THE PROVISION OF FINANCIAL SERVICES - TRENDS, PROSPECTS AND IMPLICATIONS

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ABSTRACT

The paper considers recent trends in the provision of finance and the factors that are likely to influence its future course. It emphasises how the interaction between the allocation of household wealth and the financing needs of firms shape the structure and evolution of financial systems. The paper focuses on the experiences of banks, and argues that as the 1990s proceed they will face increased competition on both sides of their balance sheets. However, several factors are likely to provide banks some competitive advantage. The most important is that a large pool of borrowers cannot raise funds other than through banks. On the asset side of their balance sheets, the intermediation of funds to small and medium-sized businesses is thus a core function which differentiates banks from other financial institutions and the securities markets generally. But banks also have advantages on the liabilities side of their balance sheets, as they offer depositors a safe and highly liquid repository for their funds. The paper argues that the extent to which banks remain the institutional core of the financial system will depend on their ability to perform their traditional lending role. It concludes by speculating about the implications for the stability of the financial system of the structural changes which have occurred.

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1. INTRODUCTION

In the past decade or so there have been significant changes in the financial system and the financial structure of households and firms. These developments were related. The financial system has grown rapidly and offers a wider range of services as a result of deregulation, globalisation and financial innovation. Competition within the financial system has increased as national financial markets have become integrated internationally and as the functional differences between banks, other intermediaries and the securities markets have blurred. This has enabled households and firms to expand and restructure both sides of their balance sheets. Heightened innovation and the push towards deregulation, however, have not occurred independently of the shifting financial needs of households, firms and the government. Indeed, in many ways, it is the factors that have driven these shifting demands that have proved the catalyst for the broader changes in the financial system.

These changes have had profound effects on the behaviour and performance of banks, the institutional core of the system. Increased competition on both sides of bank balance sheets has reduced their profitability and has led some to question their continued importance:

> *" An implication of a conclusion that banks have lost much if not all of their specialness is that banks ... no longer have a natural competitive advantage ... if our financial markets and institutions were being created for the first time in 1990, banks might not be among the surviving institutions."*[1]

Such a pessimistic assessment seems unwarranted. While it is true that banks have lost much of their "specialness" in performing certain functions, they do have a natural competitive advantage in some areas of their business. There are limits to

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1 Edwards (1993, p. 33).

the extent to which other forms of finance can substitute for funding through deposit-taking financial intermediaries in general, and banks in particular. These limits arise because some borrowers have difficulty raising funds in direct credit markets, and banks have advantages in pricing and monitoring loans to these borrowers. On the liability side of their balance sheets, prudential requirements ensure that bank deposits are at the low end of the risk spectrum. An analysis of the cross-country behaviour reveals the continuing importance of banks even in the most developed and innovative markets such as in the US. It is this resilience of banks in the face of rapid financial change which suggests that the fundamental role of banks is difficult to replicate fully in other financial institutions or instruments.

This paper will explore the structural changes that have occurred in the Australian financial system and link these as far as is possible to the changing financial demands of the non-finance sector. Discussion of experiences in other countries will also be provided to put the Australian experience in context and highlight some of the main issues addressed in the paper. The focus will be on the changing role of banks and the likely prospects for banks in the future.

The ongoing structural changes have had a mixed effect on Australian banks. They have gained from them in two important respects. First, the changes that have taken place have facilitated an increase in household and corporate demand for financial services. While alternatives to bank assets and liabilities proliferated, the expansion of financial markets supported an increase in the volume of bank activity. Second, deregulation has allowed banks to compete more effectively against non-bank financial intermediaries (NBFIs) in the provision of traditional intermediation services and has permitted a broadening of the range of services that banks provide. Nevertheless, bank profitability has fallen and banks have lost market share in some of their traditional markets.

The rate of growth of financial markets in the 1980s was exceptional and will probably not be repeated. Ongoing competitive pressures faced by banks may thus exert a greater influence on their performance in the future. The extent to which banks remain the core of the financial system will depend on a range of factors such as their ability to undertake information-intensive lending more effectively than other institutions. Securitisation and the institutionalisation of lending could encroach on some areas of bank lending in which loans are relatively homogeneous

and easy to price but they will have difficulty capturing more idiosyncratic loans. It will also depend on the extent to which banks continue to broaden their activities.

2. INFORMATION, INTERMEDIATION AND CAPITAL STRUCTURE

To understand the structure of the financial system, it is necessary to relate the functions provided by the system to the characteristics and financial demands of households and firms. The financial system performs two broad functions, the transfer of funds from savers (typically households) to borrowers (firms and the government) and the provision of payments services. These functions are performed by a range of institutions and markets. The extent to which they are performed by banks, other intermediaries or through securities markets depends, in part, on how the various institutions and markets:

- help overcome the problems faced by lenders in gathering and assessing information about borrowers;
- allow savers to diversify risk; and
- provide liquidity management and payment services.

The cost of gathering and assessing information on borrowers and the extent to which their performance needs to be monitored is at the core of explaining why financial intermediaries exist. These costs make it difficult for households to assess the prospects of many individual borrowers and to monitor them to ensure loans are repaid. They inhibit the direct transfer of funds from savers to borrowers. Financial intermediaries can take advantage of economies of scale to dissipate the high fixed costs involved in assessing and monitoring borrowers. By pooling the funds of a large number of individuals, they can influence management investment decisions, overcome problems of moral hazard, and better align the interests of management and creditors. In addition, through their deposit-taking functions, some financial intermediaries gather information about the performance of firms. Thus, economies of scope also provide intermediaries with a comparative advantage in the provision of finance.

Some firms also have an incentive to provide particular intermediaries – usually banks – with privileged access to information about their prospects, conferring upon them an advantage over both other intermediaries and direct credit markets in providing finance. This is because, in highly competitive environments, firms may prefer to provide intermediaries with information on their prospects rather than have this information more widely disseminated to lenders and potential competitors. Also, firms may wish to provide information to intermediaries if their ability to raise debt finance provides a positive signal to the direct credit markets about their creditworthiness.[2] Establishing a good track record with a reputable intermediary may thus increase the opportunities for, and reduce the costs of, direct finance.

Funds will be channelled directly to borrowers when good quality information is easily accessible. Large firms with publicly disclosed information and a good track record will be able to tap securities markets – both debt and equity – directly. Stringent disclosure requirements and the existence of credit-rating agencies encourage the provision of direct finance. For small firms, however, meeting the disclosure requirements of securities markets is too difficult or costly, and claims on their assets are likely to be too illiquid to trade in these markets. These firms will always rely upon a combination of internal and intermediated funds to finance their investment. Information is, therefore, also an important determinant of the extent and nature of the external funding of firms.[3]

Financial intermediaries are thus necessary to overcome deficiencies in the market for information. Intermediaries, however, also play a significant role in improving the risk-return trade-off available to savers. By pooling the savings of households and investing in a diversified portfolio of assets, intermediaries can diversify away idiosyncratic risks, and offer households – and particularly small-scale savers – higher returns at lower risk than they could achieve on their own. In doing so, they allow households to minimise their holdings of liquid balances.

Differences between financial intermediaries – banks, NBFIs, finance companies, managed funds, and superannuation funds – can be partly traced to their comparative advantages in performing the above services. Managed funds, for example, provide both risk sharing and liquidity management services and pension

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2 Leland and Pyle (1977) and James and Wier (1990).

3 Gertler (1988) and Gertler and Hubbard (1988) examine the determinants of capital structure and in particular the relationship between capital structure and firm size.

funds provide only risk sharing services – neither provide information-intensive loans.

While these functions explain the existence of different types of intermediaries, they do not explain the existence of banks in particular. Banks are unique in that they provide all three services, and they are the predominant providers of information-intensive loans. No single theory provides a good explanation of the benefits of this structure.

The discussion above suggests that the franchise value of banking may be derived in part from economies of scope – that is, banks have a comparative advantage in monitoring and assessing borrowers because they independently gather information about their assets and cash flow through their deposits.[4] Some argue that the banks' liability structure helps overcome the agency problem which arises between depositors and banks, as the potential for the swift withdrawal of deposits at par provides banks with a stronger incentive than other intermediaries to monitor the progress of their loans.[5] It may also be that existing bank branch networks provide them with continued advantages over other intermediaries which will only be eroded slowly over time.

Many argue that the franchise value of banking is derived from the regulatory benefits conferred on them.[6] Governments have recognised the central role banks play in the financial system and have provided depositors with either explicit or implicit deposit guarantees to help maintain bank stability. This may have enabled banks to raise funds more cheaply and hence provide them with a comparative advantage over other intermediaries. Some argue that the safety net accorded banks is justified given their unique value as credit evaluators and monitors,[7] and it is widely recognised that the structure of bank balance sheets allows society to conserve on liquid assets, freeing capital for longer term, more productive use.[8]

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4 This argument was probably more significant previously than it is today.

5 Chant (1987) and Diamond (1984).

6 Boyd and Gertler (1993) argue that in the USA, the banks' comparative advantage stems at least partly from the regulatory system and the nature of the public safety net.

7 Goodhart (1988).

8 O'Brien and Browne (1992), Bencivenga and Smith (1991) and Diamond and Dybvig (1983).

The factors that determine the structure of the financial sector are not immutable and will evolve with financial innovation and deregulation. These, in turn, will be shaped by changes in how households prefer to hold their financial wealth, the liquidity requirements of the private sector, the resolution of information problems, and by the performance of the macro economy and economic policy generally. Through this paper we examine developments with reference to the functions being performed by intermediaries, and focus in particular on their impact upon banking.

3. DEVELOPMENTS TO DATE

3.1 International Experience

3.1.1 The Corporate Sector

The structure of corporate balance sheets varies considerably across countries (Figure 1).[9,10] Leverage is very high in Japan and Germany and relatively low in the USA, the UK and Canada.

