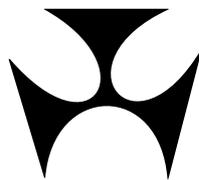


**RESERVE BANK OF AUSTRALIA**

**Supplementary  
Submission to the  
Financial System Inquiry**



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## **INTRODUCTION**

This supplementary submission gives the RBA the opportunity to expand on three topics raised in the Inquiry's Discussion Paper which were covered only briefly in our original submission.

The first Chapter attempts to set out the broad parameters of how we see the financial system developing in the next ten years. It concentrates on two questions - the relative importance of banking compared with other financial institutions, and the degree of risk in the financial system.

The second topic is the implications of technology, financial innovation and the entry of new competitors for activities which were previously the preserve of banks. Both the commercial and the prudential implications of these changes are discussed in Chapter 2.

The third topic is depositor protection. There has been some criticism of the present depositor protection provisions of the Banking Act, and Chapter 3 sets out some alternatives for overcoming these criticisms.

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## 1. THE NEXT TEN YEARS

### Introduction

1. The Inquiry is being asked to make recommendations about how financial regulation should adjust to cope with changes to the financial system over the next decade. Submissions should be aimed at helping the Inquiry to make those recommendations, so it is not unreasonable to expect them to provide some outline of how they think the financial system will evolve over the next decade. Even though no-one can forecast ahead this far with any degree of accuracy, the key forecasts (or assumptions) should be made public. In this Chapter, we set out some assumptions about developments over the next decade which underlie the RBA's view on financial regulation.

### The Future Role of Banking

2. A good illustration of the need to be explicit about future developments is provided by the contrasting views that are often heard on the future of banks.<sup>1</sup> The two widely differing views could be summarised as follows:

- (i) Banks are too powerful and too profitable, a position they are able to maintain because they can keep competitors at bay by their own efforts, and with the help of regulations which discriminate against potential competitors.
- (ii) Banks are a threatened species. New technology and competition from non-banks such as software firms, communications companies, retailers and specialised finance companies are taking away the most profitable parts of banking, and leaving existing banks with the unprofitable residue.

3. These contrasting views about the future of banking lead to two diametrically opposite sets of policy implications. Proponents of proposition (i) would presume that there are anti-competitive constraints on entry to banking and seek to dismantle them, i.e. compared with its present position, they would tilt the playing field in favour of the non-bank competitors. Proponents of proposition (ii), on the other hand, would say there is no need to because the non-banks will prevail anyhow. Instead, they would turn their attention to identifying the risks developing in the new growth areas and putting in place regulations to cope with them.

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<sup>1</sup> Throughout this chapter, in the interest of simplicity, the term "bank" refers to an institution that takes deposits from the public and holds loans on its balance sheet. In the Australian context, it encompasses banks, building societies and credit unions.

4. There is more than a grain of truth in both propositions (i) and (ii), but it is not necessary to opt for either extreme; they could be reconciled either by saying the truth was in the middle, or by saying that proposition (i) describes the past, while proposition (ii) describes the future. Whatever way they are reconciled, it can only be done by spelling out a view of how the next decade will develop.

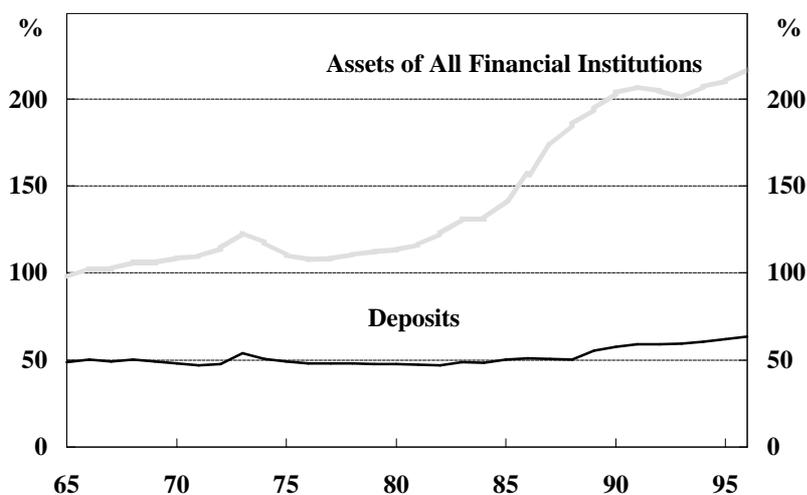
5. The remainder of this Chapter attempts to sketch an outline of how the financial sector could unfold over the next decade. Not surprisingly, given the RBA's responsibilities, it concentrates on two questions. First, how important will commercial banking be in ten years time, i.e. how big will banks' balance sheets and the public's holdings of bank deposits be relative to other financial institutions and to the economy as a whole? Second, how will the developments of the next decade affect the ability of the financial system to withstand shocks, i.e. will aggregate risk rise or fall?

### Some Possible Trends

#### (a) Simple projections

6. The best simple summary of recent trends in the relative importance of banking in Australia is given by Diagram 1. It shows that over the past 30 years, bank deposits have increased slightly faster than GDP and so the ratio of bank deposits to GDP has risen from 49 per cent in 1965 to 63 per cent in 1996. Other financial assets, however, have risen more strongly during this period, so total financial assets to GDP has shown a much bigger rise than deposits to GDP. As a result, the ratio of deposits to the assets of all financial institutions has fallen.

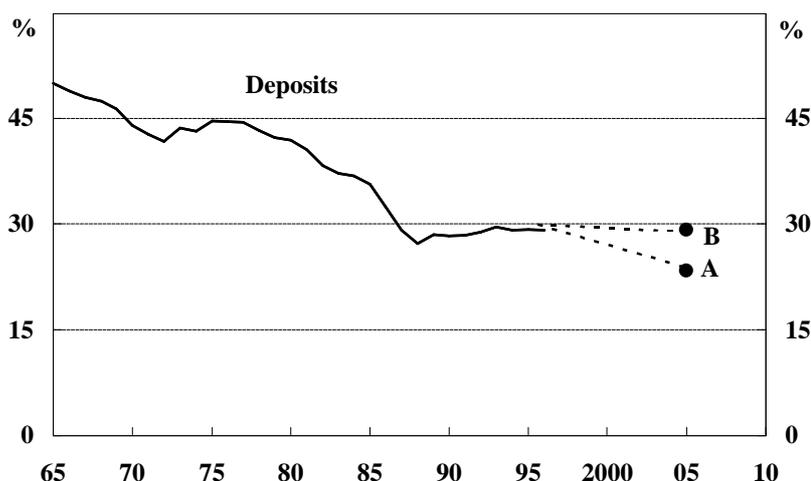
**Diagram 1: Deposits and Assets of All Financial Institutions**  
As a per cent of GDP



7. In Diagram 1, the greatest divergence between the growth of all financial assets and the growth of deposits occurred in the second half of the period, i.e. since about 1980. In that period of 16 years, the assets of all financial institutions have grown at an annual rate of 13.5 per cent compared with growth of 11 per cent for deposits.<sup>2</sup> If this continued over the next decade, deposits would be 23.4 per cent of total financial assets in 2006, compared with 29.2 per cent at present. This is shown as outcome A in Diagram 2.

### Diagram 2: Deposits

As a per cent of financial system assets



8. However, most of this divergence between growth in deposits and growth in financial assets occurred in the 1980s when rapidly rising asset prices pushed up the market value of the assets held in superannuation funds, life offices and unit trusts. If the same calculation was repeated using the past eight years as the basis of comparison, the growth of deposits and all financial system assets is very similar, implying that there is no trend reduction in the ratio of deposits to all financial assets. This is shown as point B on Diagram 2.

9. It is not unreasonable to expect some downward trend in the ratio of deposits to all financial assets. The main explanation for the downward trend is that as people become wealthier, they choose to hold more of their financial wealth in assets that offer higher returns, even though they involve higher risk. In recent years in Australia, this has been supplemented by an element of compulsion as mandatory superannuation has become more widespread.

10. The long-term decline in the ratio of deposits to total assets is common to most countries, but it is most pronounced in the United States, and least

<sup>2</sup> Over this period, nominal GDP grew at 9 per cent per annum, so deposits growth exceeded GDP growth by 2 per cent per annum, and total financial assets growth exceeded GDP growth by 4½ per cent per annum.

pronounced in European countries. In the United States, the ratio is now down to 18 per cent, but in Germany it is 45 per cent, in France 42 per cent, and in Canada 36 per cent. The extreme position of the United States is largely a result of the heavy restrictions and prohibitions that have been placed on US banks over the years which have kept them out of many activities that banks take for granted in other countries. Some of these regulatory restrictions are spelt out in later parts of this Chapter.

11. In summary, our best guess is that in ten years time, bank deposits will have grown substantially in nominal terms, but their size relative to all financial assets could have fallen by between zero and six percentage points. Even if the outcome was at the bottom of this range, they would still comprise a substantial proportion of the Australian public's holdings of financial assets. This suggests that the Australian public would still choose to hold a substantial proportion of their financial assets as a deposit-type instrument, i.e. one where there is a binding contract with a bank for the return of the full nominal principal plus interest. There has been no significant tendency for "blurring" to override this relatively stable relationship (see later).

12. A simple extrapolation of trend, as given above, is only one way of approaching this subject. Another approach is to look at the various factors which have contributed to this trend, and to ask whether they are likely to cause the trend to speed up or slow down. The following sections attempt to do this by identifying each factor, and assessing whether it is likely to have a continuing evolutionary effect, or whether it could lead to a dramatic change in trend.

### **(b) Technological change and financial innovation**

13. Chapter 2 of this submission deals with this topic in some detail. The main effects that we can foresee will be within banks themselves, although there will also be some influence via the entry of non-bank competitors (see next section).

