SOME STRUCTURAL CAUSES OF JAPAN'S BANKING PROBLEMS

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Research Discussion Paper
2000-03

May 2000

Economic Research Department

Reserve Bank of Australia

I thank David Gruen for helpful comments and take responsibility for any remaining errors. The views expressed herein are mine and they do not necessarily reflect the views of the Reserve Bank of Australia.

Abstract

This paper reviews corporate finance literature which explains some of the long-term causes of the Japanese banking sector's poor performance in the early 1990s. It concentrates on the ideas that an adverse selection problem developed in the bank lending market during the 1980s, and that banks had strong incentives to seek out borrowers which were of lower quality and which had greater exposure to adverse movements in asset prices. Possible links between these hypotheses and the macroeconomic environment are also considered.

JEL Classification Numbers: E44, G30
Keywords: Japanese finance

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1. Introduction

At the start of the 1990s, Japanese banks were held in reasonably high regard. There was a consensus in industrial organisation theory that they selected and monitored their industrial clients efficiently and that they met the need for corporate governance in a way that the takeover market could not. For this reason, it was widely believed that financial intermediation was one source of the productivity growth that had fuelled Japan's postwar economic expansion (Calder 1993).

By the end of the decade, those impressions had dissipated. Growth had stagnated, and in ways that reflect badly on the banks. By disrupting financial intermediation, the non-performing loans of Japanese banks have constrained investment for the better part of a decade. In 1998, they were equal to roughly 25 per cent of GDP (Lincoln 1998), and at the end of March 1999, they still constituted 12 per cent of outstanding credit exposure (OECD 1999, p 87).

Some of the longer-term causes of those problems lie in the deterioration of banks' loan portfolios which occurred during the 1980s. Over this period, banks developed large exposures to borrowers who were either very vulnerable to falling asset prices or were, for other reasons, not very creditworthy. Not only did banks accept substantial credit risk by targeting these borrowers, they apparently attenuated their monitoring and screening of them.

This paper surveys some of the literature which explains the deterioration in the quality of the banks' loan portfolios. It focuses on two hypotheses that have emerged in the corporate finance literature. The first is that capital market reform over the 1980s encouraged high-quality borrowers to secure disintermediated forms of finance, with the result that an adverse selection problem developed in the Japanese bank lending market. The second is that the simultaneous deregulation of

the wholesale funds and retail lending markets compressed the margins of banks. Given the various safety nets in operation in Japan at the time, it was rational of the banks to respond to the reduction in their franchise values by targeting borrowers which presented greater risks but offered higher nominal rates of return. Much of the accumulated exposure of banks to firms which were vulnerable to the asset price collapse of the early 1990s can be understood in terms of these two ideas.

Macroeconomic developments inform both arguments. During the 1970s, economic growth began to slow. This required financial reform, which in turn, eventually caused some dislocation of the domestic banking system. The problems worsened in the late 1980s, as monetary policy was eased in response to falling consumer price inflation and an appreciating nominal exchange rate. This substantially eroded the franchise values of banking.

The next section presents a stylised overview of Japan's corporate finance markets prior to the 1980s. Section 3 profiles the subsequent deregulation of the system, and it reviews some of the theories which relate the changes in the corporate finance market to the changes in bank behaviour. The final section summarises the analysis.

2. Historical Background

Private domestic banks have intermediated a high proportion of Japanese corporate finance throughout most of the postwar period. Data reported by Hamada and Horiuchi (1987) indicate that, on average, their loans accounted for about three-quarters of all externally sourced industrial funds between 1947 and 1972. Table 1 shows that they also managed, and continue to manage, a high proportion of household savings.

Table 1: Composition of Personal Savings
Per cent of total

	Deposits and savings			Trusts	Bonds	Insurance	Other
	Banks	Post offices	Other				
1977	28.7	17.9	21.4	5.9	9.6	14.6	1.9
1980	27.1	20.1	20.3	5.4	9.4	15.9	1.8
1985	25.8	21.5	21.7	5.5	9.3	15.3	0.9
1990	26.0	18.0	17.8	5.3	6.8	20.7	5.4
1995	24.3	21.9	16.7	4.6	4.0	24.8	3.7

Source: Bank of Japan, *Economic Statistics Annual* (various issues)

Note: 'Other' deposits and savings are held at *shinkin* banks, credit co-operatives, agricultural and fishery co-operatives, and labor credit associations.

The importance of the banking system in Japanese industrial finance dates back at least to the early postwar period, when household financial wealth was low, and the diversification of risk through the stock market was prohibitively expensive. The attractions of financial intermediation in such an environment were enhanced by the (then) acute problems of maturity transformation and the need for a viable system of corporate governance (Hamada and Horiuchi 1987; Hoshi, Kashyap and Scharfstein 1993).

Financial regulation validated banks as a solution to these problems and promoted their role in both corporate finance and governance. It limited entry to the banking market, and it effectively restricted securities market access to long-term credit banks, public utilities, and a handful of manufacturers. Through a comprehensive web of regulations and through the tax structure, it also discouraged reliance on equity finance. And finally, it preserved the pre-war philosophy of financial market segmentation. Among other things, regulation partitioned rural and urban banking, commercial and trust banking, long-term and short-term financing, and it separated the various types of securities business from other forms of finance.

From the mid-1970s, aspects of this structure began to change (Table 2). Initially, borrowed capital gave way to internally generated funding as a major source of finance among larger firms. Then, during the 1980s, the declining dependence of major corporations on bank loans accelerated, as the deregulation of securities markets facilitated bond finance.

Table 2: Funding of Principal Industrial Enterprises

Per cent of total supply of funds

Period average	Own capital	Net trade credit	Debt	
			Borrowing	Bonds
1969–1973	41.3	6.0	47.3	5.4
1974–1978	53.3	5.1	31.8	9.8
1979–1983	57.5	4.6	30.3	7.6
1984–1988	76.6	–0.1	8.7	16.1
1989–1993	83.8	0.1	4.3	11.8