While many factors influence leverage, international studies find that an important explanation for the difference in leverage across countries is the extent and nature of information flows between firms and the financial institutions in each of the countries.[11] In those countries where leverage is high, there is a relatively close relationship between banks and the corporate sector. Banks can hold significant amounts of equity in companies they lend to, exercise voting rights at shareholders' meetings and have representatives on firms' boards.[12] They thus have access to detailed information on the firm. This information may not be widely available as reporting standards in these countries do not require extensive provision of

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9 Data definitions and sources for all graphs and tables can be found in the Data Appendix.

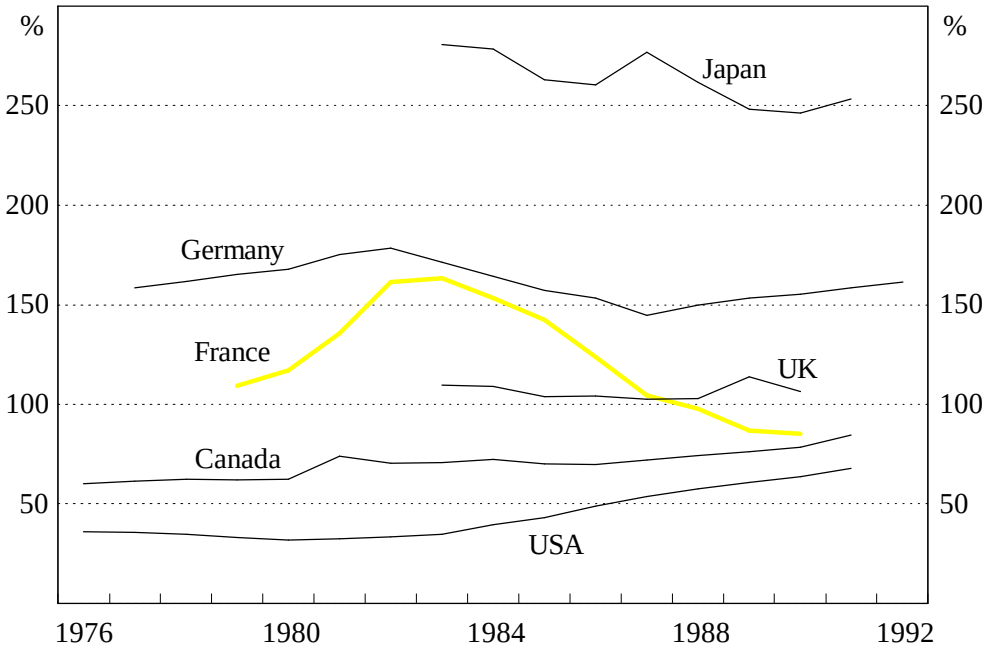
10 Differences in accounting practices across countries make it difficult to compare gearing ratios. Adjusting for these differences would still leave Japan, Germany and France with high leverage. O'Brien and Browne (1992).

11 Borio (1990) finds that differences in the tax system and structural impediments to the development of stock markets can account for some of the difference. He argues that the bulk of the difference is due to how information problems are resolved between borrowers and lenders.

12 Bisignano (1990) and Borio (1990).

information on firms.[13] The relationship between banks and their corporate clients is at "arm's-length" in the low-leverage countries, where corporate disclosure is also more stringent.

Figure 1: Debt to Equity Ratios



By reducing the uncertainty surrounding a firm's ability and willingness to repay a loan, the close relationship between banks and the corporate sector in some countries also enables firms to be less reliant on internal sources of funding (Table 1). Cash flows tend to be a more important source of funds in countries with arm's-length banking (the US, UK and Canada) and less important in the other countries. Arm's-length relationships and the wider dispersion of corporate information also encourages greater use of funding through securities markets. Funding through securities markets – both debt and equity – are a more important source of new funding vis-a-vis bank lending in the US, the UK and Canada (Table 1).

These data highlight the importance of how the resolution of information asymmetries between borrowers and lenders can shape the financial system and corporate balance sheets. As Bisignano (1990) points out:

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[13] Frankel and Montgomery (1991).

"The market for finance is inseparable from the market for information... The modest public availability, close sharing and harbouring of information by firms is at the source of the greater reliance of continental European and Japanese companies on intermediated finance and for the greater use of debt in business financial control... The ... bias in Anglo-Saxon countries is for a wide dispersion of business information and corporate ownership claims and a competitive market in corporate control." [14]

Table 1: Corporate Sources of Funds
(per cent to total)

	Cash Flow	New Equity	Bank Loans	Securities
USA				
1976-1982	68.24	3.04	7.83	10.93
1983-1989	74.09	-7.64	6.78	15.27
1990-1991	88.86	-0.09	-1.43	8.66
Canada				
1976-1982	44.79	8.99	15.11	6.97
1983-1989	59.25	12.24	1.77	11.86
1990-1991	56.30	9.46	5.50	2.17
France				
1979-1982	45.69	4.39	9.65	
1983-1989	57.47	11.65	0.85	
UK				
1983-1989	58.67	10.09	8.62	5.50
1990	63.54	14.31	3.66	12.39
Japan				
1983-1989	37.71	6.73	25.82	4.95
1990-1991	45.49	5.55	25.48	3.60

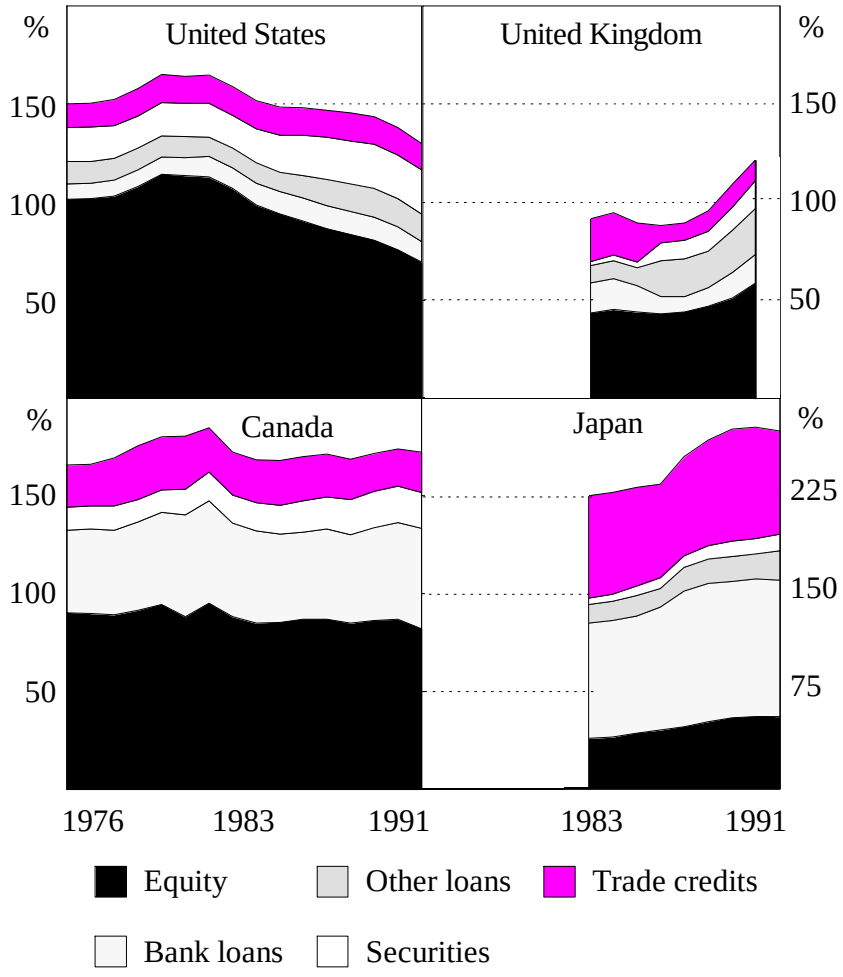
The influence of these factors on financial structure is clearly not immutable as evidenced by the shifts in financing over the past decade or so. There has been some convergence in gearing across countries (Figure 1). Leverage rose in the traditional low-leverage countries and fell in the high-leverage countries. In many countries, corporate indebtedness grew more rapidly than the overall economy

[14] Bisignano (1990, pp. 3-4).

(Figure 2). An important feature of this data is that bank lending to the corporate sector was a relatively stable and, in some cases, large component of corporate balance sheets.

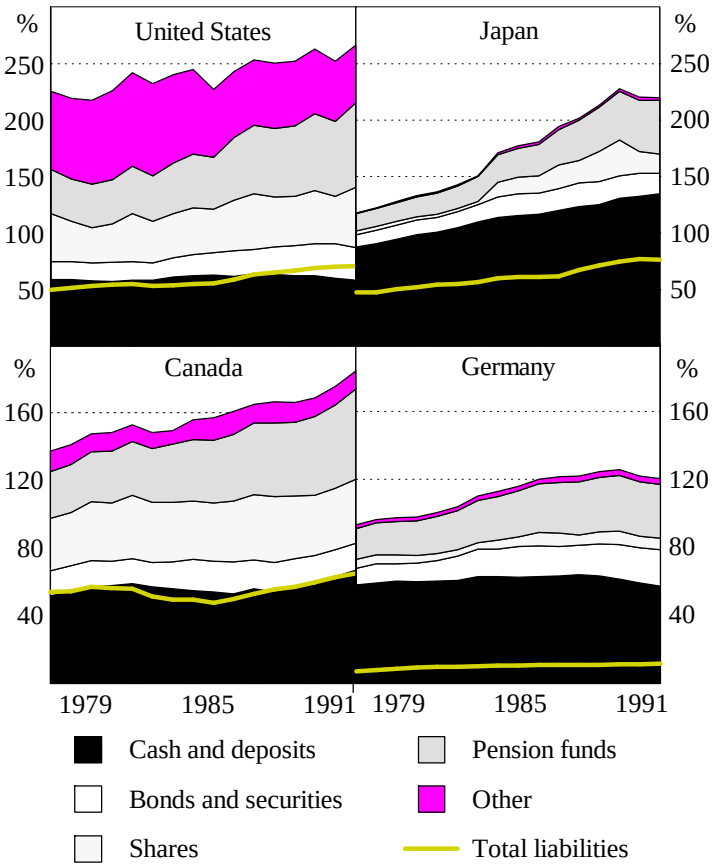
A significant part of the rise in corporate funding in all countries was used to acquire financial assets. Growth in investment in financial assets outstripped the growth in investment in non-financial assets over the whole period, reflecting the increased financial sophistication of firms, the growth in the range of financial assets and the high returns available on financial assets relative to funding costs at the time.[15]

Figure 2: Corporate Liabilities
per cent to GDP



[15] For an analysis of these developments in Japan see Bank of Japan (1991).