14. There can be little doubt that the way banks deliver existing loan, transaction and deposit products to their customers will be greatly transformed over the next decade. The role of the branch and face-to-face contact will diminish and new channels such as the telephone and the computer will increase. Where physical contact with the bank is involved, it will increasingly be through supermarkets, kiosks, ATMs and mobile banking. While these will have enormous commercial significance, with big penalties for banks that are slow to exploit the channels which consumers prefer, they are not likely to lead to a sharp fall in the relative size of the banking sector. In addition, the prudential implications are not great; the riskiness of banks is not likely to be greatly affected by these changes in delivery mechanism.

15. If financial innovation led to non-bank institutions providing deposit-type instruments on a large scale, this would have serious implications for the

foregoing analysis. The evidence to date suggests that this is unlikely. Banks' share of deposit-type instruments has remained at a relatively stable 95 per cent over the 1990s (data limitations prevent longer-term comparisons). The only significant non-bank "deposits" were insurance bonds issued by insurance companies, which were essentially term deposits with a small insurance component, and approved deposit funds. These owed their position to a tax concession rather than intrinsic product advantage. Cash management trusts, which are often incorrectly viewed as deposits, have failed to increase their market share over the past decade. While it is possible that non-banks will offer alternative forms of deposits, it is more likely that they will concentrate their attention on the parts of the market whose share is growing, such as payments and investment products. If they need to offer a deposit facility as a component of a broader product, commercial considerations usually argue in favour of an agency agreement with an existing bank.

16. The greater use of technologies such as the Internet and other devices which permit rapid searches and comparisons of bank products will have significant commercial implications. By increasing information and reducing switching costs, they should increase competition and enable customers to "play off" banks against each other on a product-by-product basis, or access non-bank providers. This will increase competitive pressures within the industry, and hence tend to increase risks for banks, although it is unlikely to alter the risk characteristics of individual products.

### **(c) Globalisation**

17. Globalisation has affected all Australian financial markets - shares, bonds, foreign exchange and futures - and Australian markets are now some of the most open in the world. A major beneficiary of this has been the Australian corporate sector which has easy access to foreign banks and capital markets (including the Euro \$A market).

18. Further globalisation and improved communication systems will probably open up similar opportunities to access foreign banks to the Australian household sector. In this case, it is likely that consumers could hold more deposits with foreign banks and do more transactions through them than at present. This has little prudential significance as long as the banks in question are supervised entities of good repute. It has been suggested that improved communication channels, such as the Internet, may provide opportunities for consumers to access institutions of dubious quality or from unsupervised tax havens. In practice, however, these institutions would probably have great difficulty in competing with established international banks offering essentially the same services. There may be a need to protect the gullible, but this is a matter of consumer education rather than prudential supervision.

19. Like all industries, there will probably also be increased foreign ownership of Australian financial institutions, and further offshore diversification

by Australian institutions. Foreign ownership, including by acquisition, is already pronounced in insurance, funds management and stockbroking. It is a good deal lower in banking, and until Bank of Scotland's recent purchase of BankWest and Rabobank's purchase of Primary Industry Bank of Australia, foreign takeovers of Australian banks were unknown. In the future, however, there is reason to expect that such events could become more common. Again, it is hard to see new prudential implications.

#### **(d) Competition from non-banks**

20. In lending to the corporate customer, commercial banks have always faced competition from investment banks, finance companies and securities firms. These competitors have played a major role in the development of capital markets and the process of securitisation. In recent years, there has been increased competition from non-banks for the household customer and this trend should continue. Some of the main areas are set out below.

##### *The growth of finance companies*

21. In the United States, the growth of finance companies, such as General Motors Acceptance Corporation, GE Capital, etc. has played a large and well-documented role in the declining share of US banks. Finance companies' loans to business are now equivalent to 63 per cent of banks' loans to this sector, compared with 31 per cent in 1980. While this is a striking development, it appears to be largely confined to the United States. In Australia, finance companies' loans to business represent only 18 per cent of business lending by banks, down from the 38 per cent they represented in 1980.

22. In this area, and in others such as securitisation (see later), it is unwise to generalise from US examples because US banks have faced higher regulatory restrictions than those in other countries. As well as restrictions that kept them out of insurance and the securities business (the Glass-Steagall Act), there are other regulations which have impeded their ability to compete in their traditional field of lending. For example, the McFadden Act restricted interstate branching, and the Community Reinvestment Act limits regional diversification even within States.

##### *Securitisation*

23. The capital markets have always been a strong competitor for banks. Securitisation has taken this a step further by allowing loans, which formerly would have been on banks' balance sheets, to be packaged together and sold to investors such as superannuation funds and life offices. The type of loan which is most suitable for securitisation is the residential mortgage, and in Australia mortgage originators have recently gained about 10 per cent of the new mortgage market (equivalent to 1.5 per cent of all financial assets). This has prompted people to ask how much further it could go. At one extreme, is the US example

where two-thirds of mortgages are financed by securitisation (although many of these are originated by banks). That is possible here, but unlikely because the secondary mortgage market in Australia has not received the same degree of official encouragement as in the United States.<sup>3</sup> At the other extreme, mortgage origination could go the same way as cash management trusts. After achieving a market share of about 1 per cent in 1983, the share of cash management trusts remained essentially stable thereafter as banks retaliated with similar products. The contribution of cash management trusts to the Australian financial system was mainly to help bank customers get a better deal from their bank, rather than to take those customers away from banks. The recent reduction in the interest rate margin on bank mortgages suggests that there may be some similarities between these two financial innovations.

24. The factor that could speed up securitisation in coming years would be the securitisation of new types of loans. The US experience suggests that credit card receivables might go down this path, but it is hard to see much beyond that. The “bread and butter” of commercial banking is loans to small and medium sized businesses. This is where the biggest risks are, and where the biggest information problems lie. Despite some success in standardising credit scoring for this type of loan, no significant progress has been made in securitising them. It is reasonable to assume that these loans will remain on the books of commercial banks, and could become a larger share of their assets as easier-to-securitise assets are on-sold.

### ***Payments system***

25. Another area where non-bank competitors are entering is in the payments system. As explained in Chapter 2, there are various levels of the payments system. Some of these, such as the provision of credit-based payments instruments, have long been open to competition from non-banks such as charge card providers (Amex, Diners Club, etc.), but such competition has been limited until recently.<sup>4</sup> With new communications systems, and increasing use of

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<sup>3</sup> In the United States, the securitisation of mortgages is dominated by three government-sponsored entities. The Government National Mortgage Association (known as Ginnie Mae) provides government guarantees to securities issued to finance housing loans to disadvantaged groups. The Federal Home Loan Mortgage Corporation (Freddie Mac), and the Federal National Mortgage Association (Fannie Mae), were created by Act of Congress to promote the secondary mortgage market, but are privately owned. They package and securitise mortgage loans, and enjoy a range of advantages. For example, they are exempt from income tax and prospectus requirements; their paper is eligible for purchase by the Federal Reserve in open market operations and as collateral when banks borrow from the Fed discount window; and they have lines of credit from the US Treasury. According to a US Treasury report, investors believe that Federal sponsorship provides a de facto guarantee for these entities.

<sup>4</sup> There has, however, been an increase in competition within the group broadly defined as “banks” in this Chapter, as building societies and credit unions have become active in non-cheque payments such as direct entry and credit/debit cards.

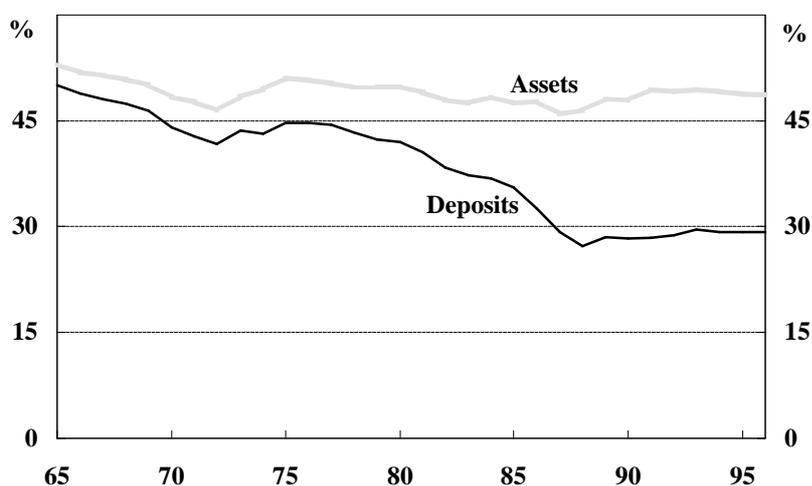
electronic payments instruments, they could be joined by software companies, communications companies and others. This applies also to such possibilities as electronic cash or cyber cash. These should provide benefits to consumers without any significant change in risk. There is also nothing to stop these non-bank competitors entering the first tier of the payments system by providing credit, but if they offered conventional deposits, they would then be liable to regulation as banks. Such new entrants would, of course, be competing with banks of established reputation, who were capable of offering similar technical products either of their own design or in a joint venture. So their advent is unlikely to cut deeply into the market share of the existing banking sector.

### (e) Banks versus banking

26. It is often claimed that banks will continue to thrive, but that banking will become smaller and less significant over time. That is, banking - the activity of raising deposits to fund loans which are kept on the balance sheet - will decline because of the various factors described in this Chapter, but banks will respond by moving into other profitable areas of financial activity. There is a lot of truth in this characterisation, but it is often overstated. Our forecast of the future of banking was presented earlier, when we put forward the view that the share of deposits in financial claims could decline moderately (by between zero and 6 per cent of total financial assets). This would still leave banking as a very important part of the economy.

**Diagram 3: Bank Deposits and Bank Assets**

As a per cent of financial system assets



27. Where there is most truth in the claim is that banks have diversified their sources of income. First, an increasing proportion of their assets is now funded from non-deposit sources such as onshore and offshore commercial borrowing. Diagram 3 shows that banks' total assets (as opposed to deposits) have remained relatively constant as a proportion of total financial system assets. Second, they earn a significant proportion of their income from fees, guarantees and trading

profits. So it is certainly true that banks have been able to grow a lot faster than they would have if they still relied almost exclusively on their traditional staple of financial intermediation.