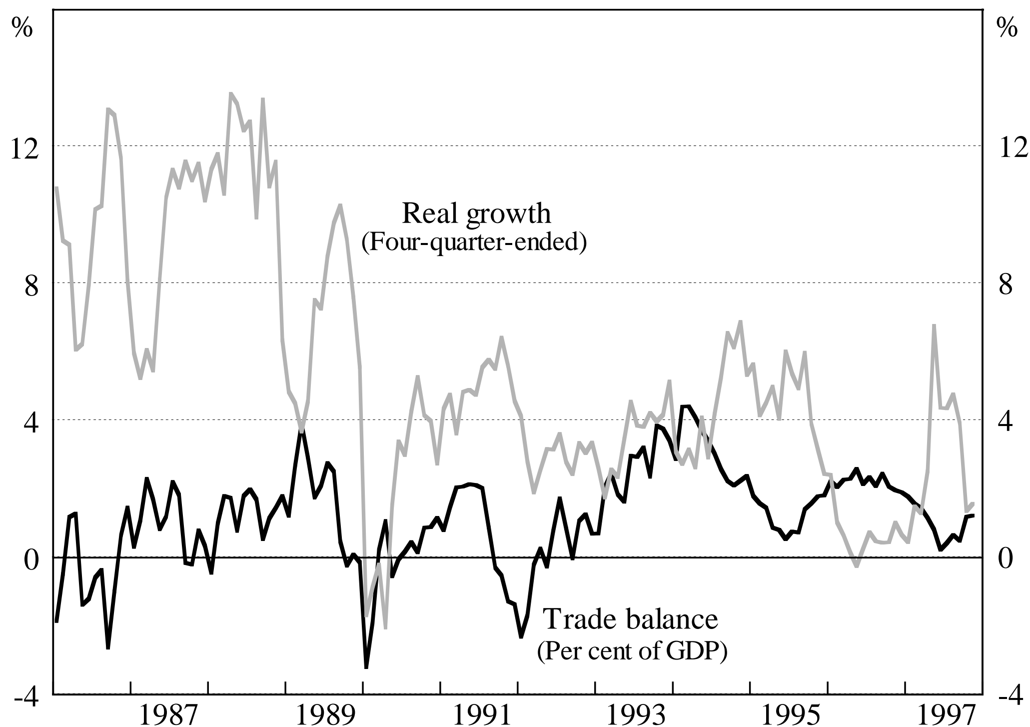
Source: Adapted from Bank of Japan, *Economic Statistics Annual* (various issues)

Notes: The criteria for inclusion in the survey have varied over time. Firms currently in the sample have a market capitalisation greater than ¥1 billion. Their number rose over the sample period from 484 in 1969 to 651 in 1993.

Patrick (1999) argues that these changes in the corporate finance environment were closely related to several macroeconomic developments that date from the 1970s. The first of these was a slowing rate of real economic growth (Figure 1). By the early 1970s, domestic investment opportunities had become somewhat scarcer, causing the retained earnings of larger corporations to rise and their financial deficits to fall (Table 2). This represented a significant threat to the market share and operating income of the banking sector, which depended heavily on interest income from loans to non-financial corporations. Banks regarded the liberalisation of their lending markets as a means of restoring their competitiveness and reasserting their market share of the total flow of funds (Cargill and Royama 1992).

Concurrent with the slowing growth rate was a steady increase in the current account surplus. When growth fell and investment declined, the current account surplus rose (Figure 1). As Argy (1987) points out, the implied capital outflows had to be accommodated with a more flexible capital account structure. This was particularly pressing for banks and larger non-financial corporations, both of which were managing larger flows of foreign exchange. As explained in more detail below, this provided the impetus for the relaxation of some capital controls, and it paved the way for deregulation of the domestic securities markets.

Figure 1: Growth and the Trade Balance



Source: Bank of Japan, *Economic Statistics Annual* (various issues)

The other important macroeconomic development of the 1970s was the sharp increase in public sector indebtedness. In the late 1960s and early 1970s, the Japanese government increased public works expenditure significantly. Shortly afterwards, non-discretionary expenditure also increased, as Japan encountered what was then its most serious postwar recession. The combined effect of these processes was a large increase in public sector debt. The deficit of the total public sector increased from one per cent of GDP in 1970 to 7.3 per cent in 1975. The Bank of Japan monetised little of the debt, and so private sector bond holdings increased substantially.

At this time, government bonds were effectively allocated to a syndicate of banks on terms that were set by the Ministry of Finance. The increase in their issuance, coupled with a rise in inflation, squeezed banks' real margins and led to lobbying for the development of more effective secondary markets: a demand to which the government acquiesced. Before 1977, fewer than five per cent of national bonds were sold on the Tokyo secondary market; by 1982, that ratio had risen to 62 per cent (Hamada and Horiuchi 1987, p 28).

The liberalisation of the government bond market proved contagious, forcing the creation of a market in negotiable certificates of deposit in 1979 and the eventual liberalisation of the money markets. Partial liberalisation of government bond trading in 1977 had caused a marked increase in the size of the *gensaki* market for short-term repurchase agreements in government bonds, and this produced a significant change in the wholesale funds market. Faced with a loss of market share, banks lobbied (again successfully) for the progressive liberalisation of alternative money market and deposit instruments.

And so, by the late 1970s, Japan's autarkic and regulated corporate financial system had come under considerable pressure from some lasting and significant macroeconomic changes. By the end of the decade, the banks – whose interests the system had been designed to protect – were pressing for reform.

3. Developments in the 1980s

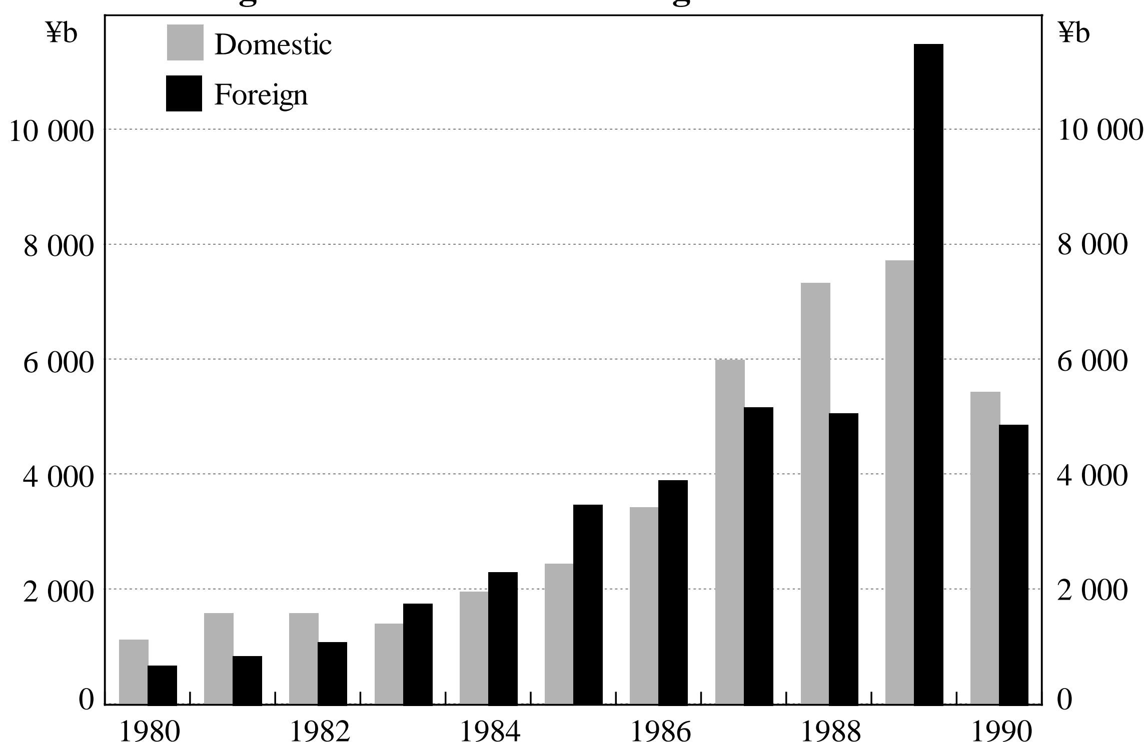
By the mid-1980s, financial reform was proceeding on several fronts. Interest rates were being more competitively determined, and markets in foreign exchange, government bonds and other securities were at various stages of deregulation. These changes in the corporate finance environment would eventually lead to some distancing of banks and high quality borrowers, and that would in turn eventually force the banks to lend to firms which were to become primary sources of the non-performing loans problem several years later. We begin by considering these developments from the perspective of major non-financial corporations.