Figure 3: Composition of Household Assets
per cent to GDP



3.1.2 The Household Sector

Over the period since the mid 1970s, household assets have grown more rapidly than GDP in all countries – almost doubling in Japan and growing by some 40 percentage points of GDP in the other countries (Figure 3). Growth has been least significant in the US, where the ratio of assets to GDP is far higher than in any of the other countries. In all of the countries except Japan, almost all of this rise has been due to an increase in funds held outside deposits at intermediaries. In many cases, household holdings of equity, either directly or through mutual or pension funds, increased.

While there has probably been significant discretionary portfolio reallocation going on in household balance sheets, some part of the rise in the share of assets held in equity, mutual and pension funds probably reflects the sharp rise in asset prices and returns on these investments over the 1980s. This would help explain why household financial assets rose sharply over the decade in most countries while

household saving ratios fell in most countries except Japan (where they were flat) and the UK (where they rose sharply at the end of the decade).

An important feature of these data is that while the share of deposits in the household sector's portfolio declined, they remained stable relative to GDP in most countries indicating that banks remain an important repository for household financial wealth.

The increase in financial wealth in conjunction with rising house prices during the decade boosted the collateral of households and encouraged them to increase their indebtedness (Figure 3). The introduction of home-equity loans and the general liquidity enhancing nature of many innovations enabled households to support higher debt burdens. Since most of this has been funded by traditional banking institutions it has been of direct benefit to the banking sector. To some extent, this may have compensated the banks for their loss in market share of household assets over the period.

3.1.3 Financial Institutions

How did these changes affect banks?

The two most important observations worth noting are that there has been an overall increase in household and corporate balance sheets in most countries and significant shifts in the structure of both the asset and liability sides of those balance sheets. Analyses of the performance of banks almost universally focus on the second point without considering the first, painting a very pessimistic picture of their performance.[16]

While banks have become a smaller part of the financial system, they have benefited from the overall expansion of the system. With the exception of the US, bank assets have grown much more rapidly than the rest of the economy in the major countries (Figure 5). Even in the US they have been stable relative to GDP.

There have been changes within banks' assets. Corporate lending has become a smaller part of banks' asset portfolios. This reduction probably stems mainly from

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[16] For example see Edwards (1993).

a shift by some large firms to non-bank sources of finance. Available evidence suggests that small firms and relatively new firms remain as reliant on bank loans as a source of external funds.[17] Bank loans to the corporate sector remain, nonetheless, an important source of corporate funding needs (Figure 2) and an important component of banks' balance sheets.[18] Non-deposit liabilities have become a more important source of funding for banks (Figure 5). Banks have increasingly borrowed from the securities markets to fund their expansion.[19]

The fact that bank assets have expanded more rapidly than the rest of the economy suggests the continued importance of banks in the financial system. Indeed, growth in the assets of the banking sector substantially underestimates the growth in total banking activity since it excludes banks' off-balance sheet activities. Off-balance sheet items including loan commitments, standby letters of credit and the provision of derivative instruments (options, futures and swaps), have grown rapidly in the 1980s. The growth in banks' off-balance sheet business is reflected in the growth in net non-interest income as a share of gross income of banks (Table 2). Growth in net non-interest income has occurred in all but one of the G7 countries over the 1980s as banks, in the face of increased competition for their traditional business, sought other sources of profit and competed directly with the securities markets.

Table 2: Bank Profitability and Sources of Income

	USA	Japan	Germany	Italy	France	UK	Canada
Net non-interest income as a share of gross income							
1983-85	25.9	17.8	26.9	29.3	14.7	35.1	22.5
1986-88	30.0	23.5	29.9	29.1	14.9	36.8	26.8
1989-91	32.9	19.6	34.1	26.1	21.4	39.3	30.1
After-tax profits as a share of capital and reserves							
1983-85	10.5	9.3	7.2	6.7	7.3	11.4	12.2
1986-88	7.9	10.2	6.8	7.6	8.6	10.4	12.3
1989-91	7.6	6.0	6.1	9.5	6.0	4.9	11.1

[17] Gertler and Hubbard (1988).

[18] O'Brien and Browne (1992).

[19] Boyd and Gertler (1993) discuss US developments.

Figure 4: Bank Assets
per cent to GDP

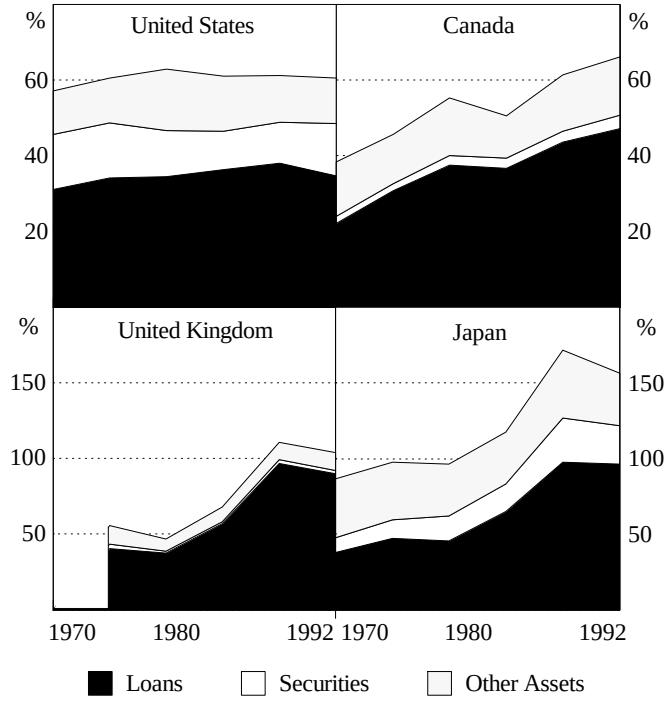
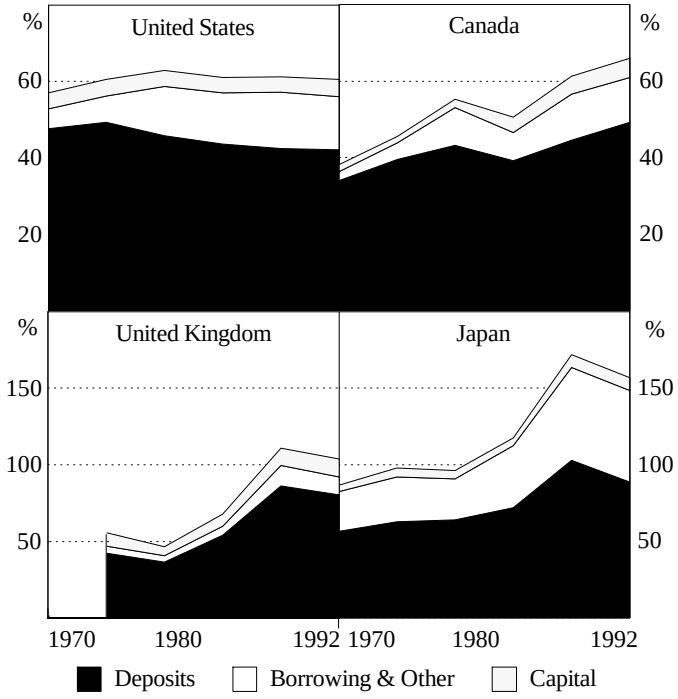


Figure 5: Bank Liabilities
per cent to GDP



The growing use of direct financing in the securities markets by firms has been one of the important new sources of competition facing banks. This has largely involved the movement of *high-quality* components of lending – mainly large low-risk commercial loans – off banks' balance sheets. There are limits to this process, however, as the idiosyncratic nature of some loans makes them difficult to price in securities markets. Moreover, evidence suggests that many of the funds being channelled through securities markets and finance companies are intermediated. In the US, around 90 per cent of commercial paper issued by the largest finance companies is backed by banks (Edwards 1993). And, the majority of securities backed by residential mortgages have direct government guarantees.

Despite the expansion of banking activity, the growing competition banks have faced has resulted in a fall in their profitability (Table 2).

3.2 The Australian Experience

3.2.1 The Non-Financial Sector

Structure

Households and firms in Australia are funded through a range of institutions and instruments. Banks provide over 70 per cent of household finance with most of the remainder coming from non-bank deposit taking institutions.

Banks also provide the bulk of the corporate sector's debt finance either directly through loans (26 per cent) or indirectly by holding bills (6 per cent) (Table 3).[20] Non-bank financial institutions provide about 20 per cent of corporate debt funding with a further 20 per cent being raised from the rest of the world. Life offices and superannuation funds provide very little debt finance. The largest direct holder of corporate equity is the foreign sector. Domestic households directly hold about 25 per cent of corporate equity and indirectly another 20 per cent through life offices and superannuation funds.

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[20] This figure records bills held on bank balance sheets. It, therefore, understates banks' involvement in providing bill finance. Banks facilitate the issuance of a proportion of the Bills figures quoted in Table 3 by accepting or endorsing them.