**(f) The growth of derivatives**

28. The rapid growth in the use of derivatives has been widely chronicled in Australia and elsewhere. Banks have played a major part in this in Australia and account for 80 per cent of the major exchange traded and OTC derivatives markets. This development is another example of how banks have moved into rapidly growing “off-balance sheet” areas, and suggests that comparisons of the relative importance of types of financial institutions based on the size of their assets understates the importance of banks.

29. The net effect of the growth of derivatives on financial system risk is a much debated question. In principle, the use of derivatives should reduce aggregate risk as it allows institutions involuntarily incurring risks over which they have no control to redistribute them to others who are in a better position to handle them or disperse them further. In practice, it does not always work out this way because the ability of futures and options-based contracts to permit a rapid increase (or decrease) in risk can put excessive pressure on internal control systems. Recent collapses or near collapses of financial institutions (Barings and Daiwa) and trading institutions (Metallgesellschaft and Sumitomo) have illustrated this tendency. The best that can be said is that the net effect on system stability is still an open question.

**Implications For the Riskiness of the Financial System**

30. The foregoing analysis has argued that most technological change and other innovation is aimed at improving the method of delivery of existing financial products, and so has little implications for the risk involved in those products. However, the riskiness of the whole financial system is more than the average of the risks involved in the different products. The following paragraphs attempt to set out the main factors that will affect the stability of the financial system over the next decade.

31. The biggest single influence will be the underlying macro-economic environment, in particular whether the next decade will contain an asset price boom and bust. History shows that systemic financial crises usually coincide with asset price falls and associated recessions (or, in earlier times, depressions). There is reason to hope that if the present low-inflation environment can be maintained, the size of asset price booms and busts could be reduced, along with the variability of financial prices such as interest rates and exchange rates. On the other hand, the experience of Japan over the last decade, which had the lowest inflation in the OECD area, but probably the largest rise and fall in asset prices, is not reassuring. The current level of US equity prices also has many

observers characterising it as a bubble, or at least evidence of irrational exuberance.

32. Another important influence will be the degree of competition, which all observers agree will become more intense. As competition increases in any industry, there are considerable benefits to consumers, both from lower prices and better products, but risks for businesses rise as profits become harder to earn. In the financial services sector generally, and in banking in particular, competition will bring down profits in areas where it is easy to standardise products. There will be an incentive for firms to move away from these areas into newer areas at the higher risk/higher return end of the spectrum. There is nothing inherently wrong with this as it will bring benefits to users of financial services, but it could place strains on financial institutions' ability to handle the changing environment and to price appropriately for the additional risk.

33. It has often been claimed that banks face an increasingly risky future.<sup>5</sup> The argument is that banks' assets will become more risky on average as they lose their housing loans through securitisation, and their top quality business loans because more and more firms can access the capital markets directly. As a result, they will depend more heavily on lesser quality business credits, where risks are greatest, and where opportunities for securitisation are virtually non-existent. There is no doubt that this has happened in the United States and it is the major explanation for the widespread fall in the credit ratings of US banks (often to levels well below their better customers). The extent to which it happens here is still uncertain, but the direction of movement seems to be clear in that banks' assets should become riskier on average.

34. There are also some developments which are making banks less vulnerable than in the past. The main one is their increasing capacity to diversify their businesses away from dependence on pure intermediation. We have already seen how banks have become the major players in Australia's bond, money, foreign exchange and derivatives markets. In addition, they play a large role and derive considerable income from providing guarantees and liquidity to markets such as the commercial paper market, which are often seen as competitors to banks. This trend should continue as banks are better placed than competitors because of their large capital bases (see Folkerts-Landau (1995) and Rajan (1996)). While these developments reduce risk because they allow diversification, it is not an unmixed blessing. As explained earlier, it also means banks are moving into newer activities, many of which involve considerable risk, particularly to the uninitiated.

35. It is also important to recognise the contribution that central banks and other supervisors have made to improving disclosure and encouraging the

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<sup>5</sup> Edwards (1993), Edwards and Mishkin (1995), etc.

development of risk management techniques. Gray (1996) sets out the development of disclosure requirements in Australia over the past decade and shows how much more information is now provided to markets. With the help of this information, ratings agencies and the investment community more generally can keep a closer watch on financial institutions than in the 1980s. The better financial institutions, in turn, have improved their risk management techniques and these practices are now spreading more widely. Finally, the introduction of Real-Time Gross Settlement (RTGS) in virtually all developed economies, including Australia, will virtually eliminate settlement risk on high value transactions. This will be a great help in reducing collateral damage in the case of a bank failure, but it is only part of the picture. Systemic financial crises invariably result from credit risk, and RTGS does not solve that problem, or the problem of contagion.

36. The net effect of the various influences increasing and decreasing risks in the financial system is difficult to judge. Several well-known analysts of financial markets have recently claimed that they see risk increasing on average in coming years (see Henry Kaufman (1996) and Richard Dale (1996)). We are sceptical of some of these claims, and would fall back on the more defensible course of assuming that the level of risk will not be very different to what it was over the past decade. To the best of our knowledge, no experienced observer has gone further and claimed that risks are declining. To do so would constitute a leap of faith which would be an unwise foundation for building a system of prudential regulation.

## **Conclusion**

37. The foregoing projections and discussion of likely influences over the next decade lead to two conclusions. First, although banking will probably decline slightly in relation to the total assets of the financial system, it will still represent a substantial part of that system. We also see no evidence to suggest that non-banks will make significant inroads into banks' domination of the provision of deposit-type instruments. Second, while there are a number of influences that will increase risks in the system, there are also a number that will reduce them. Our assumption is that the level of risk of the financial system, and of banks, will not be significantly different to what it was over the past decade.



## 2. INNOVATION AND TECHNOLOGICAL CHANGE IN FINANCIAL INTERMEDIATION AND THE PAYMENTS SYSTEM

### Introduction

38. This Chapter takes up the point in the Inquiry's Discussion Paper about the need for "flexibility to take the greatest possible advantage from the potential that new technologies unleash" (p.xvi). It discusses innovation in financial intermediation and payments, with a focus on technology and electronic commerce. It considers, in particular whether current regulatory arrangements are inhibiting the application of new technology in the financial system by existing and potential suppliers.<sup>6</sup> This question is especially important in the payments system where technological innovation is particularly rapid.

39. On the way through, the discussion also touches on the related issue of whether - and how - payments innovations are changing risk for consumers, institutions and the financial system as a whole.

40. The next two sections survey the use of technology across the broad range of intermediaries' operations, and in the payments system. The following section addresses questions of entry and competition. The final section summarises the conclusions.

### Technological Innovation in Financial Intermediation

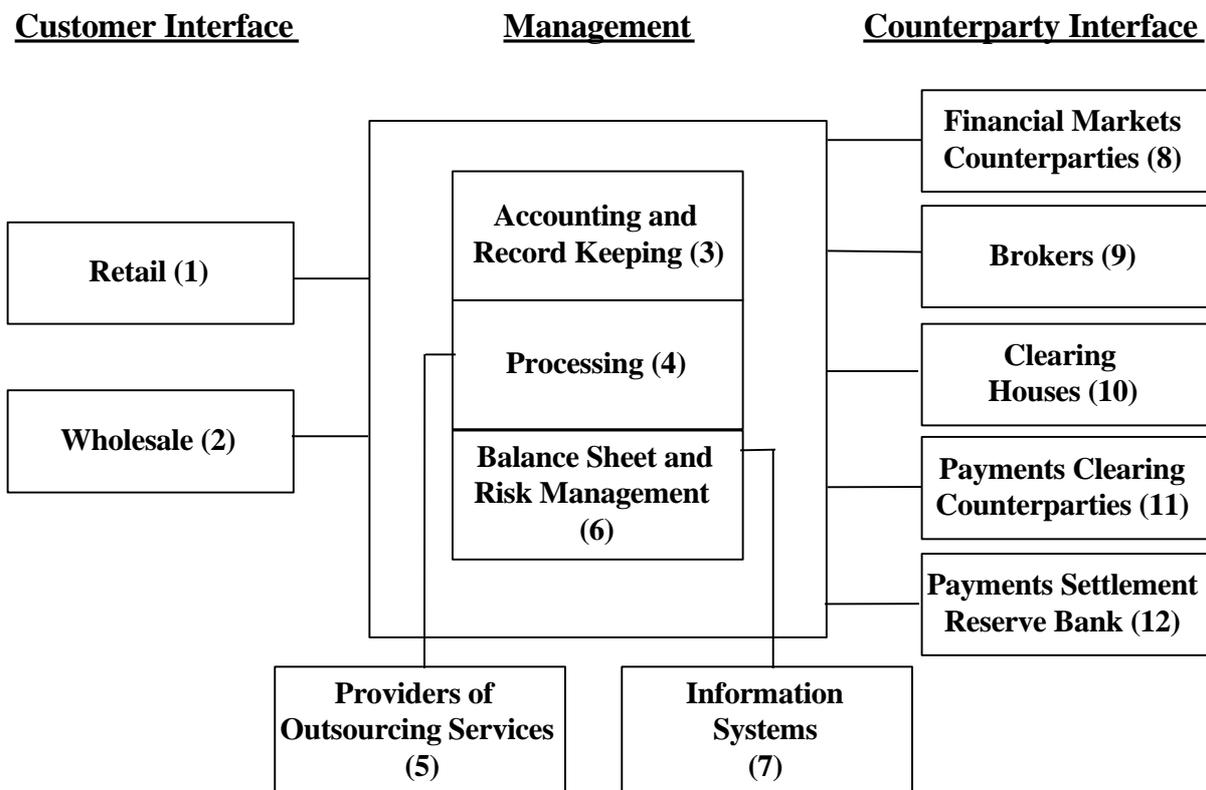
41. Diagram 4 illustrates the major functions and business relationships of financial intermediaries.