3.1 Non-financial Corporations

As a result of the securitisation process and the greater accessibility of internally generated funds, banks lost many of their better clients and were forced to price loans more competitively for a high proportion of the remainder. Consider the process of securitisation first. This gathered speed from 1980, and by 1994, the largest Japanese firms were undertaking up to 80 per cent of their borrowing directly in local and offshore markets (OECD 1996, p 177).

Much of the issuance took place offshore, since the 1980 reform of the Foreign Exchange and Trade Control Law had dramatically facilitated securitised borrowing in foreign markets. It was cheaper, administratively easier, and subject to more permissive eligibility and collateral requirements than domestic issuance. It was also a cost effective means of meeting the growing appetite of Japanese investors for equity (see below), since transactions involving convertible and warrant bonds attracted lower tax than those involving equity issued in the domestic market.[1] As a result, offshore issuance by Japanese resident corporations increased by a factor of 16 between 1980 and 1989, while new issuance in the domestic market increased by a factor of only five (Figure 2).

Figure 2: Domestic and Foreign Bond Issuance



Source: Bank of Japan, *Economic Statistics Annual* (various issues)

One effect of the deregulation of offshore markets was to accelerate the liberalisation of domestic markets. In order to compete with the newly liberalised foreign markets, the banking cartel which controlled domestic bond issues relaxed

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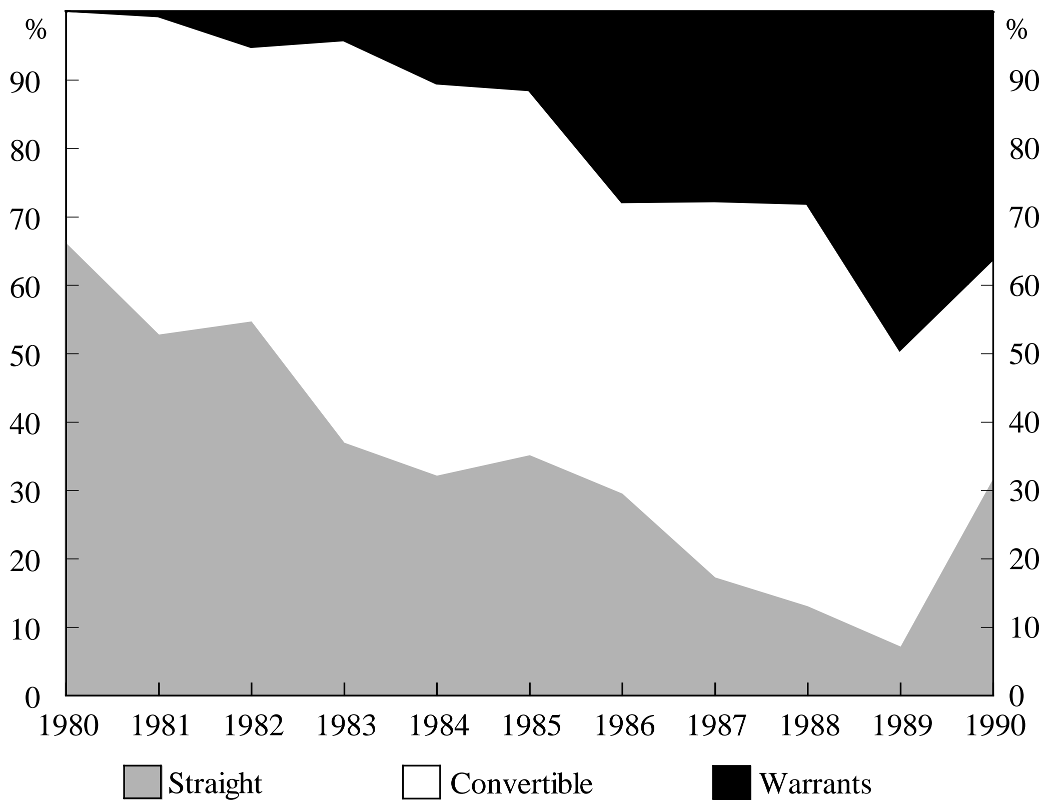
1 Warrant and convertible bonds confer on the purchaser of the bond an entitlement to stocks in the firm under pre-specified conditions. They are effectively two closely related types of long-term call option.

both its fee structure and its collateral requirements throughout the decade. Between 1979 and 1989, collateral requirements on unsecured domestic straight and convertible debt were eased to the extent that the number of companies eligible to issue unsecured straight bonds rose from 2 to 300, while the number eligible to issue unsecured convertible debt rose from 2 to 500.

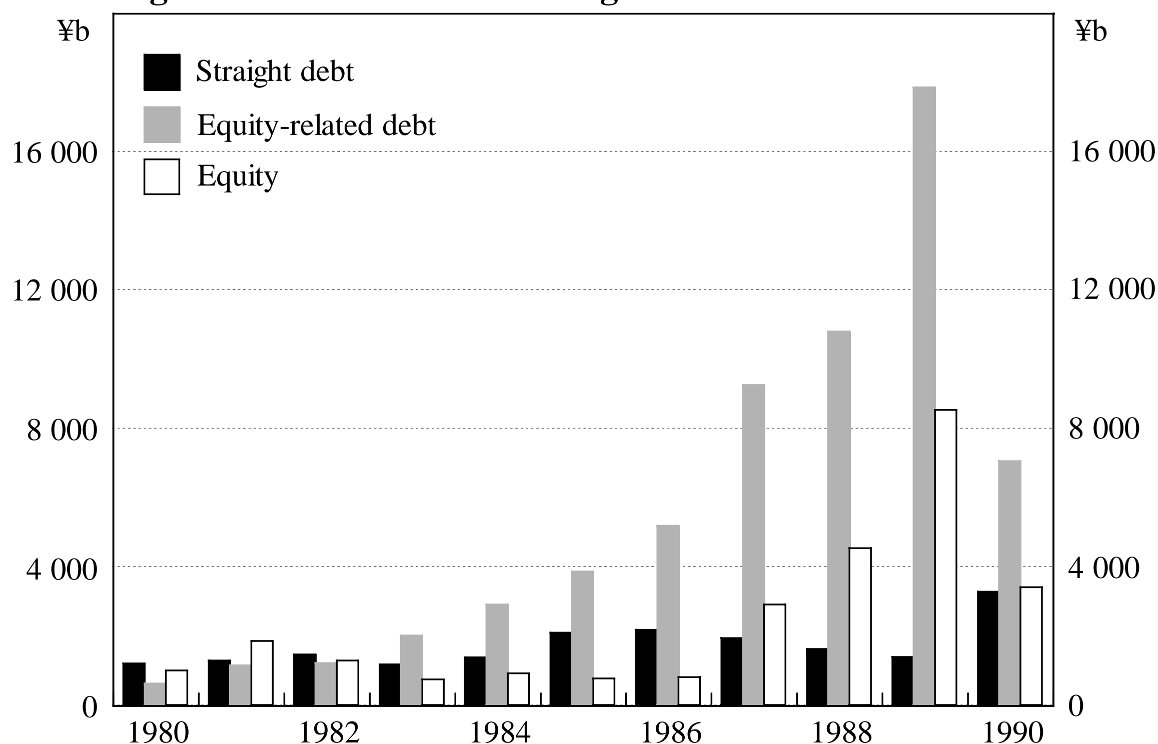
Much of the securitisation that took place in both foreign and domestic markets was equity-related (Figure 3). In fact, as Figure 4 shows, equity-related debt displaced direct equity placements as a source of securitisation fairly early in the decade, and in 1989, firms listed on the Tokyo Stock Exchange raised more finance through foreign issues of warrant bonds than they did through direct equity raisings.

