implicit, by definition its pricing is infeasible. This, therefore, rules out many of the developed countries, including nearly all of Western Europe, prior to its movement toward explicit systems over the last decade or so. Second, in countries like the US with explicit insurance, an efficient risk-based pricing scheme would require the accurate and dynamic estimation of risk for each asset class. Faced with this difficult task most regulators, including until recently the FDIC in the US, chose to implement insurance based upon a flat pricing schedule. Scholars have often lamented the tendency to price insurance in a manner that ignores risk, but regulators have traditionally resisted change. The former have argued that a flat insurance fee schedule has the effect of substantially transferring wealth from conservative firms to risky ones, and from taxpayers to bank shareholders²².

With recent legislation in the US, a risk-based system has become not only legally feasible but also mandated there. However, the implication of such legislation is not at all clear. As of this date, the implementation of a risk-based insurance pricing has had only a marginal effect. Premium differentials are trivial and set in a rather ad hoc way. In fact, there is not a single case of a scientifically based deposit insurance structure in the world financial sector. This may, however, not be surprising. The work of Chan, Greenbaum and Thakor (1992) argues that, given the inability to truly capture the nature of the portfolio's risk, variable rate insurance may be technically impossible. At the very least, exact and accurate pricing of deposit insurance coverage is a long way off.

Finally, there is the issue of the effect of government intervention on the workings of the sector itself. Some years ago, Buser, Chen and Kane (1981) argued that, by construction, government programs such as deposit insurance are always underpriced. They point out that government programs come with government intervention of various types, and this is clearly the case for deposit insurance. With a government presence, private decisions are often affected by government concerns or by political factors. This is true to a different extent in each regulatory environment, and the ability of the state to press its will or values on the financial sector will vary over time, as well as across countries. However, the government is usually omnipresent in the financial structure for both the political reasons relevant here and the stability reasons outlined above.

Whether this is problematic is still a matter of debate. Most economists would argue that government intervention has deleterious effects. This argument is quite simple. To the extent that non-economic factors affect economic decisions, these influences adversely affect the economy and the sector being manipulated. Recently, however, Stiglitz (1989) has argued in favor of such intervention, noting that private

sector decision making is clearly not optimal in an imperfect market. So, perhaps, the government has an appropriate role to play. If it intervenes to achieve some social goal by directing credit or subsidizing the financial needs of certain sectors, it may enhance the performance of the economy and add to overall social welfare. To be sure, this view has not received uniform approbation. Some, including this author, have argued that political intervention rarely results in macroeconomic gain. Political forces tend to be too great. In addition, a greater government role reduces management accountability and effort levels²³. In so doing, government intervention causes a feedback effect which reduces intermediation's efficiency and effectiveness.

What, then, is the policy prescription? In short, it is not easy. The need for insurance for at least some of the liability holders appears clear, but the effect is fairly severe. In essence, the solution reduces market discipline and opens up the institution for excessive risk taking. It also introduces non-economic factors into decisions. This has led some to propose altering the system, by reducing insurance or limiting its coverage in various ways. Two changes have received the most attention. One approach is to restrict coverage to only relatively small deposit balance levels, but to eliminate insurance beyond some minimal amount. This would retain the consumer protection aspects of insurance but do little for systemic stability. Proponents argue that depositors with larger balances are capable of evaluating the institution's solvency. Their potential exposure to loss will retain some market discipline in the system, even while stability is enhanced by the presence of insurance for the overwhelming majority of deposit customers. Another suggested remedy to the problems of the current system is to require higher bank capital, which would enhance consumer protection and systemic stability. In addition, proponents argue that owners serve as the key monitors of risk²⁴. The latter approach has been endorsed by international regulatory agencies and is the central theme of Basle capital regulations.

However, since the time of the Basle accord, the issue of deposit insurance has not gone away. In fact, the recent bank crises in Western Europe and Japan have raised concerns in both these markets over their respective postures on depositor insurance coverage. The recent experience in Western Europe comes at a good time. Faced with bank problems in several European countries, regulators are reminded that banking is a risky business. By extension, therefore, bank deposit insurance involves risk and can result in large financial exposure. This is why the recent debates in Brussels are both appropriate and interesting.

6. THE EUROPEAN DEPOSIT INSURANCE DEBATE

The unification of the European Union into a single open market has presented a plethora of challenges to regulators and bankers. Not least among these is the question of how a coherent and effective deposit insurance scheme can be constructed under the

"common passport" of the Second Banking Coordinating Directive. The latter allows banks in a given member state to establish branches in any other member state. It does not, however, unify regulation and deposit insurance across the Community²⁵. And, recently the differences in deposit insurance structures has received additional attention with contributions by Fratianni (1994) and DiNoia (1994).