Table 3: Corporate Sector Debt and Equity
March 1993

	$ Billion	% to total
DEBT	**238.7**	**100**
of which:		
Banks	75.6	32
of which:		
- loans	60.6	26
- bills of exchange	15.0	6
Non-Banks	42.7	18
Life Offices & Super Funds	5.1	2
Rest of World	53.9	23
Bills	31.7	13
Other	29.7	12
EQUITY	**247.7**	**100**
of which:		
Banks	3.7	1
Non-Banks	16.3	7
Life Offices & Super Funds	49.6	20
Households & Unincorporated Businesses	59.6	24
Rest of World	96.6	39
Other	21.9	9

Trends

The evolution of the financial assets of the household sector in Australia was broadly similar to that in other countries. They grew very rapidly during the 1980s, with most of the growth occurring through increases in household claims on life offices and superannuation funds (compare Figure 3 and Figure 6).[21] In Australia, and perhaps elsewhere, the growth in assets held in superannuation funds was primarily due to the high earning rates achieved by superannuation funds. On average, net contributions to the funds were little different to what they have been in the past thirty years.[22] Household holdings of equities and units in trusts also grew strongly. This was in response to the higher yields available on these assets for much of the period. Household deposits in financial intermediaries – banks and non-banks – have declined as a proportion of household sector financial wealth. Over the 1980s, deposits at banks grew at the expense of deposits at NBFIs. In

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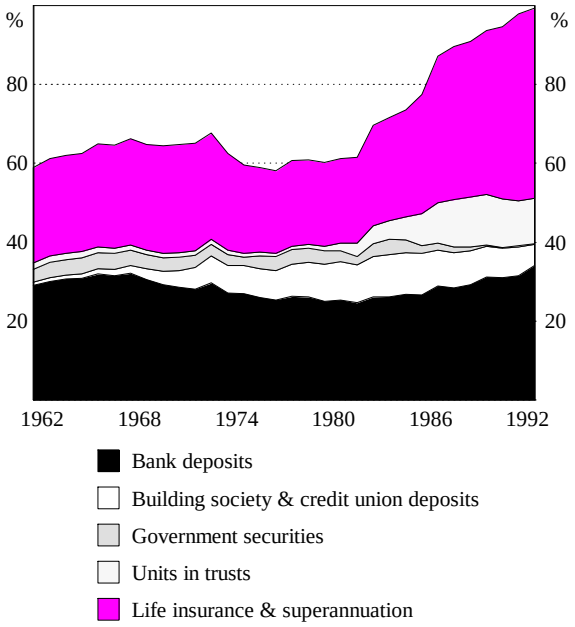
[21] For a discussion of the behaviour of household balance sheets in the 1980s see Callen (1991).

[22] Edey, Foster and Macfarlane (1992) discuss these issues in more detail.

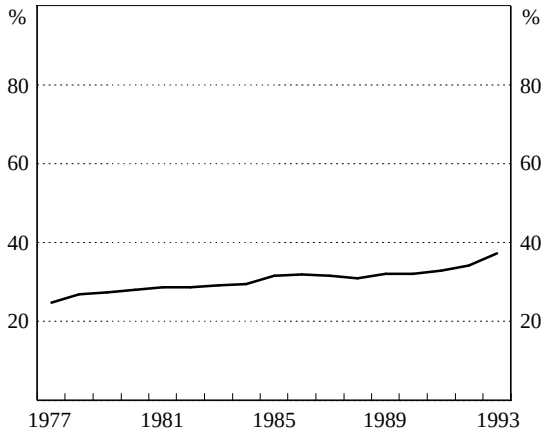
most countries, deposits at banks grew at least as rapidly as the rest of the economy despite the increased competition faced by banks.

The indebtedness of the household sector also rose during the 1980s (Figure 7). Like the other countries, the increase in household debt was less than that of household assets. Household debt in Australia seems low in comparison to several of the major countries.

Figure 6: Household Sector Financial Assets
per cent to GDP



Figures 7: Household Sector Financial Liabilities
per cent to GDP



Corporate balance sheets expanded very rapidly during the 1980s (Figure 8).[23] Internal funds were an important part of this expansion, reflecting the recovery in the profit share over the decade. Both sources of external funding – debt and new equity raisings – also grew quickly but, over the course of the decade, there was a shift towards greater reliance on debt funding. Corporate gearing increased sharply but remained relatively low compared with international experience (Figure 9)[24].

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[23] The numbers in Graph 8 are from a sample of 96 companies listed on the Stock Exchange. They are not directly comparable to the ABS figures underlying Table 3.

[24] See Lowe and Shuetrim (1992) and Mills, Morling and Tease (1993) for a discussion of corporate balance sheet behaviour.

Figures 8: Corporate Sector Liabilities
per cent to GDP

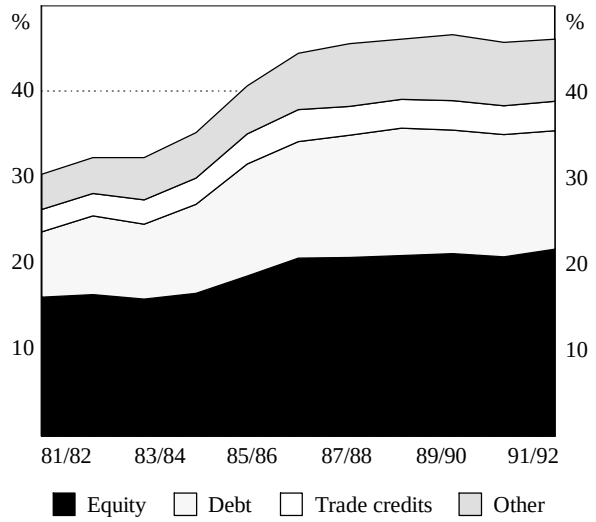
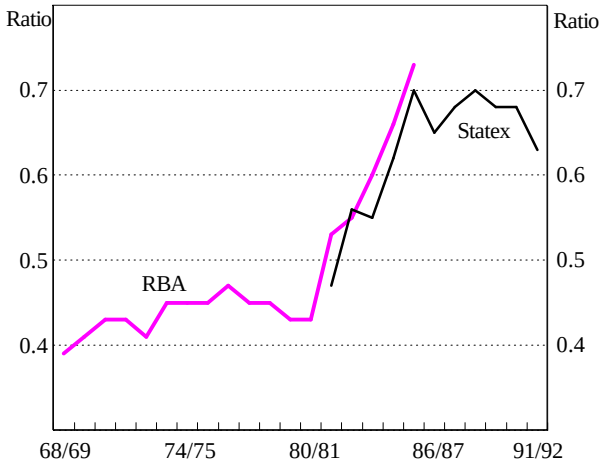


Figure 9: Debt to Equity



3.2.2 The Counterpart Experience in the Financial Sector

How did these changes in the size and structure of the private sector's balance sheets relate to the behaviour of financial institutions?

The 1980s was a decade of financial deepening. There was a rapid expansion of the assets of the financial institutions, which have grown by 86 percentage points of GDP since 1980 (Figure 10), following the repressed financial behaviour of the 1970s.[25] The increase in the volume of activity was spread between most of the major institutional sectors, in particular the banks and the life offices and superannuation funds.

Looking behind the aggregate data it appears that intermediated funding – through banks and NBFIs – provided the bulk of the increase in external finance to the private sector (Table 4). New funds raised by the private sector rose from the early 1970s, peaking in the second half of the 1980s. Intermediated funding progressively became the most important source of funding. Within this total, bank finance – traditional lending and bills – grew very rapidly as banks won back significant market share from NBFIs. This increase in intermediation in general, and in bank finance in particular, reflected the removal of regulations on bank

[25] See Grenville (1991) for a discussion of the constraints on financial activity in the 1970s.

behaviour.[26] Over the past few years, the repayment of debt and new equity raisings by companies has seen the debt component of new funding fall.

Figure 10: Total Assets of Financial Institutions

per cent to GDP

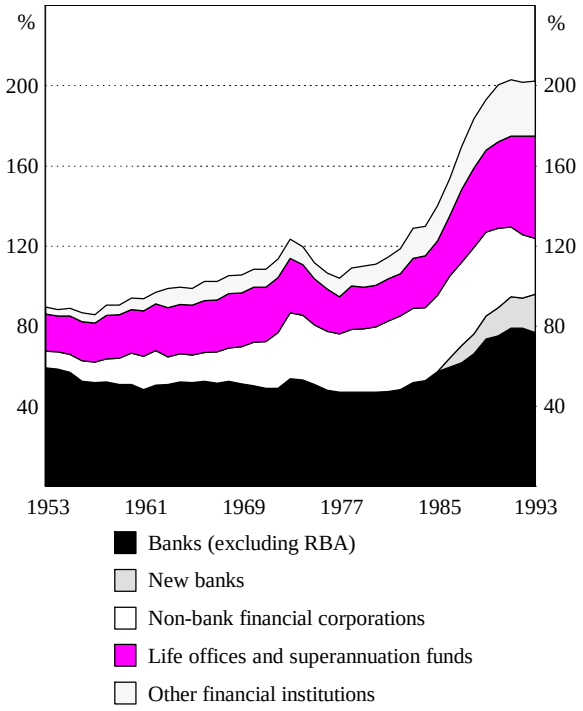


Table 4: Funds Raised by the Private Non-Finance Sector

	1960-69	1970-78	1979-84	1985-89	1990-93
% of Total Raisings					
Debt	80.2	91.9	91.0	82.7	-5.6
of which:					
Intermediated	37.4	66.1	76.7	70.8	-6.8
- Banks	26.0	31.9	29.4	34.8	113.4
- Bills	-	-	14.5	18.6	-34.6
- NBFIs	11.4	34.2	32.8	17.4	-85.6
Direct					
- Overseas	11.7	7.8	14.2	10.8	-7.5
- Other	31.1	17.9	-	1.1	8.7
Equity	19.8	8.1	9.0	17.9	105.6
Total Raisings % to GDP	7.5	10.4	10.3	19.2	4.9

[26] Grenville (1991) analyses the effects of deregulation.

A feature of the Australian system is the limited use of debt raisings through the securities markets. Their direct contribution to the increase in corporate funding was negligible over the 1980s. Long-term debt securities and $A Eurobonds account for only 2.8 per cent of outstanding corporate debt. $A Eurobonds outstanding grew from nothing in 1984 to $25 billion in 1993. The growth in Eurobond raisings corresponds with the growing reliance of the government, finance and corporate sectors on overseas finance. While these markets quantitatively are a small funding source, qualitatively they probably had a more important indirect influence on funding and the financial system by increasing the competition for traditional sources of funding.