#### (a) Customer interface

42. The customer interface is the most visible aspect of a financial intermediary. In the past, customers of intermediaries such as banks, building societies and credit unions dealt with them principally through their offices and branches. Retail customers (refer (1) on Diagram 4) had to visit branches to apply for loans, make deposits and withdraw cash. The interface with wholesale customers (2) was little different.

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<sup>6</sup> In discussing financial innovations this Chapter necessarily draws on examples of particular commercial applications. These are illustrative, not exhaustive.

**Diagram 4****Business Functions: Financial Intermediaries**

43. Technology is changing this interface between intermediaries and their customers. Traditional bank branch networks are shrinking, replaced by electronic access points through the telephone, mobile lenders with laptop computers and modems, and ATMs and EFTPOS terminals located away from bank branches. Where branches remain, they are being radically transformed. Rather than waiting for personal service, customers will make transactions and access information through terminals, and sales staff will sell a wide range of services with the aid of technology-assisted information systems. Some loans will be approved using electronic pointscoreing.

44. Retail customers are beginning to use home banking and the Internet. Most Australian banks have Internet home pages, and some are providing interactive services which, inter alia, allow customers to compare loan repayment options. Software and communication suppliers, such as Intuit (with Quicken) and Microsoft (with Money), together with their Internet access facilities and browser software, provide another means by which banks and customers communicate.

45. These innovations are weakening the direct relationships between banks and their customers - posing marketing challenges to banks. But consumers benefit through wider choice and lower costs of searching and of switching between service providers.

46. Both retail and wholesale customers can also access a rapidly widening range of remote electronic payments facilities. Direct credits to accounts have already largely replaced cash payrolls and pay cheques. During 1997 Australians will be able to buy mobile telephones that will allow them to download funds from their bank accounts onto reloadable stored-value cards (SVCs) at any time. "Cash" will be available over the telephone. Cardholders will be able to transfer the value on a card to a merchant or to another card.

47. Two general features are notable about these innovations. The first is that change relates mainly to how financial services are delivered to customers. The basic nature of the financial services themselves is not much altered, although a wider array of options has become available.

48. The second feature is that these innovations are being exploited by all players. Internationally, the major Australian banks are near the forefront in retail banking innovation. Yet, in some areas the smaller Australian banks and non-bank institutions have been quicker to adopt new technology.

#### **(b) Management**

49. The second panel of Diagram 4 shows the main management functions involved in the running of a financial intermediary.

50. Intermediation requires the maintenance of extensive records of transactions and elaborate *accounting* systems (3). This work used to be very labour intensive, and dispersed, with records kept by hand and systems paper-based. As a result of advances in data processing technology these functions are now automated and, increasingly, being kept in "real time" in central locations.

51. As well as maintaining formal records of transactions to accounts, financial intermediaries must have extensive *processing* systems (4). These tasks were also largely manual only a few years ago, but most are now largely automated. Many intermediaries, especially smaller ones, have been able to achieve further savings by *outsourcing* (5) routine processing to industry co-operatives or independent specialist service providers who can exploit scale economies. Foreign-owned banks draw on the resources of their parent bank using real-time communications links. Common examples of outsourcing are the processing of cheques and foreign exchange transactions.

52. *Balance sheet and risk management* (6) is critical for all financial intermediaries, which need to deal with many risks - credit, market, maturity, liquidity, operational, legal and so on. Technology has provided the tools for financial institutions to develop complex risk management systems and products, including derivatives. The mathematics underlying these products is not new, but modern computing power and information services have facilitated their pricing and management. Balance sheet risk management is also being assisted

by wider use of securitisation. However, the future growth of securitisation will depend more on the evolution of markets than on technological innovation.

53. Risk management depends crucially on access to real-time *information* flows (7) through widely available services such as Reuters, Telerate and Bloomberg.

**(c) Relationships with professional counterparties**

54. The third panel of Diagram 4 shows financial intermediaries' relationships with their counterparties, the other financial institutions with which they deal. Technology has had major impacts on both the efficiency and security of these relationships, which are outlined in the following paragraphs.

55. Intermediaries dealing in *financial markets* (8) depend on a number of specialised communication and support systems to confirm and settle their trades. Most foreign exchange (and some domestic securities) trades are confirmed and settled on the basis of messages sent over the SWIFT network which links financial institutions around the world. This system has replaced less secure and less reliable telephone and telex linkages. Most developed financial markets have also seen the benefits of technology in the form of centralised electronic securities depositories. In Australia these systems include Austraclear (for public and private sector debt securities), CHES (for equities) and RITS (for Commonwealth Government securities). They have accommodated marked increases in trading volumes and are allowing the introduction of delivery-versus-payment in some markets.

56. *Brokers* (9) are frequently used by intermediaries for traded financial products, such as foreign exchange. New communications technology has increased the efficiency of brokered transactions, while also providing information directly to counterparties and thereby allowing the by-passing of brokers. Consequently, broking has become more competitive.

57. *Clearing houses* (10) are central locations/mechanisms through which intermediaries exchange financial obligations. Traders of many financial instruments use the trading, clearing and settlement services of clearing houses such as the Sydney Futures Exchange. Foreign exchange traders are making increasing use of netting schemes operated by specialised clearing houses in Europe and North America (such as FXNet, ECHO and Multinet) to reduce their settlement exposures. These clearing houses have extensive data processing facilities, and they monitor the positions of clients in real time to ensure close control of exposures.

58. In *payments clearing systems* (11), direct computer-to-computer links are replacing the physical exchange of paper or magnetic tapes. Meanwhile, *central banks* (12) in many countries, including Australia, are drawing on advances in communication and data processing to introduce real-time gross

settlement to reduce risk in payments systems. Such changes in clearing and settling are discussed in the following section.

### **Innovations in the Payments System**

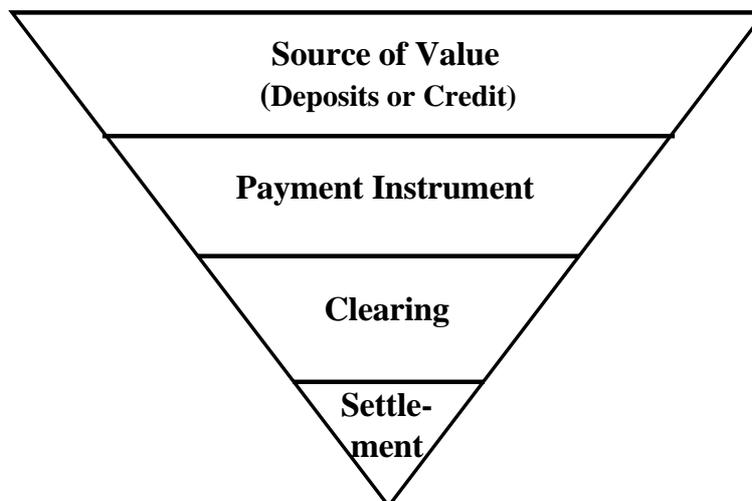
59. It is on the payments system that changes in technology and communications have had the greatest impact. This has been most visible at the retail level, but it is more widespread than that.

#### **(a) The components of payments services**

60. To appreciate where regulations are relevant, and where risks to customers, institutions and the financial system may arise, it is necessary to separate the payments process into its main components. A “start-to-finish payments service” comprises a set of quite separable, but linked, elements. As illustrated in Diagram 5, these are:

- maintenance of a transaction account which acts as a *source of value* for a payer wishing to transfer funds to a beneficiary - such accounts can either hold deposit balances, or may provide credit to a customer;
- issue of a *payment instrument* which a payer uses to instruct a financial institution to access a nominated account (or other source of value) and transfer funds to the beneficiary;
- the *clearing*, or exchange, of payment instructions between financial institutions acting on behalf of the payer and the beneficiary; and
- *settlement* of the obligations generated between financial institutions as a result of clearing their customers’ payment instructions.

**Diagram 5: Payments System Components**



**(b) Innovation**

61. Prior to 1970, cheques accounted for almost all of the number and value of non-cash payments. Because legislation limited cheque issuance to banks, they had a virtual monopoly in the payments system. Other institutions, such as building societies, credit unions and merchant banks, offered “store of value” facilities (savings or investment accounts) but their inability to link a widely-accepted payment instrument to such accounts meant they could not readily compete for transaction business.

62. There were some early examples of non-banks competing for payments business, such as the issuance of charge cards by American Express and Diners Club and credit cards by retail stores, but these accounted for a very small proportion of non-cash payments.

63. Over the past two decades, however, the range of instruments and participants in the payments system has expanded dramatically and competition has become much more intense. This has been largely due to technological innovation. Examples of change include *new payment instruments* beginning with Bankcard in 1974, then debit cards and direct entry in the late 1970s, MasterCard in 1979, and Visa in 1981. The past 20 years have also seen developments in authentication and information-capturing devices, such as ATM and EFTPOS terminals, which require heavy investment in technology. The latest innovations are stored-value cards (SVCs), based on advances in computer chip technology, and electronic payment tokens for use on the Internet, based on new communication and encryption technology.

64. Technological change has also permitted *more efficient processing* of both cheques and new payment instruments. For example, the introduction of Magnetic Ink Character Recognition (MICR) lines on cheques allowed both the sorting and the posting of cheque transactions to customer accounts to be automated. Elaborate communication and processing technology is essential for switching (real-time transfer of instructions between banks) and authorisation of credit and debit card transactions both within and outside Australia. During the 1970s and 1980s institutions also began to outsource the processing and clearing of payments to industry-owned companies in pursuit of economies of scale. Examples included the Central Magnetic Tape Exchange (CEMTEX), set up by banks in the 1970s to process their direct entry payments, and CashCard (initially set up by permanent building societies) to process direct entry, ATM and EFTPOS exchanges. A number of independent service providers such as First Data Resources (FDR) also provide extensive switching and processing facilities for ATM and EFTPOS networks.