The Second Banking Directive's concept for a unified European banking system hinges on the establishment of a reciprocity condition among regulators, known as the "common passport". Much has been written on this issue²⁶. Put simply, this principle allows for home country authorization of banking activity to be extended to branches of the bank located outside its home country, without the separate approval of the host country's regulator. The branch must conform to the regulations of the host, but need not seek independent regulatory approval in the host country.

It was immediately clear at the time of its passage that the Commission would have to address the issue of how this scheme could be reconciled with the existing deposit insurance structure of the EU member states. However, a draft on deposit insurance coordination did not appear until 1991. The document called for universal minimum coverage of 20,000 ECU, and for increased harmonization in the disparate views of deposit insurance around the then Community. While the Deposit Insurance Directive was formally released on May 30, 1994, substantial variations continue to exist across the individual countries involved²⁷. While eleven out of the original twelve countries have a deposit insurance scheme of some type, they vary greatly across the continent. Pricing, coverage and funding differ dramatically from country to country.

For example, Bartholomew and Vanderhoff (1991) and Fratianni (1994) report that Germany insures 30% of a bank's deposits, while the Italian system insures up to a fixed 522,500 ECU limit. Both of these countries extend such insurance to deposits in both foreign currency and in foreign branches. By contrast, the United Kingdom insures only up to 21,700 ECU and insures neither foreign currency deposits nor deposits in foreign branches. Greece and Portugal still have no formal deposit insurance at all. To the extent that this difference in coverage reflects differences in central bank and national attitudes toward risk or initial wealth, such differences in coverage are likely to remain.

Some of this differential is, no doubt, a reflection of the different financial structures in member countries. Banks differ in number and size across Western Europe, and the government's role in commercial banking affairs varies from direct bank ownership to limited regulation of the sector. Nonetheless the differences in insurance schemes has a substantial effect on the workings of the financial system. As is evident in the discussion above, this differential in insurance coverage has a substantial effect on how different banks will behave, how anxious depositors will be to deposit funds in different institutions, and how aggressive different institutions will be in financing risky real sector investments. It will also affect the stability of

institutions with different national charters.

The current difference in coverage should not be surprising. Beyond different financial structures, differential wealth, risk aversion, and public awareness of financial risk all favor state by state variances in insurance coverage, even within the Deposit Insurance Directive. Individual states have different views of how much bank risk should be encouraged and how broadly the insurance coverage should protect depositors.

As noted above, banks enhance the living standards of depositors not only through interest on deposits, but also through their function as financial intermediaries providing needed resources for real sector investment. In this latter role, they channel capital to productive enterprises in society, whose output benefits entrepreneurs and workers through wages and profits. Thus, in considering the questions of insurance coverage, policymakers must recognize the benefit to the community of the bank's funding of entrepreneurial projects. With projects having different values in different areas, it therefore should not be surprising that deposit insurance regulation is likely to differ across national states.

In addition, as the role of a particular banking institution in its home country may be perceived as more critical by one national regulator and the populace it represents, coordination of such regulation will be complicated. Given the role that a bank plays within its home country it is not surprising that home states are not willing to let others exercise too large a policy role on the availability of credit.

Risk aversion of both political leaders and the constituents which the regulator represents must be factored into decisions of deposit insurance coverage as well. For a more risk averse society, it may be optimal to limit insurance coverage so as to encourage market discipline. On the other hand, societies wishing high investment in risky projects may find it in their best interest to increase insurance coverage. The implication here is that banking systems may be engaging in risky lending activities, not only because of moral hazard, but also as a result of low risk aversion on the part of regulators or the agents in society they represent²⁸. In short, regulators by regulatory design are affecting risk preferences by altering the institution's willingness to absorb risk.

The potential for discord across the community, therefore, is considerable. Societies' risk preferences, current wealth and initial financial structure all differ across the EU. This implies that the desired level of risk absorbed by the banking system through total lending will also differ. The wide variation in the banking system and prudential standards in EU countries prior to the attempts at harmonization are at least partially a result of these differences.

These points have serious implications for the aims of the Deposit Insurance Directive of 1994, at least in so far as its true aim is to harmonize deposit insurance

schemes. The points above suggest that given differences in risk aversion, and the obvious disparity in wealth among EU member states, any attempt at policy harmonization in regard to this bank regulation will be problematic²⁹.