The following sections will explore in more detail how these changes affected bank behaviour and profitability.

Bank Balance Sheets

Deregulation and the deepening of financial markets allowed banks to compete more effectively for deposits and to obtain new sources of finance to directly fund the growth in private sector debt.

Deregulation allowed banks to adjust interest rates on deposits more closely with money market rates (Figure 11). As a result, they could actively manage the liabilities side of their balance sheet, enabling them to more effectively fund the expansion in private lending. A consequence of their growing competitiveness and flexibility was that bank-owned subsidiaries, previously set up to avoid the effects of some regulations, became incorporated into the banks and some building societies changed to banks. A trend decline in the bank share of the deposit market was halted.[27] Household deposits at banks rose largely at the expense of deposits at NBFIs. Despite the increase in the relative return on bank deposits they did not rise as a share of the household sector's portfolio (Figure 6).

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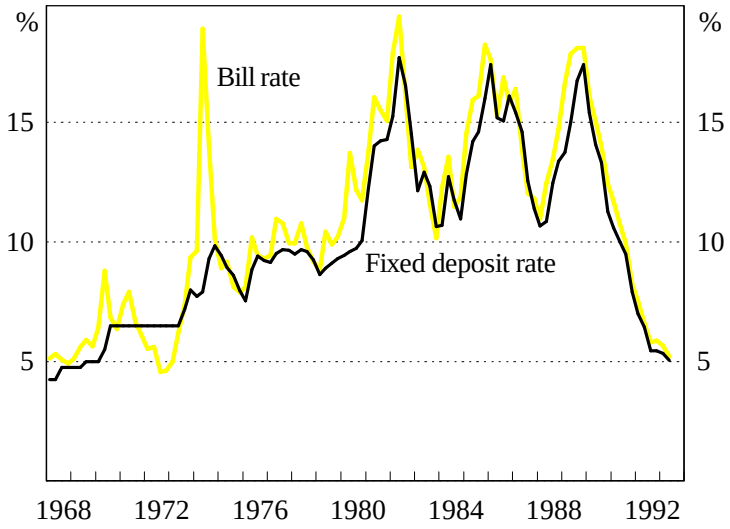
[27] The deposit share of banks fell from nearly 80 per cent in 1968 to 55 per cent in 1982 and has since recovered strongly. See Battellino and McMillan (1989).

Figure 11: Interest Rates



Nor did household deposits fund the bulk of the rise in bank liabilities (Figure 12). One reason for this was that higher deposit rates probably just let banks hold their own in the market for household funds rather than significantly alter the allocation of household financial assets. More importantly, until 1988 the Statutory Reserve Deposit (SRD) requirement discouraged banks from funding loans through deposits.[28] Banks could avoid the implicit tax of the SRD requirement by raising funds through foreign currency deposits (which they were unable to do prior to 1984), issuing their own bills or equity. These other sources of funding provided the bulk of the rise in bank liabilities over the 1980s (Figure 12). The removal of the SRD requirement in 1988 removed this disincentive and there has since been a shift towards deposits and away from other sources of finance (See Reserve Bank of Australia 1989).

As a result of these changes, bank liabilities pay closer to market returns and a significant portion of bank funding is provided through domestic and international financial markets. This shift to non-deposit sources of funding is also evident in other countries (Figure 5).

Bank assets rose in conjunction with the increased indebtedness of the household and corporate sectors (Figure 13). Lending to households by banks rose from 12

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[28] Under the SRD banks were obliged to hold a proportion of their Australian dollar deposits in accounts paying below-market interest rates at the Reserve Bank.

per cent of GDP in 1980 to 32 per cent of GDP in 1993. At the same time, on-balance sheet lending to firms increased sharply. Bank lending to corporates stood at 18 per cent of GDP in 1980 and 35 per cent of GDP in 1993.

Figure 12: Bank Liabilities
per cent to GDP

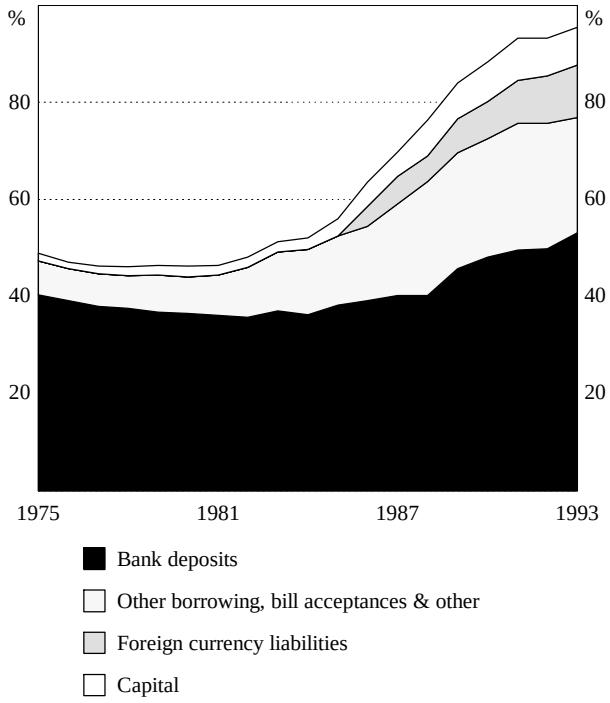
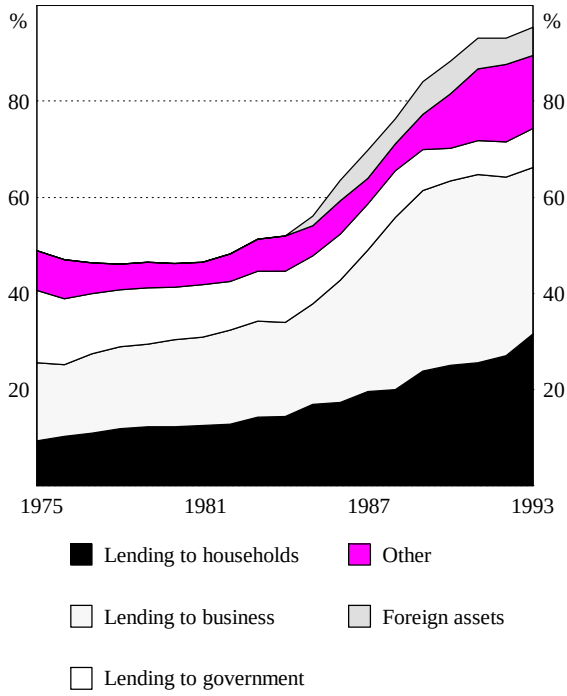


Figure 13: Bank Assets
per cent to GDP



Off-Balance Sheet Activity

The balance sheet data presented above understate the volume of banking activity. Off-balance sheet activities have become an extremely important source of income for banks. As at June 1993, gross off-balance sheet business was around 6 times banks' consolidated balance sheet assets. Measured on a credit equivalent basis, off-balance sheet activities amounted to 29.7 per cent of bank assets.[29]

While consistent data is unavailable over an extended period of time it is safe to say that the volume and variety of off-balance sheet business grew rapidly in the 1980s (see Reserve Bank of Australia 1991). Banks have always been engaged in off-balance sheet business such as letters of credit and lending commitments but began to extend into market-rate related transactions – foreign exchange transactions,

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[29] The credit equivalent basis measures off-balance sheet business on the basis of the credit exposure associated with the various transactions.

swaps, options etc – as markets for these instruments developed in the 1980s. They now make up the bulk of banks' off-balance sheet business.

The expansion of banks' off-balance sheet activities has seen a greater proportion of their income coming from fees rather than interest income (Table 5). This is a feature common to most countries.

Table 5 : Australian Banks Net Non-Interest Income as a Share of Gross Income

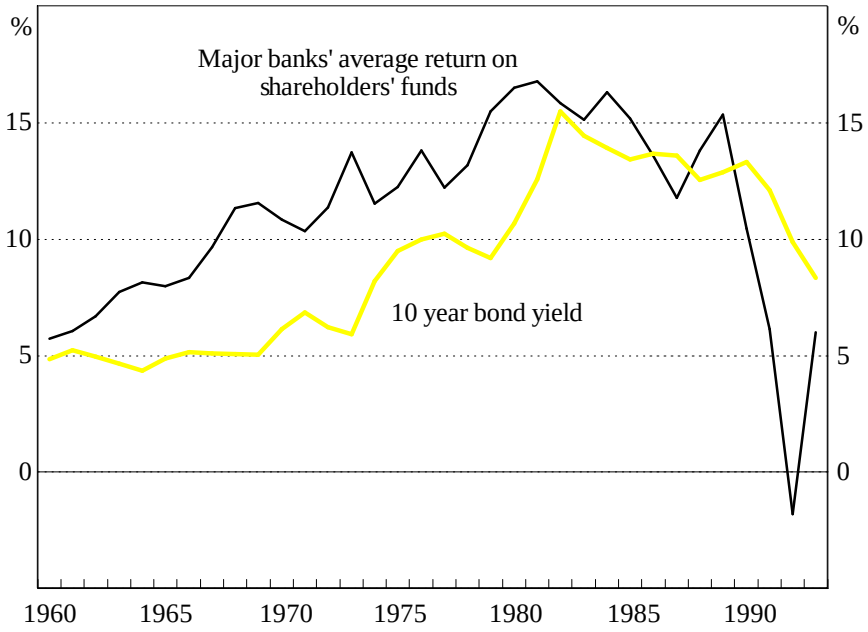
1986	39.0
1987	42.9
1988	39.4
1989	38.1
1990	40.1
1991	47.7

Bank Profitability

As demonstrated above, a significant part of the increase in the volume of financing during the 1980s was intermediated through banks, either on or off their balance sheets. To win this increased business, however, banks had to compete more vigorously on both sides of their balance sheets. This, in part, could have contributed to an erosion of bank profitability as the returns previously earned by bank shareholders in the regulated environment were partly dispersed to depositors and borrowers partly in response to increased competition.