65. Competition from *non-bank financial institutions* has increased in several segments of the payments system. Since 1986 building societies and credit unions have been able to offer cheque facilities through agency arrangements with banks and to issue payment orders. They are also active with

newer payment instruments such as direct entry (which, inter alia, allows customers to have their salary paid directly into any financial institution). Technology-dependent enhancements to credit and debit cards have allowed non-bank financial institutions to link payment services to their customers' transaction accounts.

66. *Software and communications suppliers* such as Intuit, Microsoft and Telstra are now providing alternative ways of initiating payments using the instruments issued by financial institutions. Telstra, for example, is planning to offer a system for use by merchants on Internet Web sites. This would offer choices in the form of a menu - e.g. National Australia Bank Visa Card, Westpac MasterCard, Commonwealth Bank KeyCard - and provide switching, authorisation and processing facilities between merchants and the acquiring and issuing institutions.

67. It is worth noting that, while innovation has produced a more efficient and diverse payments system, the basic elements of providing a store of value, issuing instructions and clearing and settling have not been changed in any fundamental way.

## Regulation and Innovation

### (a) Financial intermediation

68. This section looks at how regulations bear on innovation in the activities described in Diagram 4.

69. By and large, there are few regulatory restrictions on the application of new technology and other innovations to financial intermediation. For example, the main constraints on institutions' relationships with *wholesale customers* ((2) in Diagram 4) are the Corporations Law and the Trade Practices Act which cover market conduct and like matters which apply to all corporations. The output of *accounting systems* (3) must conform with accounting standards, but there are no constraints on the technology which firms may use to maintain records and generate accounting reports. Similarly, there are no limitations on institutions' ability to *outsource* (5) processing such as payroll, account maintenance or product delivery systems. (Prudential supervision does, however, restrict the outsourcing of strategic decision-making and risk controls which would dilute managerial responsibility and accountability.) The market for electronic *information services* (7) is not specifically regulated, with competition being the main discipline on service quality. Information systems and communications have revolutionised *broking* (9). Industry practice determines standards of behaviour. Since it does not involve risk (apart from fraud or similar improper practices), broking between financial intermediaries is not subject to any prudential regulation.

70. Innovations, including new technology, can help intermediaries to *manage their risks* (6). For example, technology supplies the tools by which managers aggregate interest rate risk, measure open positions on foreign exchange business, hedge the risk on an options book and perform scenario analysis on carrying existing risk into the future. As noted above, securitisation will help intermediaries to manage their balance sheet positions and their liquidity.

71. Such innovations have not, of course, removed risks from intermediation and in inexperienced or imprudent hands they may actually lead to greater risk. Prudential supervision aims to help management contain the various risks in financing and has had to take into account the new risk-management technology. Banks and other supervised institutions need to assure supervisors that they are capable of handling the more sophisticated risk management products and that their systems are appropriate to the risks in their business. Within wide limits, however, financial institutions can use the risk-management technology they judge best-suited to their activities. And the use of techniques such as securitisation is not restricted, as long as capital is held against residual risk.

72. In the wide range of counterparty relationships which intermediaries have in *financial markets* (8) the terms are usually determined by market convention. There are licensing requirements for foreign exchange dealers, but these do not prescribe the way in which business between counterparties should be carried out. This is a matter for participants themselves to decide; in the foreign exchange market, practice is codified in the ACI Code of Conduct. In securities markets, the development of industry standard contracts such as AFMA ISDA Standard Documentation for instruments such as swaps, foreign exchange, options and repos has formalised the basis on which most counterparties deal, but they may agree to different terms.

73. *Clearing houses* (10) for financial instruments are typically owned and controlled by their members. In some cases they have explicit legislative backing, but this is usually limited to ensuring the enforceability of contracts they have with their members. Detailed regulations, including admission criteria and ongoing performance requirements, are usually set by the clearing house itself, under the oversight of the competition authorities such as the ACCC. Particularly where clearing houses are central counterparties to all transactions, rather than simply scorekeepers, they need to establish rules and procedures to manage their exposures. They are increasingly using sophisticated communications and processing systems for this purpose.

74. Prudential supervisors have been keen to ensure that participants in clearing systems understand the exposures they are undertaking and that these have a sound legal basis. The efforts of relevant central banks (including the RBA) and the developers of the foreign exchange netting schemes, ECHO in London and Multinet in New York, to see that they meet internationally-accepted prudential standards, is a good example of co-operation between regulators and

market participants in ensuring that the introduction of new technology and associated business practices occurs on a sound basis.

75. Regulations probably have the greatest influence on relationships between financial intermediaries and their *retail customers* (1). In addition to the Trade Practices Act, the new Credit Code imposes extensive obligations on credit providers, particularly for disclosure and documentation. Such requirements might prevent lenders establishing purely electronic links with retail customers. Industry codes such as the Code of Banking Practice, the Electronic Funds Transfer Code and the Australian Payments System Council's Security Guidelines might also constrain institutions' options in introducing some new technology. (Certainly, institutions argue that the Code of Banking Practice has increased costs unnecessarily.) Some aspects of these "regulations" may be worthy of liberalisation in the interests of both suppliers and users of retail financial services.

**(b) The payments system**

76. As noted earlier, the payments system has become much more diverse and competitive in the past decade or so. This is notwithstanding the fact that restrictions of various kinds impinge on participation at some levels of the payments system. These include legislation, central bank and government policy, formal and informal industry agreements and codes of conduct. The following discussion of these restrictions draws on the schema of Diagram 5.

**(c) Source of value**

77. Payments can be made using the payer's own source of value - usually deposits to accounts designed for transaction purposes - or by using credit, typically provided by a third party.

***Deposits***

78. The regulations governing institutions' ability to accept deposits are:

- the Corporations Law, which requires institutions other than banks, building societies and credit unions to issue a prospectus when seeking to accept deposits from the general public;
- prudential supervision requirements of the RBA (for banks) and the AFIC framework (for building societies and credit unions); and
- consumer protection provisions in the Trade Practices Act, which apply to all corporations, and the industry codes of conduct for banks, building societies and credit unions.

79. Bank deposits remain the principal source of value for most retail and commercial payments, although accounts with credit unions and building

societies are also important. Banks are supervised by the RBA, while building societies and credit unions are subject to a national supervisory scheme, broadly based on that covering banks. That scheme's effectiveness is one reason for the Government's recent decision to amend the Cheques and Payment Orders Act so building societies and credit unions may issue cheques in their own right.

80. The Corporations Law provisions make it difficult for other institutions to compete for retail deposits. They may, however, offer deposit-based transaction facilities *in conjunction with* a bank (or building society or credit union). Longstanding examples include cash management trusts with linkages to bank accounts. Recently, a financial subsidiary of AMP began offering its customers deposits in conjunction with a bank, although no transaction services are currently attached. In the UK, supermarket chain Tesco offers deposit and payment facilities to customers, but in conjunction with a bank with which the customer and Tesco have contractual relationships; the supermarket Sainsburys plans to do likewise, but using a bank which it would part own with an existing bank. Similarly, in the US several money market funds, such as Merrill Lynch and Charles Schwab, offer cheque and credit card facilities which are ultimately provided by a bank.

81. Australia's current arrangements mean that all firms wishing to accept conventional deposits *in their own right* must meet similar prudential standards, and consequently compete on a broadly comparable footing. Decisions about the appropriate regulatory regime for deposit-takers (including the extent and type of protection given to depositors) are important for the shape of the payments system but, of course, involve considerations which are much broader than that.

### *Stored-value cards (SVCs) and electronic money (emoney)*

82. SVCs and e-money tokens used on the Internet generate deposit-like claims on their issuers. These schemes are mostly still at the embryonic stage, and regulators have generally decided that regulation should not pre-empt their development. Some countries propose that these instruments will be issued only by supervised deposit-taking institutions, while others have chosen not to restrict who may issue them. In Australia, there are no specific legal restrictions, nor industry standards, to be met by potential issuers.

83. Developers and issuers have taken advantage of the relatively open environment in Australia and there are currently four SVC trials here - two where cards are issued by banks, and two where cards are issued by non-financial corporations. In addition, Advance Bank has announced plans to issue Digicash e-money for use on the Internet. A small non-financial corporation, Cybank, is issuing its own e-money for limited purposes

84. It should be noted that, despite the curiosity and excitement they tend to generate, SVCs and Internet tokens are fundamentally no different from travellers

cheques which have been issued by banks and non-banks for many years. They are a “portable transaction account” whose acceptance will depend a good deal on the confidence which purchasers and merchants have in the issuers.

85. There is a widespread misconception that the developers and promoters of these schemes will also be the issuers. In fact, the non-bank promoters of the best known examples - Mondex, Digicash and CyberCash - do not plan to be issuers in Australia. These corporations are offering relationships with banks, similar to those of Visa and MasterCard, neither of which issues cards in its own right. The financial institutions which are members of these schemes are the issuers, having financial relationships with cardholders and merchants accepting the cards. With the proposed Australian Mondex operation, it is envisaged that the store of value would be held with a special purpose bank but the cardholder’s direct relationship would be with the issuing bank. Similar distinctions and considerations apply to the issue of electronic tokens for use on the Internet. The issue of Digicash tokens by Advance Bank is analogous to the issue of a Mondex SVC by Westpac. The issuer is a bank, not a system software or hardware supplier, and the token-holder’s exposure is to the bank, just as with an ordinary deposit.

86. In contrast, with SVCs issued by Transcard and Quicklink, the cardholder has an exposure to a non-financial, unsupervised organisation. Similarly, the purchase of a Cybank Internet token leaves the holder exposed to an unsupervised organisation.

87. Whether the authorities should, at some point, restrict the issue of SVCs or e-money depends on the likely consequences of the failure of an unsupervised issuer. Should this happen, holders of its cards or tokens could suffer losses but, in total and individually, they are likely to be relatively small. As the various SVC schemes are currently designed (with interest not being paid on balances held), it seems likely that consumers will hold the bulk of their balances in conventional interest-bearing deposit accounts with financial institutions, downloading relatively small amounts to SVCs as needed. That likelihood is reinforced by the ease with which it will be possible to download funds (including over specially-equipped telephones), and by the fact that there will be no reimbursement for lost cards. Similar considerations apply to the various electronic money schemes.