Yet, variations in deposit insurance schemes of member states could substantially affect the competitiveness of different banking systems. If the public believes that the country specific new regimes established in response to the Deposit Insurance Directive truly replace the implicit systems that have been in place for several generations, the new structure could motivate the migration of deposits to states with higher insurance coverage from other political areas with lower coverage. This is because the geographic location of a deposit is arbitrary both to a bank and its corporate customers these days. To prevent such migration of capital, the banking authorities must take into account differences in insurance coverage as they address other differences in the banking systems themselves.

7. SOME CONCLUDING OBSERVATIONS

The existence of an efficient intermediary sector has long been recognized as an essential ingredient to a productive economy. At first glance these institutions seem simple enough. They make loans and take deposits. However their simple exterior masks a complex sector, providing reasonably esoteric services to the real sector. These services leave the institutions subject to instability that is manifested by bank runs and banking panics.

To protect the real sector from financial fragility a series of circuit breakers have been established, known collectively as the financial safety net. This set of activities includes the chartering function, prudential regulation, termination authority, deposit insurance, the lender of last resort, and central bank intervention. Of these, deposit insurance has proven the most difficult to manage. While it clearly adds stability, its effects on bank decision making, risk tolerance, depositor behavior and sector stability are all problematic. This has led many to question its validity as a stability tool, and still others to propose alteration in its coverage, pricing and usage by government officials. Unfortunately, there are no easy answers as to how to improve it, or how to remedy its adverse incentive effects. We have to learn to live in an imperfect system.

Nowhere will this be more difficult than in the European Union. With an integrating financial market, Brussels would like to harmonize deposit insurance coverage. However, the unique characteristics of each of the national states makes this problematic. With different levels of wealth, different degrees of risk aversion and different consumer expectations, harmonization will not come very soon. However, the integration of the financial markets may hasten it. With banks functioning with a common passport differential insurance may be hard to sustain.

NOTES

1. See Santomero (1997) for a discussion of these issues.
2. On the issues of proper regulation for developing countries, see Santomero (1996).
3. See Santomero (1989), DeCecco (1987), Litan (1991).
4. See Bhattacharya and Thakor (1993) for a review, as well as Allen and Santomero (1997) for a critique of the current intermediation theories.
5. For a fully developed model of this function, the reader is referred to Diamond (1984).
6. For a discussion of this issue, see Gorton and Pennacchi (1990), and Santomero and Trester (1997A).
7. See Allen and Gale (1988) for a discussion of the importance of monitoring to project outcomes.
8. Goodfriend (1989) makes this case quite effectively.
9. The classic references here are Diamond and Dybvig (1983), and Gorton (1988).
10. See Blume and Friend (1978).
11. See Kareken and Wallace (1978), Jacklin (1987), and Santomero (1991) for a fuller discussion of these issues.
12. See the work of Gorton (1988), and Jacklin and Bhattacharya (1988) for an explicit modeling of this issue.
13. See the work of Bernanke and Gertler (1989; 1990) and Gertler (1988) for two similar models of this phenomenon and a discussion of its generalities.
14. This is the story that Diamond and Dybvig (1983) relate so forcefully.
15. See Kane (1985) for a full discussion of this phenomenon in the context of the US thrift crisis, or Herring and VanKudre (1987) for a modeling of this behavior.
16. This safety net is discussed in greater detail in Herring and Santomero (1991) and Herring and Litan (1995).
17. The US savings and loan experience is a good case in point, see Kane (1985).
18. See Merton (1977) or Sharpe (1978) for a clear discussion of this point.
19. See Goodman and Santomero (1986) for a discussion of this point.
20. See Keeley and Furlong (1990) and Kim and Santomero (1988).
21. For a discussion of efficient pricing of deposit insurance see both Merton (1977) cited above and Chan, Greenbaum and Thakor (1992).
22. See for example Marcus and Shaked (1984), Pennacchi (1987) and Benston et al (1989) for detailed discussions of each of these points.

23. See Santomero (1997) for a fuller discussion of this point.
24. See Benston et al (1989) and Santomero (1991) for a discussion of the full range of options for a discussion.
25. This lack of harmonization has been discussed by authors such as Herring and Litan (1995), and Goldstein and Landau (1993).
26. See Baltensperger and Behrend (1994) for a review.
27. See Fratianni (1994) and DiNoia (1994) for a critique.
28. See Goodman and Santomero (1986) for an explicit treatment of this point.
29. See Santomero and Trester (1997B) for a further discussion of these issues.

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