The return to shareholders of the major banks peaked in the early 1980s, before the introduction of the major deregulation of the 1980s (Figure 14). The return on shareholders' funds averaged 16 per cent in the early 1980s before falling to an average of 14 per cent in the second half of the 1980s. Returns fell sharply in the early 1990s as a result of the slowdown in economic activity, the collapse of asset prices and the consequent rise in bad debts and non-performing loans. While returns were well in excess of the yield on Government bonds before the 1980s, the gap narrowed substantially during the 1980s. Similarly, returns in banking were high relative to other industries in the early 1980s but declined relatively over the course of the decade (Figure 15).

Figure 14 : Bank Profitability



Thus, it appears that returns to banks' shareholders declined in an absolute and relative sense over the 1980s despite the rapid growth in the economy and bank balance sheets that occurred for most of this period.[30] This is consistent with banks doing a higher volume of activity at lower margins, on average over the whole period, and suggests that deregulation and increased competition could have reduced bank profit margins and the return to bank shareholders somewhat. It is, however, difficult to assess whether there has been a structural decline in the profitability of banks. Most of the fall at the end of the 1980s occurred because of a rise in bad debts and non-performing loans which, in turn, reflected the process of deregulation as banks sought higher yielding more risky loans in the face of rising deposit costs. As the effects of these problems are worked out, bank profitability could recover.

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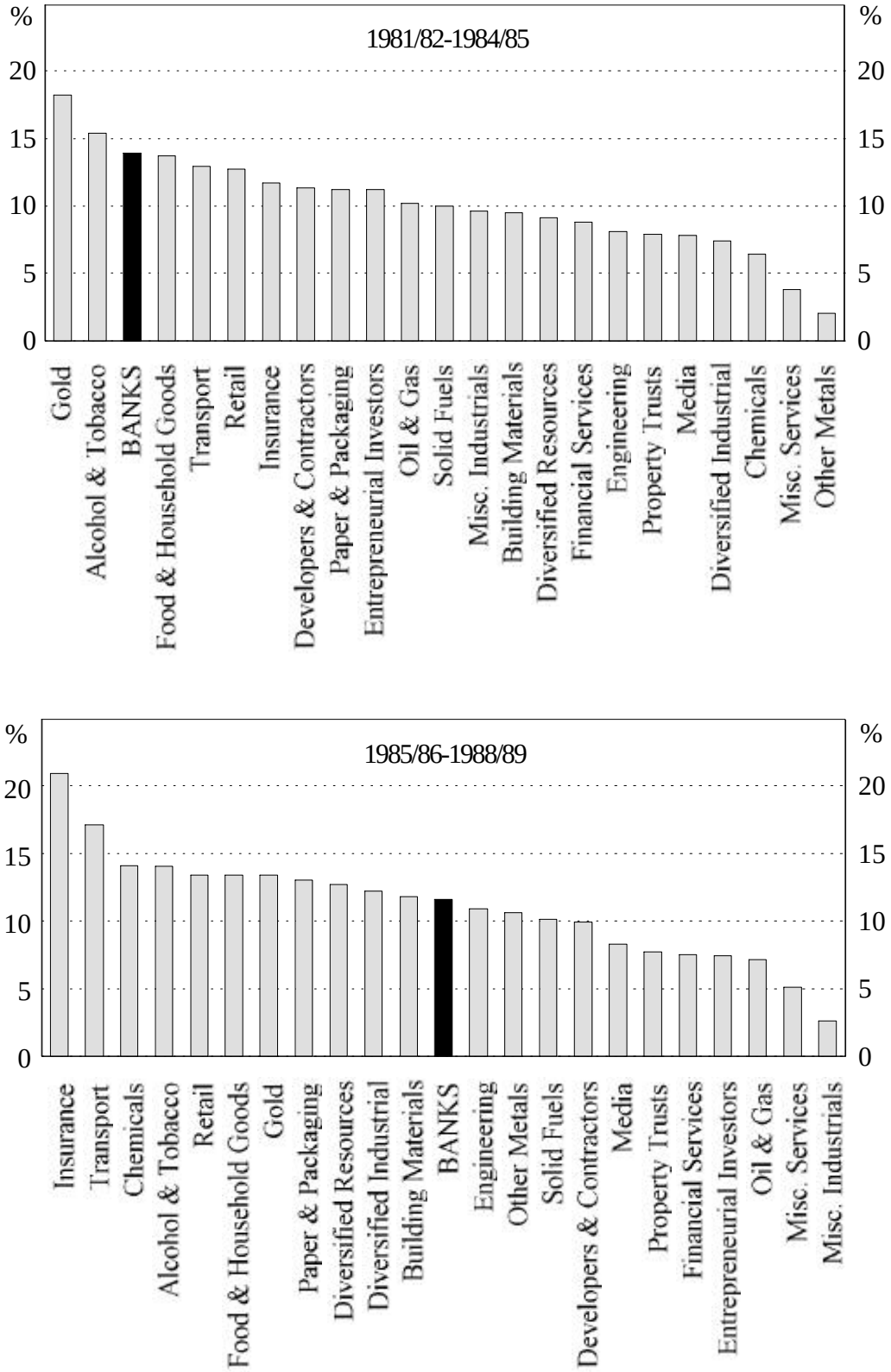
[30] Ackland and Harper (1990) also provide evidence of a deterioration in balance-sheet measures of bank performance. On the other hand, analysis based on the risk-adjusted returns available to bank shareholders does not support a conclusion that bank shareholders earned excess returns prior to deregulation or that they experienced a fall in their returns subsequently (Harper and Scheit (1991)).

Figure 15: Return on Shareholders' Funds by Industry



3.3 Summary

Several points are worth noting from the previous section:

- there has been a rapid expansion of the financial system along with household and corporate sector balance sheets;
- the corporate sector became more reliant on debt in some countries (particularly those that started with lower leverage). Innovation and globalisation gave some firms greater access to securities markets as a source of funds;
- household financial assets grew rapidly, with much of the growth being in assets held in pension funds, equity and unit trusts. Nonetheless, deposits at banks remain an important part of the households asset portfolio. The household sector also became more indebted in some countries; and
- banks shared in this financial expansion to a greater or lesser extent in most countries. In almost all countries, banks extended the range of services they provide, and non-interest income became a more important source of revenue. Lending to the corporate sector remained an important part of their assets. In many countries, banks funded a good part of their expansion by borrowing from domestic and international securities markets. Banking profitability appears to have fallen somewhat.

4. WHAT DROVE THESE CHANGES?

No single factor accounts for all of the changes across sectors and countries and there were many country-specific forces at work. The broadly similar nature of some of the trends across countries, however, hints at some common influences.[31]

Technological improvements reduced the costs of transactions, allowing a larger volume of more complicated transactions to be done. Deregulation and globalisation gave greater access to financial markets. These factors helped banks supply the increased demand for financial services, which was further encouraged by macroeconomic developments.

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[31] For a discussion of some of the factors driving the changes internationally see BIS (1986) and domestically see Harper (1986).

Inflation was important. On the household side, the rise in inflation and real interest rates in the late 1970s and early 1980s greatly increased the opportunity cost of holding liquid funds at banks. This provided a catalyst for people to search for forms of wealth holding that provided high yields and contributed to the development of cash management trusts, money market mutual funds and unit trusts. Improvements in information-processing technology supported these markets and produced high-yielding liquid assets that could compete with bank deposits. The liquidity-enhancing nature of many of these innovations allowed households to economise on funds held in bank deposits. Banks' ability to respond to these developments was initially impeded in countries, like Australia, where there were restrictions on bank deposit rates. This encouraged central banks and governments to allow banks to set deposit rates free of constraints.

Inflation was also one of several factors that encouraged the rise in corporate indebtedness. In Australia, the interaction between relatively high, and apparently entrenched, inflation and the tax system provided incentives for debt rather than equity funding. Other aspects of the macroeconomic climate of the 1980s were also important: the extended period of growth and the strength of profits enhanced the prospects of the corporate sector and provided them, for a while, with the funds to meet higher interest expenses. On the supply side, deregulation and innovation expanded firms' opportunities to obtain debt. Some innovations occurred simply in response to firms trying to reduce the cost of funding. Euromarkets, for example, enabled large firms to raise funds more cheaply than they otherwise might in domestic markets. Other innovations, such as the development of "junk" bonds in the US, occurred to allow firms that could not normally tap securities markets to do so. Swap markets also allowed firms to do this indirectly.

A significant part of the rise in corporate indebtedness was used to acquire assets rather than new capital, boosting asset prices. The rapid growth in asset prices encouraged further borrowing and supported the provision of finance by enhancing the collateral-backing of loans.[32] Similarly, the rise in household wealth and innovations that enabled households to borrow against that wealth resulted in a rise in household debt.

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[32] Macfarlane (1989, 1990 and 1991) and Stevens (1991) consider the causes of the increase in corporate indebtedness. Blundell-Wignall and Gizycki (1992) show that higher asset prices encourage the provision of credit.

The increase in the volatility of financial prices also increased the demand for financial instruments that could transfer the associated price risks between parties.

5. THE FUTURE

The 1980s was a period of significant change in the Australian financial system. Looking back, it appears that banks benefited in many ways from the changes. While they faced more competition on both sides of their balance sheets, the changes that occurred resulted in a substantial increase in the private sector's demand for financial services, and deregulation allowed banks to face that competition with a more aggressive response than previously. Banks were able to win back market share from NBFIs in the market for household deposits and intermediate the bulk of the increase in funds raised by the private sector. In doing so, they had to compete more vigorously, which directly and indirectly reduced their profitability.

It is likely that the forces shaping the financial environment in the 1990s will be different in many ways to those of the 1980s. One can characterise the financial deregulation of the 1980s as having both income – from the expansion in demand for financial services – and substitution – from heightened competition – effects on banks. Some of the positive factors stemming from these changes are likely to be absent in the 1990s. Reintermediation has run a considerable way and the pace of expansion of household and corporate balance sheets should be much slower. As the 1990s proceed, the ongoing competitive pressures facing banks are likely to come to the fore.