Figure 3: Composition of Total New Bond Issues



Source: Bank of Japan, *Economics Statistics Annual* (various issues)

Figure 4: Funds Raised Through the Issuance of Securities

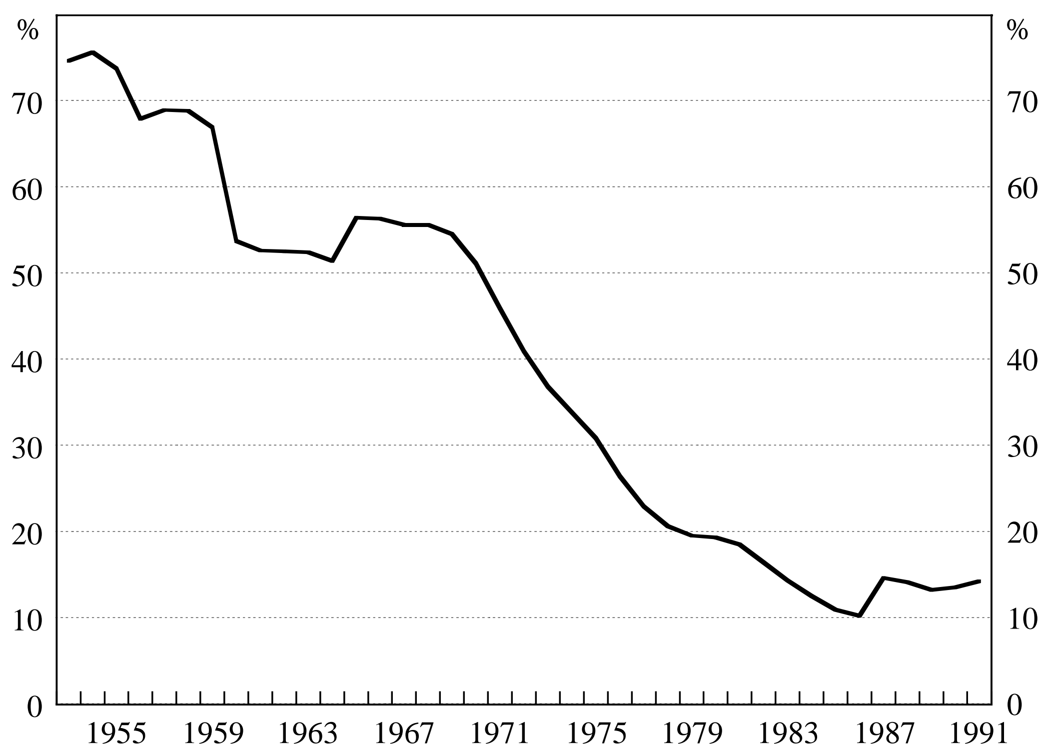


Source: Bank of Japan, *Economic Statistics Annual* (various issues)

Of itself, securitisation would not necessarily have implied a great decrease in firms' dependence on banks for funding. Early in the postwar period, banks were compelled to hold most of the bonds that were issued by the corporate sector and so the substitution of bank debt for securitised borrowing by non-financial corporations did not threaten the market share of banks in lending markets (Figure 5). However, this policy was gradually relaxed, and so when securitisation began in earnest, bond issuing non-financial firms became much less dependent on banks for their financing needs.

Rising levels of retained earnings were another means by which larger and better non-financial corporations were able to distance themselves from their banks. After several decades of consistent postwar growth, Japan's major corporations had developed large stocks of internal funds from which to finance their investments. Although, as Table 2 shows, this was obvious in the case of large firms, it seems to have been true of the corporate sector more broadly. The Economic Planning Agency (1992) reports that retained earnings as a proportion of total funding

Figure 5: Proportion of Domestically Issued Bonds Held by Banks



Source: Aoki, Patrick and Sheard (1994)

increased from an average of 39.4 per cent in 1962–1964 to 52.3 per cent in the interval 1985–1989. A similar trend is reflected in the ratio of corporate financial assets to liabilities. For principal (non-financial) enterprises, this climbed from 51 per cent to about 80 per cent between 1972 and 1989. Indeed, for large scale manufacturers, the ratio had moved above one by 1988, and it climbed as high as 1.9 for two of the largest manufacturing enterprises (Bank of Japan 1991c).

Of the two comparatively new sources of corporate funding, retained earnings is the easier to understand, since internally generated earnings are usually a firm's cheapest source of finance. By contrast, the rising ratio of securitised finance to bank debt is more puzzling. In the early 1990s, much extant theory and evidence suggested that bank finance in Japan, more than elsewhere, minimised the agency cost of finance. The long-term relationship banking that had been a hallmark of financing patterns was thought to be a particularly effective means of dissolving informational asymmetries between borrowers and lenders (Hodder 1991; Hodder and Tschoegl 1985; Prowse 1992 and Lichtenberg and Pushner 1994). Partly because of this, it was also widely believed that bank finance relaxed a firm's

liquidity constraints (Hoshi *et al* 1991; Gerlach 1992). In the light of those findings, the growing preference of large firms for securitised finance over bank debt was something of a puzzle.

Drawing on earlier work by Caves and Uekusa (1976), Weinstein and Yafeh (1998) develop a possible solution. They argue that, contrary to appearances, Japan's pre-deregulation system of finance raised, rather than lowered, the agency costs of debt, and that non-financial firms only maintained close relations with banks in order to overcome credit rationing problems.[2] Their model emphasises that banks are able to control the behaviour of their borrowers, since they usually have equity positions in those firms.[3] Because they are typically more exposed to firms as creditors than as shareholders, banks will raise the capital intensity (and leverage) of their client firms beyond levels consistent with profit maximisation.[4] Non-bank shareholders may prefer lower leverage and capital intensive production but, in a credit-rationed system, they will be able to assert that preference only when non-bank forms of credit are accessible. In support of this argument, Weinstein and Yafeh present evidence to suggest that the capital costs of firms which have a heavy dependence on bank debt declined more substantially than the costs of other firms after capital market liberalisation.