88. The failure of an unsupervised issuer could also harm the commercial viability of other schemes, at least in the short run, but such adverse confidence effects for supervised financial institutions issuing stored-value cards would probably be very slight.

89. These considerations suggest the need for some consumer protection in the form of standards for disclosure of the identity and credentials of stored-value issuers, so that potential holders can choose between alternative issuers. But there seems to be little case for restricting SVC issue to supervised entities.

90. In the case of Internet tokens, Australian holders could face difficulty redeeming tokens issued abroad, whether or not the issuer were a supervised institution. Similar considerations already face Australian residents who conduct accounts with financial institutions located overseas. Increased Internet access will provide opportunities for more consumers, including many with little exposure to the variety of international banking regulations and practices. Again, the question is one of consumer protection. Holders of tokens issued abroad need to be aware of the exposures they are undertaking and the associated redemption risk; it is very rare for countries to extend deposit insurance or other protection beyond their borders and it is far from clear that these would, anyway, apply to claims from holders of SVC balances or electronic tokens. The failure of a foreign issuer of such tokens seems unlikely in itself to have a systemic effect on Australian issuers, although it might damage general perceptions of tokens as a reliable payment instrument.

### ***Credit***

91. The requirements on institutions providing credit as a source of value are:

- those applying to all credit providers under the Uniform Consumer Credit Code;
- the consumer protection provisions of the Trade Practices Act; and
- where relevant, the provisions of voluntary industry codes of conduct, such as the Code of Banking Practice.

These apply to providers of credit regardless of whether it is intended as a source of value for payments. As with deposits, there are no specific restrictions on offering credit in direct association with a payment instrument.

92. Where credit is the source of value for payments, cardholders do not incur exposures to card issuers, and questions analogous to those about deposit protection do not arise. (Issuers of credit cards in Australia include substantial non-supervised institutions such as GE Capital, and retailers.) Credit cards can, however, generate exposures for merchants and other institutions issuing cards and acquiring card transactions. These issues are discussed in the section on clearing.

### **(d) Instruments**

93. The issue of payment instruments is governed by:

- the Cheques and Payment Orders Act which currently limits the issuance of cheques to banks, but which is about to be extended to building societies and credit unions;

- scheme operators, such as Visa and MasterCard (and potentially Mondex and Digicash), which impose entry requirements on institutions wishing to join their schemes and issue instruments carrying their logos; and
- the expectation of Governments and others that issuers will voluntarily conform to industry codes of conduct, such as the EFT Code, and other technical standards.

94. The Cheques and Payment Orders Act codified long-standing legislation and case law on the issue of cheques. There is no specific legislation governing non-cheque payment instruments. These have not, of course, developed in a legal vacuum, but have been based on enforceable contractual agreements, designed to meet business needs and adapted to the underlying technology. This approach needs to be complemented by appropriate disclosure standards if competition among institutions and instruments is to be effective. Otherwise, specific legislation should remain unnecessary, except possibly to give clarity to the efficacy of digital signatures. If this is deemed to be required, legislation should not be tied to any particular technology, but merely give clarity to parties' ability to contract on an agreed basis.

95. Payment instruments have traditionally provided a personal link between banks and their customers. For instance, banks issue cheque books and ATM cards directly to account holders. As discussed earlier, remote computer banking and the use of the Internet for commerce and payments are now interposing other organisations between banks and customers. They are also loosening banks' control over the design and operation of some newer payment instruments and the means of issuing payment instructions. As an example, when home banking and remote commercial banking were first introduced, banks provided their own software and communication facilities to customers, who could use them to communicate only with one bank. More recently, Intuit and Microsoft have provided comprehensive financial management facilities as well as communication interfaces that have the potential to be used at any bank. This has dramatically shifted competitive balances: banks must now build interfaces to products sold by PC software developers if they want to attract customers; customers can choose to shift between banks without having to change their software or business practices; and other banks can provide remote access to customers without having to develop their own software.

96. Although consumers will need previously established relationships with banks and to be registered with Telstra to use its proposed Internet facility described earlier, Telstra's system should also increase competition in payments by widening customers' options at the Internet point of sale.

97. These innovations have increased contestability in the supply of payment instruments, and their delivery to customers, by changing the way in which customers issue payment instructions to their financial institutions. But they raise no new prudential issues of any significance, since the underlying payment

instruments and the process of issuing an instruction to debit one account and credit another is unaltered.

98. Should Telstra, Australia Post or computer software organisations wish also to provide store of value facilities in the form of credit and link them to their own payment instruments, they would be able to do so, subject to compliance with credit laws. However, as discussed above, if they wished to offer payments linked to deposits, these would need to be offered either through an agent bank (or a building society or credit union), or by seeking to acquire or form a bank which would be covered by the same prudential standards as other deposit-takers. It is likely that partnerships with existing financial institutions - which allow companies to concentrate on their own fields of expertise - will be the more commercially attractive arrangement.

**(e) Clearing**

99. Clearing involves a range of transportation, processing and accounting operations. Issuers of payment instruments may use an agent to clear for them, or they may clear in their own right. Generally speaking, only institutions with high volumes of transactions will find it attractive to do the latter.

100. Restrictions on participation in the clearing of payment instructions include:

- provisions of the Cheques and Payment Orders Act which impose procedural requirements, but do not restrict which organisations can provide the physical processes for clearing cheques;
- regulations and procedures specified by the Australian Payments Clearing Association (APCA), which set a range of requirements for the clearing of payment instruments (including entry fees), but do not specify which organisations may undertake this business; and
- trade practices requirements, which can mean that some clearing arrangements need ACCC authorisation.

101. There are two key competitive issues. The first is the ability of new issuers of payment instruments to access existing arrangements to clear transactions. There is a need to balance the desire of existing participants to protect their investment in clearing networks and to exercise their own judgments about risk management, against the benefits to the community of greater competition from new providers. The nature of such judgments will always make them difficult. Prospective members will generally argue that the entry hurdles are excessive, while existing members will be inclined to overestimate the value of their investment and perhaps to exaggerate risk concerns.

102. Risk management questions relate to the ability of paying institutions to settle their obligations with receiving institutions. Under the rules of some clearing systems (such as the international credit card schemes), participants have to accept instruments of all members without question. Existing participants, therefore, have a legitimate interest in the standing of new issuers with whom they would be obliged to clear, because they are taking on a credit exposure in so doing. There is therefore a case for industry to require new participants in clearing systems to meet minimum prudential standards, but it is important to guard against the use of such standards to exclude new competitors unreasonably. For these reasons APCA seeks ACCC approval of its clearing system regulations and procedures. The RBA has taken the view that these regulations and procedures should be publicly available unless this would threaten the security of clearing arrangements.

103. The second competitive issue relates to the ability of third parties to offer clearing services to issuers of payment instruments. There are no regulatory restrictions on such activities, with decisions based purely on commercial calculations. Increasingly, the trend is towards outsourcing clearing to specialised operators like Austrapay, CashCard and FDR who can achieve economies of scale.

#### **(f) Settlement**

104. Ultimate settlement among intermediaries gives rise to a role for central banks (including the RBA) which provide settlement accounts to extinguish the obligations generated from the clearing of payments. It is in the interest of financial system stability that institutions are able to do so using a means that eliminates settlement risk and does not allow it to accrue. Central banks are uniquely suited for this role. Deposits (in the domestic currency) with the central bank are riskless; a deposit with any other financial institution carries an element of credit risk. Only the central bank can ensure that the system as a whole is capable of finalising settlement obligations, because only it can meet the liquidity needs of the system at all times and provide “lender of last resort” facilities to individual institutions.

105. In Australia, net settlement obligations arising from the previous day’s clearings are extinguished across Exchange Settlement Accounts (ESAs) at the start of each business day. A major project is under way to move high-value electronic payments to a real-time gross settlement (RTGS) basis, by which payments would be settled across ESAs as they occur. Such systems require substantial communication and real-time processing capacity if they are to reduce settlement risks without unduly compromising the efficiency of the system.

106. In Australia ESAs have automatically been provided to all new banks.<sup>7</sup> In 1994 the RBA opened settlement accounts for Special Service Providers (SSPs) to operate on behalf of the building society and credit union industries. This decision reflected two factors - the volume of customer payments business being done by building societies and credit unions, and the improved prudential supervision arrangements to which they had become subject under AFIC.

107. The prudential standing of ESA holders is important because the central bank can be exposed to settlement risk by conducting such accounts; the extent of this risk depends on the design of the settlement system and the terms on which accounts are operated. Under deferred net settlement systems, the central bank must bear in mind the potentially disruptive consequences to the financial system of an ESA holder's inability to meet its settlement obligations to others. In such circumstances, the central bank could refuse to accept any responsibility for the settlement and simply require the private sector participants to resolve the difficulty. This could, of course, precipitate the unwinding of a whole day's transactions with a high probability of disruption and possible instability. At the other extreme, the central bank could allow settlement to proceed by extending credit to the participant which cannot settle. Either way, there is a risk that the central bank would end up with a credit exposure to an ESA holder.

108. It has been argued that the planned introduction of RTGS should allow the RBA to give ESAs to a wider range of institutions, presumably on the basis that it would no longer be at risk of credit exposure to participants. It is certainly true that such exposures cannot arise with accounts conducted on a strictly prefunded RTGS basis (as is planned for Australia). The considerations described in the previous paragraph would, however, still apply if the ESA holder were a participant in the retail clearing streams which will continue to settle as they do now.

109. A distinction also needs to be made between the RBA's providing settlement facilities to commercial providers of payment services (as it does now) and offering such facilities to other organisations which are principally *users* of payments services. For the RBA to provide ESAs to commercial organisations which were not in the business of clearing and settling third party (customer) payments would take it well beyond its role as ultimate settlement facilitator, and into competition with the banks and other suppliers of payment services. The RBA does not believe this would be an appropriate role; nor has it been asked to make ESAs more widely available for this purpose.