The financial system is unlikely to expand as rapidly in the 1990s. Many of the factors driving the expansion of corporate balance sheets and indebtedness in the 1980s are unlikely to be repeated. Part of the increase was an adjustment to a more liberal financial environment. Part was due to the overall macroeconomic environment, particularly the restoration of the profit share and persistently high inflation, and the structure of the tax system at the time. Many firms clearly over-borrowed and the balance sheet restructuring we have seen over the past few years has been an attempt to wind back excess gearing.[33]

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[33] See Mills, Morling and Tease (1993) for a discussion of balance sheet restructuring.

Over time, firms may continue this process or be more cautious in their use of debt. Dividend imputation has removed any tax-induced bias toward debt; therefore, the optimal level of gearing is somewhere below where it was in 1987. Firms may be still adjusting to this fact. For some firms, particularly those borrowing above prime rates from banks, real after-tax borrowing rates remain relatively high, encouraging them to economise on debt. The shift to low inflation and growing community confidence in the fact that inflation should remain low could also encourage more conservative use of debt. Lower inflationary expectations will discourage borrowing to purchase assets in the hope of capital gains. The success of monetary policy in keeping down inflation will thus be an important influence on financial structure.

The speed and nature of the rise in household financial assets is also unlikely to be repeated in the 1990s. After being relatively stable for two decades, household financial assets rose from just under 60 per cent of GDP in the early 1980s to over 90 per cent of GDP in the early 1990s. Much of this was due to sharp increases in the price of assets underlying their claims on equity and superannuation funds and, related to this, the high earning rates on superannuation fund assets. In a more stable financial and macroeconomic environment these developments are unlikely to be repeated.

The evolution of household saving, and thus acquisition of new financial assets, is likely to become a more important influence on the path of household financial portfolios. Government policies to encourage greater saving for retirement are likely to have an important bearing on the outcome. Recent estimates suggest that the ratio of superannuation funds' assets to GDP could double in the coming decades under current policy arrangements.[34] Recommendations to broaden the coverage of the Superannuation Guarantee Levy and increase the rate of contributions, if adopted, will boost these figures further.[35] The potential growth of the superannuation industry is one of the major competitive challenges likely to confront banks in the 1990s. Concerns have been expressed that the likely increase in household financial assets held in superannuation funds will inhibit banks' ability to raise funds directly and increase the cost of funds raised and that this, in turn, may affect the cost of bank lending.

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[34] FitzGerald and Harper (1992a,b).

[35] FitzGerald (1993).

While the form and extent of financial innovation is difficult to predict, it is likely to continue apace in the 1990s. The catalysts of future innovations will be different to those in the past. Many occurred in response to the interaction between inflation and regulations, the niches created by regulations, asset price volatility and the profits available to those who develop products that help "complete" markets.[36] The move towards a more competitively neutral financial system and the fall in inflation have eliminated some of these catalysts. But ongoing technological advances will continue to reduce the costs of financial transactions, increase the liquidity of assets, allow more easy diversification of the portfolios of small investors and hence enable investors to increase and broaden their use of financial services. The increasingly global nature of financial markets will continue to provide a competitive impetus for innovation.

If the international experience is anything to go by, the expansion of the superannuation industry itself will provide a catalyst for innovation.[37] In the US, the UK and Canada, the growth of pension funds is widely recognised as having spurred innovation in the financial markets, in particular by increasing the demand for liquid, marketable assets into which pension funds can invest. As noted earlier, a feature of the Australian financial system is the fact that direct raisings of debt by the corporate sector appear small relative to their overall funding requirements and experience overseas. An expansion of the role of institutional investors could provide a catalyst for further growth in these markets and in the market for securitised lending.

So far there has been relatively little securitisation in Australia. That which has occurred has largely been organised by merchant banks and its scope has been limited. To date it has only involved the sale of short-term paper backed by one or a combination of: residential mortgages, the stream of receivables from publicly provided services (such as water rates), rental streams from government-owned properties and store card debts. There has been no significant securitisation of domestic banks' assets. Several plans to launch asset-backed securities more recently have failed to get off the ground.

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[36] See BIS (1986), Merton (1990), Miller (1986) and Mishkin (1990).

[37] Bodie (1989) and Ross (1989).

What will be the net effect of these developments on banks? Should the pace of expansion of the financial system slacken, then bank balance sheets are likely to grow less rapidly than they did in the 1980s. The main question that arises is whether, as a result of greater competition, banks expand less rapidly than the system overall and whether their profitability is eroded.

Heightened competition has probably had the biggest impact on banks' liabilities. This is partly because the function provided by bank liabilities – a repository for the liquid assets of households – is the most easily replicable by other institutions or instruments. Many of the innovations of the past decade or so have enabled households to access liquid, high-yielding assets outside the banking system. The growing sophistication and wealth of households will encourage further innovations in these areas.

The potential growth of assets in superannuation funds may also attract household funds away from banks. However, for households who are not towards the end of their working life, the very different nature of bank deposits (and other assets) available at short notice and the long-term nature of assets in superannuation funds suggest that the degree of substitution could be limited.[38] Moreover, if the policy underlying the SGL is to be successful in providing retirement income, any reduction in other forms of household saving in response to higher superannuation saving will have to be less than one for one. Some of the increase in superannuation fund assets will also be recycled through the banking system. At present, banks receive about 7 per cent of their funding (debt and equity) through life offices and superannuation funds.

Banks do retain some competitive advantages on the liability side of their balance sheets due to their key role in the payments system and the fact that bank deposits are at the low end of the risk spectrum. Both stem from the existing rules and prudential arrangements governing the financial system. The reduction in inflation may also assist banks in one respect. Deposits in banks and other financial institutions are taxed more onerously than other forms of saving and the extent of the bias is related to the inflation rate. Low inflation will reduce this tax bias making deposits a relatively more attractive form of saving. However, to offset this,

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[38] Though for those near retirement – who hold the bulk of the superannuation fund assets – the substitutability is higher.

the benefit to banks of having low interest paying deposits is reduced in a low inflationary environment. On balance, banks are probably going to have to compete more vigorously for funds, raising the cost of those funds and broadening their funding base.

On the asset side of bank balance sheets, there are limits on the extent to which other forms of funding can replace funds intermediated through banks. Banks have historically had a comparative advantage in the provision of loans to borrowers who, because of their characteristics, have been unable to access securities markets directly. This could account for the relative resilience of banks in the face of the profound changes that have occurred. The analysis of international and Australian developments showed that banks were able to expand their liabilities and assets at least as rapidly as the rest of the economy, if not as rapidly as the overall financial system, despite the increased competition and innovation that has occurred in the past two decades. Even after all these changes, the intermediation function of banks remains a pivotal aspect of the financial system.

While securitisation and direct issues of corporate debt could continue to grow in Australia, the international experience does not seem to indicate that it will substantially reduce the role played by banks. Securitisation will be limited to relatively homogeneous easily-priced loans. While this could remove high-quality assets from bank balance sheets it will not necessarily encroach on the core lending functions of banks. More generally, debt funding through securities markets can provide an important alternative source of income to banks since credit or liquidity back up facilities provided by banks enable many securities to be issued.[39] Thus, banks' off-balance sheet activities could continue to increase relative to their on-balance sheet activities.

Banks can respond to these developments in a number of ways. The preferred alternative would be for them to undertake their traditional lending business more efficiently, thus offsetting the higher funding costs that they may face. Policy can encourage this outcome by maintaining a competitive banking environment, discouraging banks from simply passing on higher costs to borrowers who could not raise funds elsewhere.

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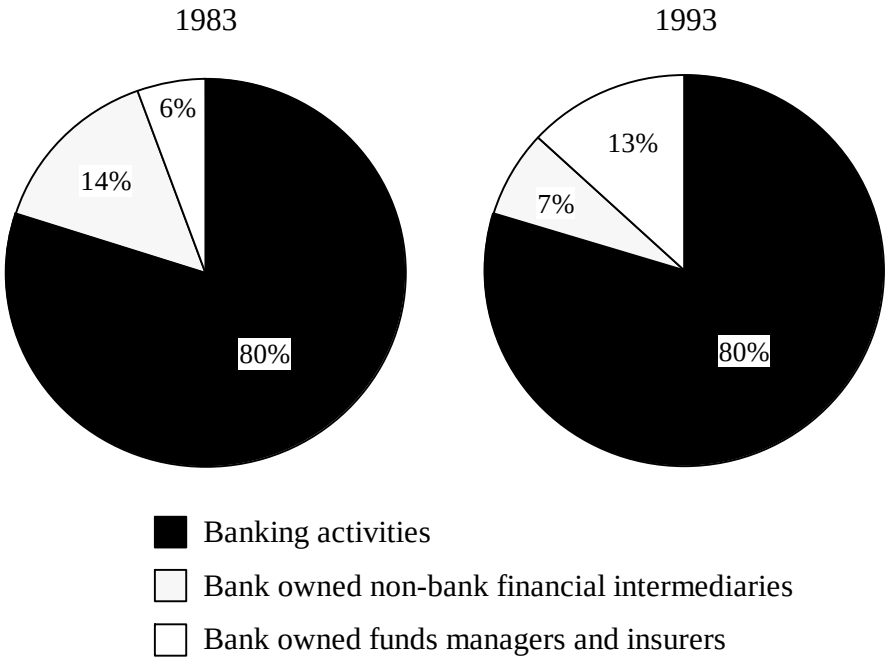
[39] Corrigan (1987) discusses the US experience.