An alternative perspective on securitisation is that the agency problems which motivated a dependence on bank debt in the early postwar years had eased by the 1980s. In somewhat unorthodox fashion, Diamond (1991) has argued that disintermediated debt should be most profitable for firms which have sound reputations. This is mainly because the holders of securitised debt do not monitor their investments. They may therefore charge a lower rental price of capital than banks, but they will make funds available only to well collateralised and highly profitable borrowers. Such borrowers would have been scarce in Japan shortly after the Pacific War (Hamada and Horiuchi 1987), but they would certainly have been abundant after several decades of rapid growth. Disintermediated debt would

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[2] Frankel (1991) makes a similar point.

[3] Two points are pertinent here. First, Japanese corporate law allows banks to be both creditors and shareholders of their clients, subject to certain limits. Second, there is a very large literature which affirms that Japanese banks do indeed strongly influence the affairs of their client firms. See, for example, the contributions in Aoki *et al* (1994).

[4] A similar point is made by Aoki (1984).

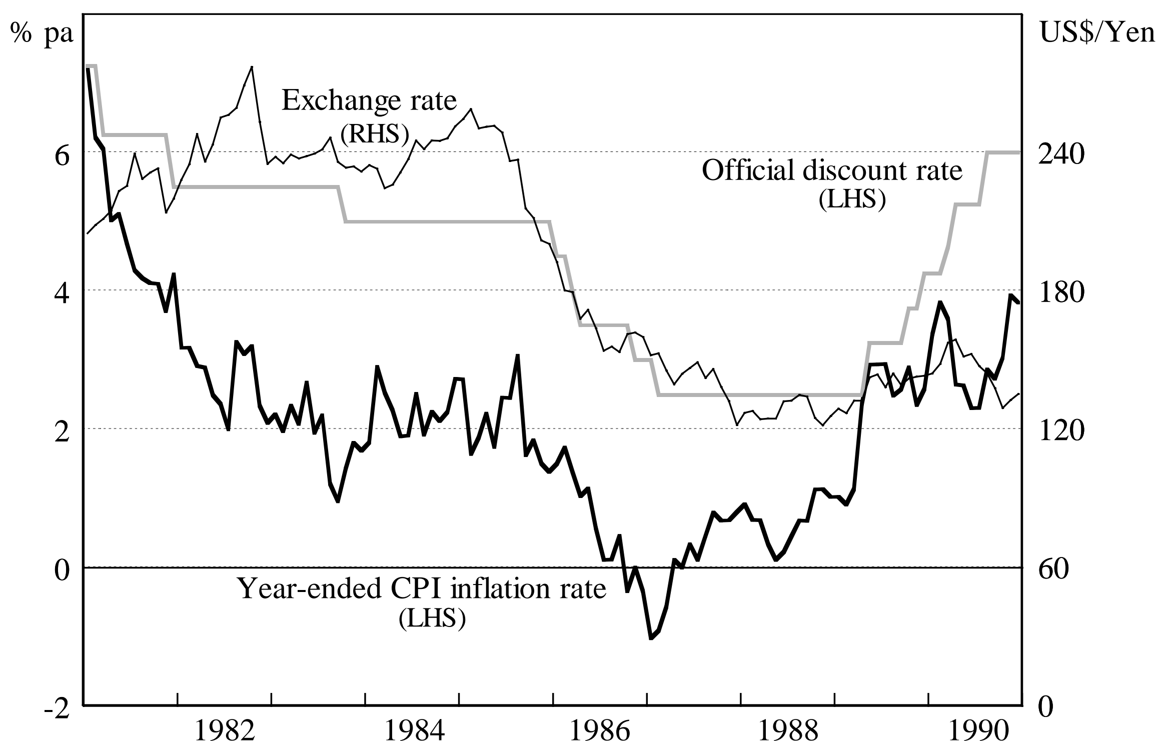
therefore have become prevalent, regardless of the degree of competition in the bank lending market.

Several empirical studies have confirmed the importance of borrower characteristics as factors driving securitisation in Japan. For example, Hoshi *et al* (1993) adapt Diamond's model to explore a non-financial firm's choice between intermediated and securitised debt, and they show that more profitable and better collateralised firms will tend to prefer the latter.

Anderson and Makhija (1999) have recently reported similar results, although their analysis places greater emphasis on the relationship between a firm's growth prospects and its capital structure. Following Myers (1977), Anderson and Makhija reason that firms with high growth potential depend on managerial discretion for the realisation of their value. For these firms, (monitored) bank debt is cheaper because corporate bond holders – who lack the technology for monitoring their investments – are very exposed to the risk of managerial delinquency. In contrast, firms with low growth prospects and large stocks of existing physical assets have substantial collateral, and so their bond holders are well insured against delinquent management. For these firms, disintermediated debt may well be cheaper because it does not attract a monitoring premium. Securitised debt should therefore be more prevalent among well collateralised, and slowly growing, firms. Anderson and Makhija find this to be the case in Japan.

Another factor which may have encouraged securitisation is the monetary ease of the latter 1980s. In response to sharp yen appreciation and subdued consumer price inflation, monetary policy was eased from early 1986, and in February 1987, the official discount rate reached what was then an historical low of 2.5 per cent (Figure 6). It held this level until mid-1989, by which time consumer price inflation had begun to rise.

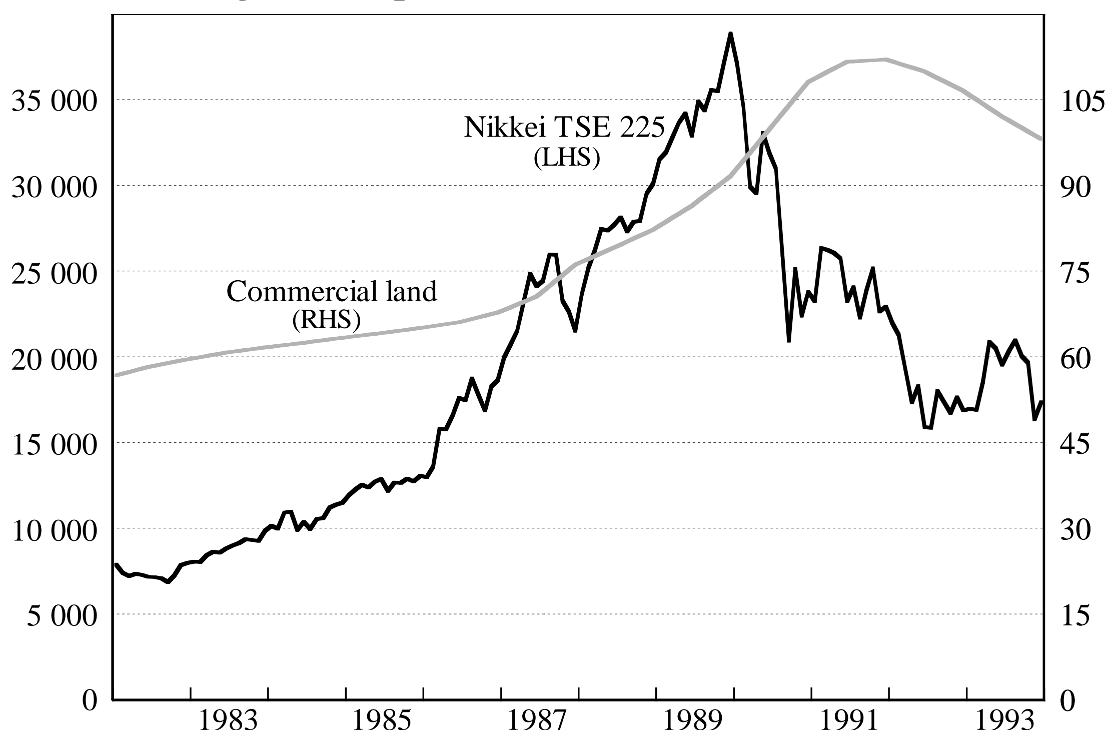
Figure 6: Official Interest Rates, Exchange Rates and Inflation