110. When considering future requests for ESAs, the RBA would look closely at whether the institution concerned was a significant provider of payments

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<sup>7</sup> Not all banks have significant customer payments business, but they need ESAs for direct transactions with the RBA. Until the RBA discontinued its trading relationships with authorised dealers in the short-term money market in 1996, these had ESAs for similar purposes.

services. It would also assess the extent to which the institution could cause the RBA to take on potential credit exposures indirectly on behalf of taxpayers.

### **Conclusion**

111. Innovation, including the use of new technology, is continuing apace in the Australian financial system - particularly in payments. This is making for a more efficient and competitive system.

112. There is no evidence that regulation, including the various restrictions directed at prudent risk management, is inhibiting this process in any significant way. New entrants, either financial institutions or specialist suppliers of computer software and communications services, are major contributors to the innovation and are leading the way in some areas.



### 3. PROTECTION OF DEPOSITORS

#### Introduction

113. A number of submissions to the Inquiry made reference to the current arrangements for depositor protection in Australia, as did the Financial System Inquiry Discussion Paper in Chapter 8, where it canvassed some alternative arrangements. This Chapter attempts to review these issues, and to discuss several different ways of overcoming perceived deficiencies in the present arrangements.

114. Depositor protection can take many forms, including a formal government guarantee of depositors, a general statement of intent to protect the interests of depositors, or an explicit system of insurance for deposits. All these arrangements have two basic motivations:

- a system stability motive. By increasing confidence in the institutions offering deposits, the likelihood of destabilising “bank runs” is eliminated or reduced.
- a consumer protection motive. A “safe haven” is provided for the small and financially unsophisticated saver.

115. All major developed countries have some form of depositor protection because they believe it contributes to a better financial system and hence a stronger economy. Alan Greenspan (1996) puts forward the standard view when he says “since the safety net makes bank creditors feel safer, the banking system is larger, more stable, and more able to take risk and extend more credit than otherwise would be the case. In the process, banks have contributed significantly to the economic growth of the nation, and continue to do so.” But depositor protection also has some drawbacks, so the judgment in its favour is an “on balance” one. The following sections discuss the drawbacks insofar as they relate to the present Australian system, then later sections discuss alternative ways of overcoming them.

#### The Australian System

116. In terms of the three classifications contained in paragraph 114, the Australian system of depositor protection could best be described as a general statement of intent to protect the interests of depositors. It was embodied in the Banking Act of 1945 and has therefore been in operation for 50 years. Its intellectual origin can be found in the 1937 Report of the Royal Commission into Monetary and Banking Systems in Australia, which stressed the financial system stability aspect of depositor protection rather than the consumer protection

aspect. The key part of the Act says that the RBA must “exercise its powers and functions for the protection of depositors of the several banks” and, in accordance with this, provides the RBA with powers to handle a bank that may not be able to meet its obligations.

117. There are two main criticisms that have been levelled at the Australian approach to depositor protection. The first is that it is unclear or, in modern parlance, lacks transparency. The greatest uncertainty is whether there is an obligation for the RBA to protect the full amount of deposits, or merely to give depositors preference over other creditors and so maximise the proportion of the original face value they receive. It is also unclear on what constitutes a deposit. Critics of the Act point out that its lack of clarity tends to give people the impression that it is a broad guarantee, although in the RBA’s view it is not. We believe that the history of the Act supports our view, but others might think differently. The RBA has been one of the main critics of the imprecision of the Act, and has attempted many times to set the record straight. Former Governor R.A. Johnston spoke of the RBA as being “guardian not the guarantor”, and stated that: “the legislation is less than a guarantee to depositors of full repayment ... nor does it specify how the parties would emerge in the event of winding up” (Johnston (1985)). A similar point was made by current Deputy Governor G.J. Thompson who recently said that it is “important to change the common perception that RBA supervision is an absolute guarantee against institutional failure. One useful step to this end would be to recast the Banking Act, removing the widely misunderstood references to depositor protection and restating the RBA’s dual responsibilities as prudential supervision (to reduce the likelihood of institutional failure) and crisis management (in the event that a failure occurred). The provision for deposits to have first claim on assets in Australia would be retained.” (Thompson (1996)).

118. The second criticism is that depositor protection, as it is understood by most people, amounts to an implicit publicly funded insurance policy for bank depositors. This leaves the RBA, and hence the Government, exposed to significant but undefined losses should a bank (or banks) fail and not have sufficient residual assets to pay out depositors. The existence of this implicit insurance sets up a moral hazard in that it encourages depositors to ignore risk (i.e. chase the highest interest rate regardless of risk) and bank management to take excessive risks in lending (in order to be able to offer the highest interest rates). This moral hazard could, in extremis, induce the very instability that depositor protection was intended to avoid.

119. The problems associated with depositor protection, namely the possible cost to the taxpayer, and the moral hazard effects on behaviour, are ones with which every country has had to grapple over the past century. There are a number of possible responses and the rest of this paper will discuss the merits of three approaches:

- (a) eliminate depositor protection entirely;
- (b) clarify the existing arrangements;
- (c) move to a formal system of deposit insurance.

### **The Elimination of Depositor Protection**

120. This solution would involve removing any reference to depositor protection from the Act, and taking whatever other steps were necessary to convince the public that the Government was not guaranteeing their deposits. The other steps would include getting rid of prudential supervision, and undertaking a public education program to show that the Government did not stand behind deposits.

121. To the best of our knowledge, this approach has not been followed by any major country. There are two main reasons for this:

- Regardless of what the Government says, it is difficult to convince the public that it will not step in and protect depositors in the event of a bank failure. While a government might be able to hold the line in the case of a small individual bank failure (and even this is not certain), failures do not tend to be isolated events - they come in waves, usually when asset prices are falling and the economy is in recession. It is hard to believe that, at such times, democratically elected governments will (or should) stand by and watch a large number of citizens (and voters) lose money they thought was relatively safe. This inability of governments to “credibly pre-commit” means that they probably cannot remove the perception of depositor protection even if they want to.
- Even if the above problem was overcome, there would be serious doubts about the nature of the resulting financial system. Not only would depositors be much more wary, banks would have to be more heavily capitalised and would be much more risk averse in their lending. Thus, the banking sector would be smaller, higher cost, more cautious and contribute less to economic growth (the opposite situation to the one Greenspan was describing in paragraph 115). In addition, there would be an anti-competitive element as depositors would move from small banks to large ones, the public assuming that the latter were “too big to fail”.

122. Thus, getting rid of depositor protection, even if it was possible, would probably be undesirable: it would amount to “throwing out the baby with the bathwater”. For this reason, it has not been seen as a realistic or desirable alternative, even by those who are critical of some aspects of existing systems of depositor protection. It should also be noted that getting rid of depositor protection, while retaining prudential supervision of banks, would achieve little,

because the perception that the Government was looking after such deposits and was “responsible” for them would remain.<sup>8</sup>

### **Clarifying the Existing Arrangements**

123. The Australian system of depositor protection has operated essentially unchanged for over 50 years, and it would be difficult to argue that it would not benefit from a review.<sup>9</sup> In many ways, it has been quite successful but, on the other hand, it has not been put to a major test. The following section attempts to set out its strong points and its weak points.

#### **(a) Arguments for the existing system**

124. The biggest argument in favour of the existing system is that it has resulted in the public having a high degree of confidence in the banking system, but has not cost the taxpayer any money since the RBA or Government have not had to bail out depositors.<sup>10</sup> In that sense, it has been a very cheap system.

125. A good system of depositor protection should provide a high degree of confidence in the banking sector, but not absolute unquestioned faith in every bank, i.e. there should be bit of scepticism remaining. There is some evidence that the Australian system retains some scepticism in that there have been three “manageable” runs on banks in the past decade. In each case, the run was stopped by an RBA Press Release pointing out that the bank was sound. It has to be conceded, however, that each bank was a relatively small one that had recently transformed from being a permanent building society. The public’s faith in the larger longer-standing institutions seems to be extremely high, although there is some discipline exerted on these banks by the professional or wholesale markets. When two major banks incurred losses in 1992, their ratings were reduced and they faced higher costs of attracting “wholesale” deposits and additional capital.

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<sup>8</sup> In New Zealand, there are no depositor protection arrangements in place but, under its Act, the Reserve Bank of New Zealand (RBNZ) carries responsibility for prudential supervision of the banking sector. This could make it difficult for the RBNZ or the New Zealand Government to deny involvement, and hence expose the Government to pressure to compensate depositors, notwithstanding the absence of formal protection arrangements. This is largely academic, however, since all but one bank operating in New Zealand is foreign owned. Foreign banks account for 99 per cent of bank deposits in New Zealand.

<sup>9</sup> The Campbell Committee devoted only two pages to this subject.

<sup>10</sup> The only occasion where a bank subject to the Banking Act (and hence its depositor protection provisions) was considered likely to become unable to meet its obligations was in 1979 when the Bank of Adelaide was absorbed into the ANZ Bank. In the early 1990s, two State banks - the State Bank of Victoria and the State Bank of South Australia - got into difficulties and had to be recapitalised at great cost by the State Governments that owned them. This, however, was a consequence of the State Governments owning the banks, not a result of them being the supervisor.

126. A third area where the present system stands up better than its critics would expect is in the area of moral hazard. There is little or no evidence to suggest that the institutions benefiting from depositor protection have behaved in a riskier fashion than other intermediaries. In well known overseas cases such as the US Savings & Loans (S&L) institutions, this certainly was the case, but in Australia the best known examples of irresponsibly risky lending were institutions outside the net of depositor protection.<sup>11</sup>

**(b) Arguments against the existing system**

127. Although the present system has not cost the taxpayer anything, its critics would say that it has not really been put to the test. For most of its life, the banks were so heavily regulated that they could not take much risk (the one bank that came to grief did so through an unregulated subsidiary). It has only been in the past dozen years that deregulation has allowed banks to take the sort of risks that could imperil their solvency, and in that time there have been some clear examples of excessive risk taking.