Banks will have to actively take advantage of those factors which provide them the comparative advantage in the provision of banking services – economies of scale and scope, branch networks, historical relationships with customers, experience in evaluating and monitoring loans, customer convenience and regulatory benefits – and will have to be aggressively innovative in new markets. The banks have already responded to the competition by broadening the services they provide, for example by introducing their own superannuation-type products (Figure 16). This process is likely to continue and the functional differences between banks and other institutions will decline but will not be eliminated. Differences will remain and these differences will turn on banks' ability to fulfil their traditional lending role:

> *"... the really important distinction between banks and other financial intermediaries resides in the characteristics of their asset portfolio ... It is these ... differences ... that will maintain in future years the distinction between banks and non-bank financial institutions."*[40]

Figure 16: Breakdown of Consolidated Bank Assets



[40] Goodhart (1988, p. 102).

6. CONCLUSION AND IMPLICATIONS

The size and structure of the financial system and the balance sheets of the private sector will continue to change. The rate of expansion is unlikely to be as rapid as that of the past decade and the forces driving future changes will differ in many respects to those of the past. Deregulation was a once-off event and the expansionary forces flowing from it are not likely to be repeated. High and persistent inflation encouraged the expansion of debt, was the catalyst for many financial innovations, influenced the pattern of private saving and probably made the system less stable than it would otherwise have been. Sustained low inflation should mean that it will no longer be an influence on financial decisions or undermine financial stability.

The globalisation of markets, innovation and technological change, and encouragement of particular forms of saving will increase competition further and change the competitive position of various institutions. Banks will remain the core of the system partly because of the nature of their traditional business and because they will broaden and expand their activities into other areas.

These changes have implications for the stability of the financial system and monetary policy.

The changes that have occurred have altered the nature of risks in the financial system, reducing some and introducing others. An important one, the risk of system-wide liquidity problems, seems to have been substantially reduced. The removal of interest-rate ceilings and restrictions on how banks can fund themselves have given banks more ability to manage their liabilities, markedly reducing the possibility of liquidity problems for solvent institutions. International integration of markets and the deepening of the domestic market have also improved the liquidity of the system overall but, at the same time, mean that shocks in one market may be more rapidly transmitted to others. The willingness of central banks to step in should the risk of illiquidity arise (for example, the announcement by the U.S. Federal Reserve that it would ensure system liquidity needs following the 1987 stock market fall) also limits (and probably eliminates) these risks. Some innovations which at first glance may have made the system more vulnerable may considerably enhance the marketability and liquidity of bank assets, allowing them to be more easily sold-off in the face of extreme liquidity problems.

New financing techniques and financial instruments allow institutions, in principle, to manage risk better. They rely, however, on the correct assessment and pricing of risk. Based on the experiences of market participants in the 1980s, it can take some time for markets to accumulate experience in accurately determining these risks. The growth of off-balance sheet activities and the complexity of many of those activities, for example, could have exposed banks to greater risks. In response to any such risks banks must now hold capital against the credit-equivalent of their off-balance sheet activities.

The fact that a growing proportion of bank liabilities are owed to the securities markets and institutional investors may offset some of these advances. These funds are more return-sensitive than those of depositors and can be shifted rapidly. This could mean that banks' funding base is more elusive and expensive than it was in the past and that there is more pressure on banks to provide competitive returns.

While financial innovation and structural changes in financial markets provide new choices and benefits to savers and investors, they also introduce new elements of risk and volatility.[41] The challenge for supervisors will be to stay ahead of these developments to ensure the stability of the financial system while not stifling innovation. As the financial system evolves, we are seeing a gradual change in the distinctions between financial institutions which may encourage a move towards a functional rather than institutional approach to supervision.

Financial problems will recur and they will likely be related to the poor decisions of individual institutions, instability in the macroeconomy and large swings in asset prices. Large movements in asset prices can sometimes be driven by misplaced confidence in the underlying fundamentals which may lead to problems when the expectations are not realised. Some of the problems faced by the financial and real economies in many countries today stem from these types of swings in asset prices.[42]

Financial stability will importantly depend on the performance of the macroeconomy and the maintenance of low and stable inflation. Macroeconomic

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[41] Corrigan (1991).

[42] Shafer (1987) has identified excessive swings in asset prices as the likely cause of future financial problems.

instability increases uncertainty, makes it difficult to assess risk and encourages large swings in asset prices. Inflation has been an important catalyst for innovation in the financial system, benefiting some segments at the cost of others. It has also been an important contributor to the overall expansion of indebtedness and the problems that have resulted from that. By maintaining a stable economic environment and low inflation, monetary policy can significantly enhance the stability of the financial system. Moreover, it can allow the evolution of the system to reflect genuine competitive advantages of the parties involved rather than artificial ones created by the interaction of inflation and a range of other factors.

DATA APPENDIX

International Figures

Figure 1: Debt to Equity Ratios – Data are from the OECD Financial Statistics Part 3, Non-financial Enterprises Financial Statements, Table E.1. Total debt liabilities exclude trade credits and accounts payable (where independently identified). GDP data are taken from country sources accessed through Datastream.

Figure 2: Corporate Balance Sheet Liabilities (per cent to GDP) – OECD Financial Statistics Part 3, Non-financial Enterprises Financial Statements, Table E.1.

Figure 3: Composition of Household Assets (per cent to GDP) – OECD Financial Statistics Part 2, Financial Accounts of OECD Countries, Table 33B (Outstanding Financial Assets and Liabilities of Sectors, n.e.i.)

Figures 4 and 5: Bank Assets (per cent of GDP) and Bank Liabilities (per cent of GDP). US – Federal Reserve Bulletin (various issues), assets and liabilities of all commercial banks; UK – Bank of England Statistical Abstract Part 1, balance sheets of monthly reporting institutions; Canada – Bank of Canada Review, Chartered Bank Assets; Japan – Bank of Japan Economic Statistics Annual, Table 12, banking accounts of all banks.

International Tables

Table 1: Corporate Sources of Funds (per cent to GDP) – Data are from the OECD Financial Statistics Part 3, Non-financial Enterprises Financial Statements, Tables E.2 and E.3. Cash flow includes dividend payments where data are available.

Table 2: Bank profitability and sources of income. "Bank Profitability – Financial Statements of Banks" OECD Statistical Supplement, various issues.

Domestic Figures

Figure 6: Household Sector Financial Assets (per cent of GDP). Data from Occasional Paper 8, Table 3.9, and Reserve Bank of Australia *Bulletin*, Tables C1, C2, C18, C19, and D5.

Figure 7: Household Sector Financial Liabilities (per cent of GDP) – this is a break adjusted series calculated as the sum of personal and housing credit. The data sources are ABS National Accounts ABS Catalogue No. 5206.0 and Reserve Bank of Australia *Bulletin*, Table D3.

Figure 8: Corporate Sector Liabilities – Data are a sample of 96 companies from the Australian Stock Exchange STATEX service. Total liabilities and equity are defined as the sum of the following items:

(i) Total equity is calculated as the sum of ordinary equity, preference capital, minority interest, and intangibles.

(ii) Debt is calculated as the sum of both short and long-term securities and loans, and bank overdraft.

(iii) Trade creditors (or accounts payable to suppliers).

(iv) "Other" includes all other liabilities not separately identified such as accruals, and tax payable.

Figure 9: Debt to Equity – Data are from the above STATEX sample and from the Reserve Bank of Australia *Bulletin* Company Finance Supplements. Debt to equity is defined as total debt (at book value) divided by total shareholders funds (at book value). Debt is defined as the sum of short and long-term securities and loans, and bank overdrafts. Total shareholders funds are defined as the sum of ordinary equity, preference capital, minority interest, and reserves.

Figure 10: Total Assets of Financial Institutions – Data are from *Australian Economic Statistics 1949-50 to 1989-90*, Reserve Bank of Australia Occasional Paper No. 8, Table 3.4a, and the Reserve Bank of Australia *Bulletin*, Table D5.

Figure 11: Interest Rates – data from Battellino and McMillan, in Reserve Bank of Australia Conference Volume *Studies in Money and Credit*, 1989, updated using Reserve Bank of Australia *Bulletin*. Bill rate – 90 day bank bill yield; fixed deposit rate – the interest rate on trading bank fixed deposits of maturity 3 months. Before 1976, the average rate on fixed deposits of maturities 3-6 months or 3-12 months is used.

Figure 12: Bank liabilities – data collected from *Australian Economic Statistics 1949-50 to 1989-90*, Reserve Bank of Australia Occasional Paper No. 8,

Table 3.7a, Reserve Bank of Australia *Bulletin,* Tables B1 and D1, and Australian National Accounts, ABS Catalogue No. 5206.0.

Figure 13: Bank assets – data from *Australian Economic Statistics 1949-50 to 1989-90,* Reserve Bank of Australia Occasional Paper No. 8, Table 3.7b, Reserve Bank of Australia *Bulletin*, Tables B1, B7, B4, B5, B12, D2 and D3, and Australian National Accounts, ABS Catalogue No. 5206.0.

Figure 14: Bank profitability – Major banks' average return on shareholders' funds. Data are calculated as a weighted return for private major banks to 1980; includes the Commonwealth Bank from 1981. Calculated as the ratio of operating profit after tax and minorities, but before abnormals, relative to average shareholders' funds. Average shareholders' funds figures are generally as published or implied in annual reports up to 1988. From 1989 average shareholders' funds figures are from tables on average balance sheet and related interest.

Figure 15: Return on Shareholder's Funds by Industry – Data are from the Australian Stock Exchange STATEX service.

Figure 16: Breakdown of Consolidated Bank Assets – data are from Financial System Department, Reserve Bank of Australia.

Domestic Tables

Table 3: Corporate Sector Debt and Equity: Australian National Accounts: Financial Accounts, March Quarter 1993.

Table 4: Funds raised by the private sector. Pre 1978 data are from *Australian Economic Statistics 1949-50 to 1989-90*, Reserve Bank of Australia Occasional Paper No. 8. Bank loans, bills and NBFI lending post 1978 are from the Reserve Bank of Australia *Bulletin*. Overseas borrowings are calculated from the change in foreign borrowing domiciled abroad: ABS Catalogue no. 5305.0. Equity raisings are from the Australian stock exchange.

Table 5: Bank Non-Interest Income – All Banks. "Bank Profitability – Financial Statements of Banks" OECD Statistical Supplement, 1982-1991.

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