The lower interest rates could have contributed to the changed financing patterns in several ways. First, they could have mitigated the agency problems associated with disintermediated debt. Diamond (1991) makes the somewhat unorthodox point that direct finance will become more prevalent as real interest rates fall. This is because a fall in real interest rates lowers a manager's discount rate and increases the present value of his\her reputation. Consequently, managers become more trustworthy at low levels of real interest rates, and the agency problems that inhibit disintermediated debt become less severe. As a result, a higher proportion of good firms would have been in a position to securitise their debt once the general level of interest rates began to fall.

A second channel through which monetary ease may have fuelled securitisation is through stock prices. Japanese stock prices rose sharply over the late 1980s, possibly because of a contemporaneous rise in the value of land held by corporations (Figure 7). But whatever its cause, the rise in share prices, coupled with expectations of further increases, greatly reduced the costs of issuing debt that was equity-related.

Figure 7: Japanese Land and Stock Prices



Source: Bank of Japan, *Economic Statistics Annual* (various issues)
Notes: The land price is a year-end observation of the land price index for Japan's six largest cities; 1990 = 100.

Besides being cheap, equity-related debt may have satisfied certain narrow managerial interests in borrowing firms. Horiuchi (1994) reasons that many Japanese managers preferred the newly accessible equity-related debt instruments because they generated more free cash flow for the consumption of managerial perquisites. As asset prices rose, the securitisation of debt became more attractive, not only because it was cheaper, but because it conferred greater autonomy on the managers of non-financial firms.[5]

Yet another theory emphasises the corporate groups (*keiretsu*) for which Japan has become renowned. Many models of Japanese corporate behaviour downplay the importance of one-to-one relations between a firm and its bank in the determination of bank loan pricing and capital structure. Instead they emphasise the implicit relationships among non-financial firms as determinants of corporate capital structure. In some of the more mainstream theories dealing with these

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[5] See also Bank of Japan (1993b, p 3).

relationships, there are clear reasons for which firms might securitise their debt once given the opportunity to do so.

Nakatani's (1984) model is a case in point. Nakatani defines membership of a *keiretsu* partly by a degree of dependence on shared group financial institutions. In this 'hub and spokes' conception of the relationship between banks and their borrowers, corporate governance is the outcome of a risk sharing process, to which the more conventional agency arrangement connecting banks, borrowers and depositors is subordinate. Each firm in the group borrows a high proportion of its funds from group financial institutions, paying a premium on its borrowing in normal states, in the expectation of support from the group financial institutions in the event of financial distress. When membership of the group is diverse and when opportunities for finance outside it are scarce, the mechanism operates like an insurance network. Evidence that group-affiliated firms exhibit lower but more stable profitability than independent firms is often interpreted as evidence in favour of this hypothesis.

Implicit in Ramseyer's (1994) critique of this framework are several reasons for which it would not operate in deregulated capital markets. In particular, if each firm in a group has private information about its own prospects, then access to non-group finance will destabilise the network. Better firms will securitise their debt, since the premium they are charged on their group borrowing is actuarially unfair. The most plausible outcome is a separating equilibrium in which group-based risk sharing only takes place among those firms whose public reputations are too poor to allow securitisation. In this case, self-selection by borrowers leads to a deterioration in the average quality of bank borrowers, independently of the banks' own monitoring and screening efforts. Once again, this is broadly consistent with the evidence of Hoshi *et al* (1993) and of Anderson and Makhija (1999).

To summarise, many non-financial firms accepted new opportunities for reducing their dependence on bank debt during the 1980s. For a number of reasons, the incentives were strongest among high quality firms. Firms of lower creditworthiness were forced to maintain a relatively greater dependence on bank finance, and so banks became increasingly subject to an adverse selection problem in their lending markets.

3.2 The Banking Environment

The change in the borrowing patterns of large corporations coincided with a number of changes in the banking environment over the 1980s. Generally speaking, the most important of these was the compression of banks' lending margins. This reduced the franchise value of banking and inspired the redirection of lending to firms with which the banks were unfamiliar and which represented greater credit risk.

Somewhat surprisingly, the profitability of the Japanese banking industry actually improved over the 1980s. Between 1979 and 1987, the rate of return on equity briefly reversed its long-term downward trend and increased significantly. However, the higher profits do not suggest that the banks were any more profitable in their lending markets. They were achieved through low rates of capital growth and relative declines in expenditure, rather than through rising interest income. Indeed, between 1979 and 1990, declining net interest income worked to suppress the rate of return on equity. (Bank of Japan 1993a, p 28; Figure 8).

A key cause of the contraction in net interest income was the deregulation of the wholesale funds market. This began in 1979 when banks were authorised to issue negotiable certificates of deposits at market rates of return.[6] It continued until 1994 and was at its most rapid after 1985, when the deregulation of interest rates on time deposits began. In the following five years, the proportion of time deposits which attracted unregulated rates of interest rose from just 4.3 per cent to 74 per cent (Bank of Japan 1991a, p 73) and the overall proportion of total funds raised at market rates of interest rose from 22 per cent to over 70 per cent (Nakajima and Taguchi 1995, p 58).