128. The other sense in which depositor protection has not been tested is that we do not know how the system would react politically or legally to a bank failure, even a small one. Would political pressures result in the Government promising to make up any shortfall in depositors' funds? Would aggrieved depositors be able to successfully sue for restitution by arguing that the Banking Act protected them? If this happened, would it mean that in future the Government would become an unlimited guarantor?

129. The problem is that although it has never been used, it is potentially open-ended. There is no scope for the system to protect depositors up to a point, and then have market discipline do the rest, or to protect one class of depositor (small retail) and let others protect themselves (large wholesale). This aspect will be discussed in more detail in the section on deposit insurance.

130. The final argument against the present system is that it bestows a benefit on banks without charging for it. Banks gain in their competition with other financial institutions because the public regards them as more secure. Normally, credit enhancement has to be paid for, but banks receive it without explicit charge because they are subject to the Banking Act. The banks might disagree with this assessment, pointing out that they also have the impost of supervision. It is a difficult task to weigh up the benefit of depositor protection and the cost of supervision. Most of the banks' competitors would regard the former as being

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<sup>11</sup> Although this should be qualified by admitting that the excesses of the two State banks were partly due to the fact that they were subject to a higher order of moral hazard - they were wholly owned by State Governments which unconditionally guaranteed all their liabilities (not just deposits).

the greater, particularly as the main cost of supervision - the minimum capital ratio - is no higher than the market now demands<sup>12</sup>

**(c) Clarification of the existing system**

131. A simple form of clarification (as mentioned in paragraph 117) would be to spell out more clearly the fact that depositors would be given first claim on assets in the event of a winding up, rather than paid out in full in all circumstances. This would involve changing Section 14(5)(a) of the Act which currently says:

the RBA “shall remain in control of, and continue to carry on the business of the bank until such time as the deposits with the bank have been repaid or the Reserve Bank is satisfied that suitable provision has been made for their repayment.”

132. This change would eliminate the open-ended nature of the existing depositor protection provisions. It could, however, be resisted by those who see it as a watering down of an existing protection. On the other hand, for those who worry about the Government bailing out depositors in a future financial crisis, the change would be seen as not going far enough. The Government would still be seen as supporting bank deposits through two policies - the new narrowly defined depositor protection and the existing prudential supervision of banks.

133. An alternative that gives a narrower obligation to Government would be to specify that all deposits up to a value of x thousand dollars were to be repaid in full and, beyond that, preference would be given to deposits but no percentage of recovery assured. Another alternative would be to confine full recovery to householders and small businesses. Both of these would have the advantage of protecting the “vulnerable”, but allowing the discipline of the market to work through the bigger and presumably more sophisticated players. The new system would clearly resemble deposit insurance in that there would be a strict definition of the risks covered. The major difference would be that it would be unfunded, with the Government picking up all of the bill in the event of a claim. This prompts the question of whether it would be better to go the extra step to a fully articulated system of deposit insurance. This is the subject of the next section.

**Deposit Insurance**

134. One unexpected feature of the submissions to the Inquiry is that, although many suggested major changes to the system of financial regulation,

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<sup>12</sup> The Non-Callable Deposit (NCD) arrangements involve the imposition of a tax on banks, currently amounting to around \$200 million annually. These arrangements have never had any prudential purpose and do not represent a charge or a payment for Reserve Bank prudential supervision.

almost none put forward a proposal for deposit insurance. This is surprising because the biggest single difference between the Australian system and those in other countries is our absence of deposit insurance. Among the 24 original OECD countries, only Australia and New Zealand do not have some form of deposit insurance.<sup>13</sup>

135. Deposit insurance is typically enacted by statute or other form of legally binding contract. It specifies the protection provided to deposit holders, the type of institution, the type of deposit and the level of coverage, whether the scheme is compulsory or voluntary, the nature of the funding arrangements and the mechanisms to be employed in the event of a bank failure. Different countries have developed different systems to suit their own needs, and no two are alike (although the European Union is attempting to harmonise minimum insurance coverage levels in all European systems).

136. It would be too time consuming here to go into details on all the possible combinations that are available. For present purposes, it would be sensible to have in mind a relatively conventional system that:

- is officially sponsored but with significant private sector involvement;
- applies to all deposits at banks or possibly all deposit-taking institutions;
- is subject to a cap set as low as possible consistent with credible protection of small depositors;
- is funded by banks through the payment of annual premiums, supported by irregular levies (subject to a cap) in the event of the depletion of the fund's reserves and access to Government (guaranteed) loans to cover any remaining deficiencies;
- is jointly administered by the RBA (as the banking supervisor), the Government and the banking sector, each of which would have representatives on a governing board.

**(a) Arguments for deposit insurance**

137. The first argument in its favour is that it draws a line between the insured sector - or safe haven - and the rest of the financial sector. It enables savers who place a high value on security to know with certainty where to place their funds. In this sense, it is a very transparent system.

138. While it protects the small saver completely, the cap means that larger depositors, and especially wholesale depositors, would have something at risk,

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<sup>13</sup> See Garcia (1996) and Kyei (1995) for summaries of international experience with deposit insurance.

and hence an incentive to pay attention to the soundness of the institution. Such a system would involve less moral hazard than a general guarantee of deposits, or any form of depositor protection that was interpreted by the public as a general guarantee.

139. Since it is funded by the industry, it means banks are paying for their credit enhancement rather than receiving it without explicit charge from the Government. This should contribute to competitive equity.

140. Another argument, frequently advanced in the United States, is that it is pro-competitive in that it helps the smaller banks compete against the larger ones, who would otherwise benefit from the perception of safety that derived from their size and reputation. This is certainly true when comparing deposit insurance against systems without depositor protection at all, or where the degree of protection was very narrow or uncertain. It is not true when the comparison is made against a system that contained a general guarantee of deposits.

141. The final argument in favour of deposit insurance is that it puts the central bank or government in a stronger position to resist claims on the public purse when an institution fails (and which has no systemic implications). If properly designed, the genuinely needy will be fully protected, and the others will have the terms of their contracts fulfilled. It thus makes it easier to draw the line than in a system where depositors were given narrower assurances (such as first call on assets in case of a winding up). In this latter case, there could be intense political pressure for a complete bail-out because many people might be unhappy with the final outcome, including some who were quite needy. Once a complete bail-out had occurred, even if applied to a small institution whose failure had no systemic implications, the pattern would be set for future failures.

#### **(b) Arguments against deposit insurance**

142. Deposit insurance is not favoured by those who wish to minimise moral hazard. Although, in principle, it should lead to less moral hazard than more general systems of depositor guarantee, if badly designed it may fail to do so. The most widely cited failure of a deposit insurance scheme was the US S&L industry. This was a classic case of moral hazard where insured depositors chased the highest interest rates, which were offered by the institutions making the riskiest loans. Eventually, so many S&Ls collapsed that the losses greatly exceeded the resources of the scheme and the Government had to make up the shortfall at great cost to the taxpayer.

143. This experience illustrates the two criticisms most often made of deposit insurance, namely that it can set up an excessive moral hazard, and that the Government may still be put in a position where it feels it has to bail out the scheme (often phrased as “who insures the insurer?”).

144. Defenders of deposit insurance would answer the first charge by pointing out that the S&L case is not representative of deposit insurance schemes in general. Apart from being badly designed (deposits, not depositors, were insured), there was serious corruption in its administration and widespread criminal activity in many S&Ls. At the same time that it was coming to grief, the parallel deposit insurance fund for banks administered by the Federal Deposit Insurance Corporation survived. The same was true of most schemes in other countries. The general point is that it should be possible to design and administer a scheme which produces less moral hazard than that produced by a general guarantee, or a loosely defined obligation to protect depositors.

145. On the second criticism, proponents of deposit insurance would have to concede that in the case of multiple failures, it is highly unlikely that any scheme would have enough resources to meet its obligations. The Government might, therefore, still have to consider coming to the rescue if systemic issues were at stake. This is another way of saying that deposit insurance cannot be expected to handle a financial crisis of systemic proportions. Deposit insurance is designed to handle individual bank failure, and to make a contribution towards system stability. But once a systemic crisis occurs, it would be of little help and central banks and governments would have to make the decisions of how best to inject funds to restore stability to the system.

## **Conclusions**

146. In Chapter 4 of the Financial System Inquiry Discussion Paper, the point is made that one of the requirements of any system of financial regulation is that it should be transparent. Clearly, the existing depositor protection provisions of the Banking Act do not meet that requirement. Since the RBA has itself made that point on a number of occasions, we can hardly argue for continuation of the existing provisions.

147. In our view, the removal of the depositor protection provisions altogether would be a major step backwards, and would almost certainly not find community support. The alternatives, therefore, are to clarify the existing provisions or to replace them with a system of deposit insurance.

148. We have argued in the past for the first alternative and continue to maintain that this would be a better system than the current ambiguous one. By clarification, we mean making it clear that depositors would have first call on assets, but that they would not necessarily be repaid in full if the assets were insufficient. For many people, this would be regarded as a move to a much tougher stance than what they interpret the current provisions to be, but it would certainly pass the test of transparency.

149. The other alternative of limited deposit insurance would be a less tough stance for the majority of depositors and may, therefore, correspond more closely to what the community currently expects. It should be possible to design a

scheme which retains (or increases) the present degree of discipline exerted by the professional or wholesale markets.

150. In a financial crisis which threatened system stability, it would not matter which system was in operation. The threat to the real economy would be severe and the Government would probably be prepared to use the public purse to restore and maintain stability. No system can handle a crisis of that size, so the test is really how they handle isolated bank failures without systemic implications.

151. If there is no systemic risk, it is important that the Government not resort to the public purse to provide depositors with any more than they are entitled to under the scheme that is in force. There are some reasons to believe that a well designed deposit insurance scheme may make it easier to handle the pressures that would arise on such an occasion.

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