An important property of the deregulated instruments was that their rates of return generally exceeded those on regulated instruments with similar risk and maturity profiles. The deregulation of the wholesale funds market and the shift to market determined deposit costs therefore produced a rise in the overall cost of wholesale funds. Furthermore, the difference between the regulated and unregulated rates of

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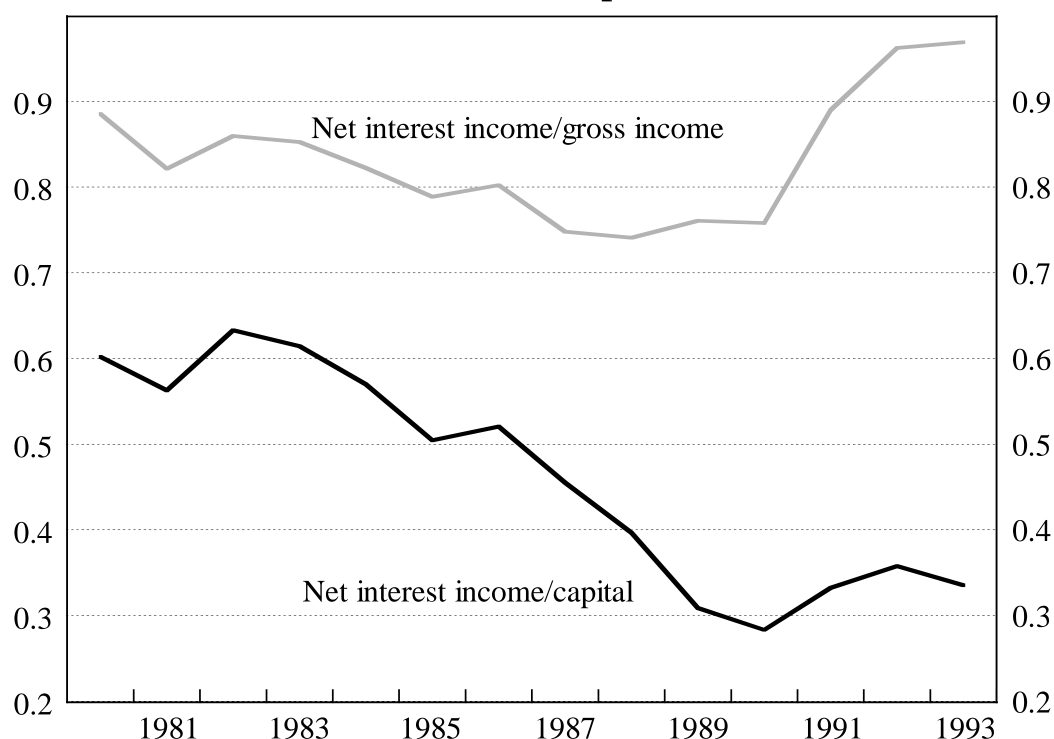
[6] See Hall (1998, pp 82–88) or Takeda and Turner (1992) for a chronology and a more detailed discussion of the process.

Figure 8: Interest Related Income Relative to Gross Income and Bank Capital



Source: OECD, *Bank Profitability: Financial Statements of Banks* (various issues)
Note: Commercial banks are those reporting to the Federation of Bankers' Associations of Japan.

interest became more pronounced over time. For example, the spread between banks' average cost of funds and the then regulated three-month time deposit rate increased from about 0.1 per cent in 1985 to 1.75 per cent in 1991 (Bank of Japan 1991a, p 31).

The accelerated easing of monetary policy after early 1986 failed to offset fully the effects of the rising funding costs on bank profits. The Economic Planning Agency (1993) has found that the stimulatory effects of accommodating monetary policy on bank lending margins were much more subdued in the late 1980s than in previous phases of monetary ease.

Underlying the comparatively high rate of pass-through of falling wholesale funding costs was the greater contestability of the corporate finance market. Banks were not only competing with the more liberal securities markets, they were also competing much more aggressively with one another. Before the 1980s, firms

commonly maintained close relationships with a particular bank (or syndicate of banks) in order to secure a stable line of credit. Effective lending rates were held reasonably stable over the business cycle, and this was interpreted by observers, either as a sign of inter-temporal risk sharing between banks and their borrowers (Osano and Tsutsui 1985), or as a means by which banks could maximise the effectiveness of their screening and monitoring of their borrowers over the long term (Horiuchi, Packer and Fukada 1988). But whatever the case, the arrangement began to unravel over the late 1980s. Firms became more inclined to sever ties with their main bank in the interests of 'shopping around' for bank debt (Economic Planning Agency 1993; Bank of Japan 1991a). The result was more competitive bank loan pricing.

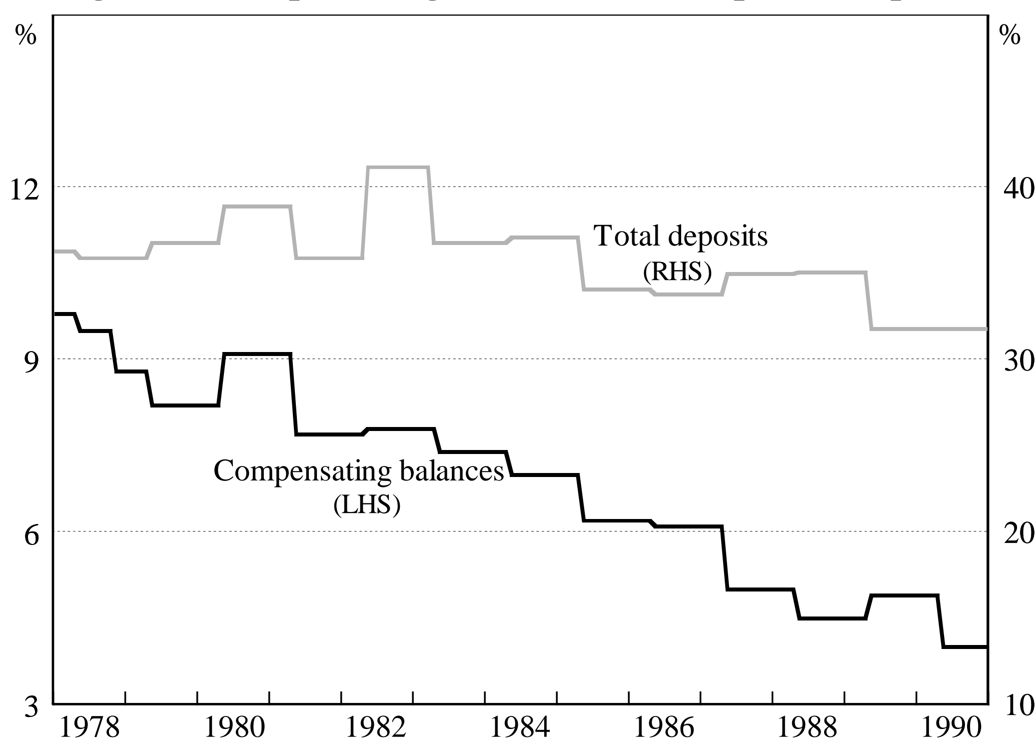
This is clearly visible in the effective lending rates of interest on bank debt faced by small and medium sized enterprises. When financial markets were tightly regulated, effective lending rates were well above their face, or notional, values. Face lending rates were determined by a markup over controlled deposit rates and they were usually below market-clearing levels. To clear markets and maximise profits, banks typically required that borrowers withdraw more than they actually needed, and re-deposit their surplus borrowing with the bank. This redeposit is known as a compensating balance, or derivative deposit. It inflates the cost of capital to final borrowers by an amount equal to the spread of lending over deposit rates, multiplied by the size of the compensating balance. Equation (1) expresses this idea more succinctly:

$$r_e = \frac{r_l - d\beta}{1-\beta} \qquad (1)$$

where: r_e = effective lending rate; d = deposit rate of interest; r_l = face lending rate of interest; β = proportion of a loan in the form of compensating balances.

Although nominal and effective lending rates of interest had been converging prior to financial deregulation, they fell to historic lows during the 1980s, as increasing competition in retail lending markets drove down the ratio of compensating balances to total loans (Figure 9). The decline in the profitability of lending reported in Figure 8 was a direct consequence of this.

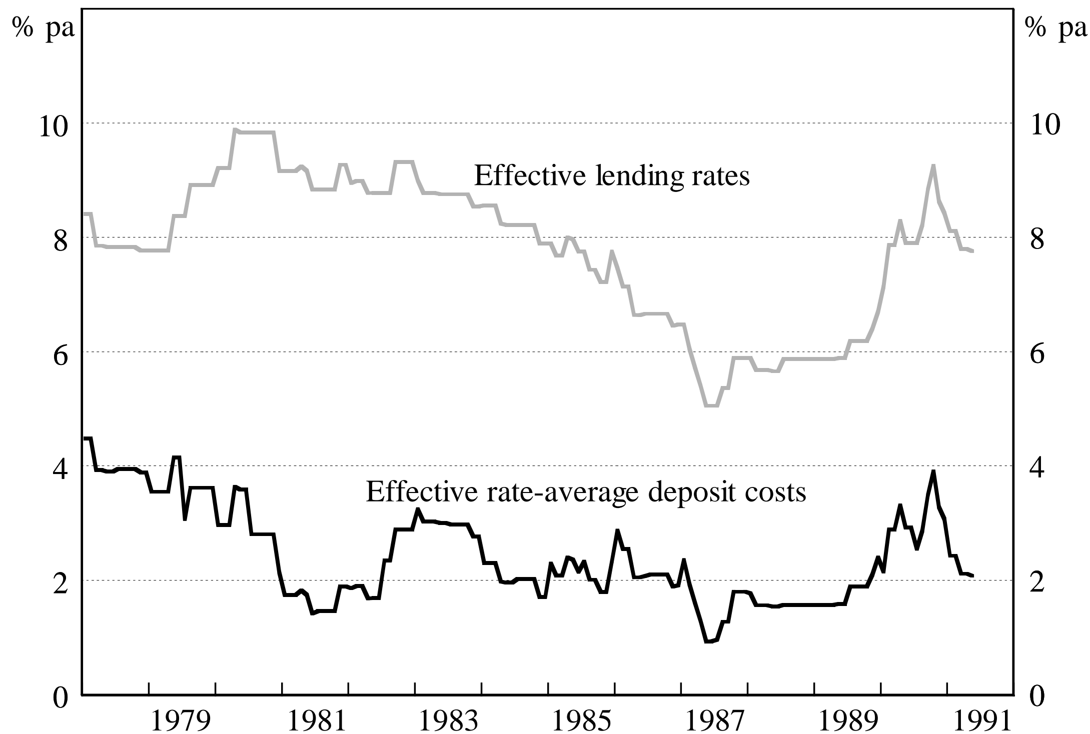
Figure 9: Compensating Balances and Corporate Deposits



Source: Japan Fair Trade Commission, *Research on Derivative Deposits* (various issues)
Note: Data are derived from a survey of small to medium sized enterprises.

Figure 10 shows that the decline in effective lending margins recovered and then stabilised in 1987. The Bank of Japan (1993a, p 13) associated this with a redirection of bank credit into new and more lucrative sectors of the economy. Particularly prominent among these new sectors was the real estate industry. Between 1985 and 1992, real estate related lending grew at an average annual rate of 13.7 per cent. This compares with an increase in overall bank lending of around 6.6 per cent over the same period (Nakajima and Taguchi 1995, p 59; Figure 11).

Figure 10: Effective Lending Rates and Margins

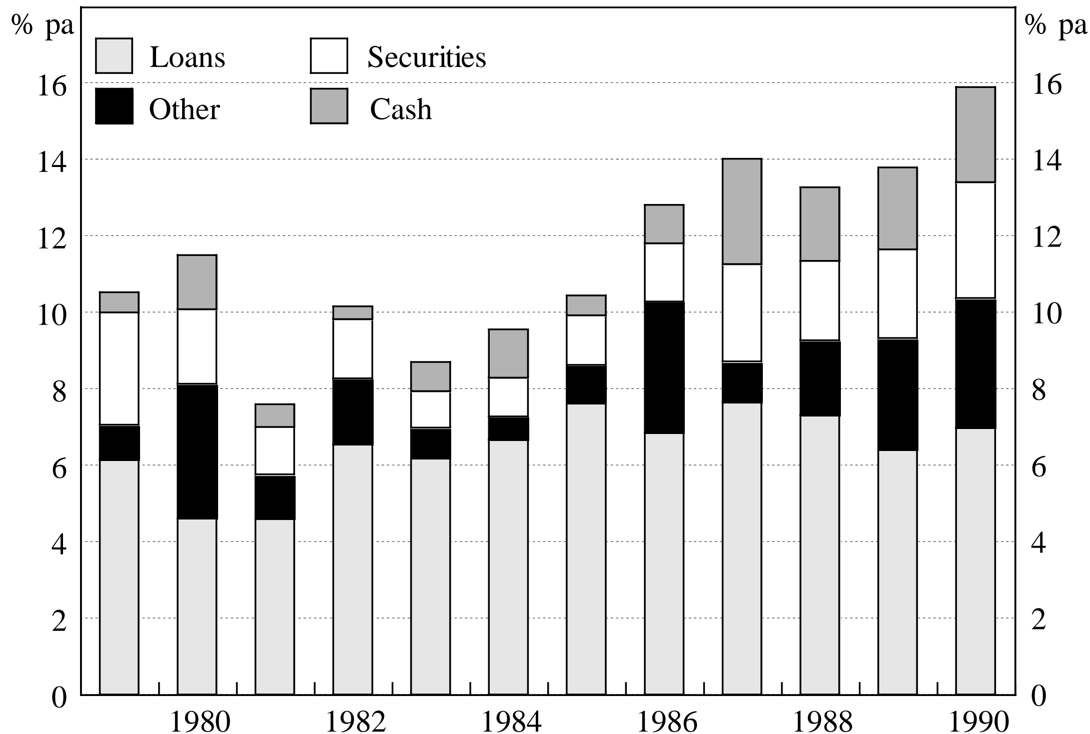


Source: Japan Fair Trade Commission, *Research on Derivative Deposits* (various issues)
Note: The long-term prime rate is the notional lending rate.

Real estate lending was clearly associated with banks' attempts to maintain franchise values in the face of falling margins and contracting client bases. Ueda (1999) for instance, observes that real estate lending increased most markedly among those banks whose client base of small firms was under-developed and among banks with more expensive deposit liabilities.

One reason why this lending seemed profitable is that it is subject to long-term lending rates of interest. During the latter 1980s, when monetary policy was being eased, the spread between these rates and short-term funding costs increased. As a result, between 1986 and 1990, the ratio of long-term, to total outstanding, loans increased from 42 per cent to 56 per cent. Among city banks, which have the largest share of deposit liabilities, the increase was from 37 to 57 per cent. Much of this was reportedly associated with real estate.

Figure 11: Growth of All Banks' Assets

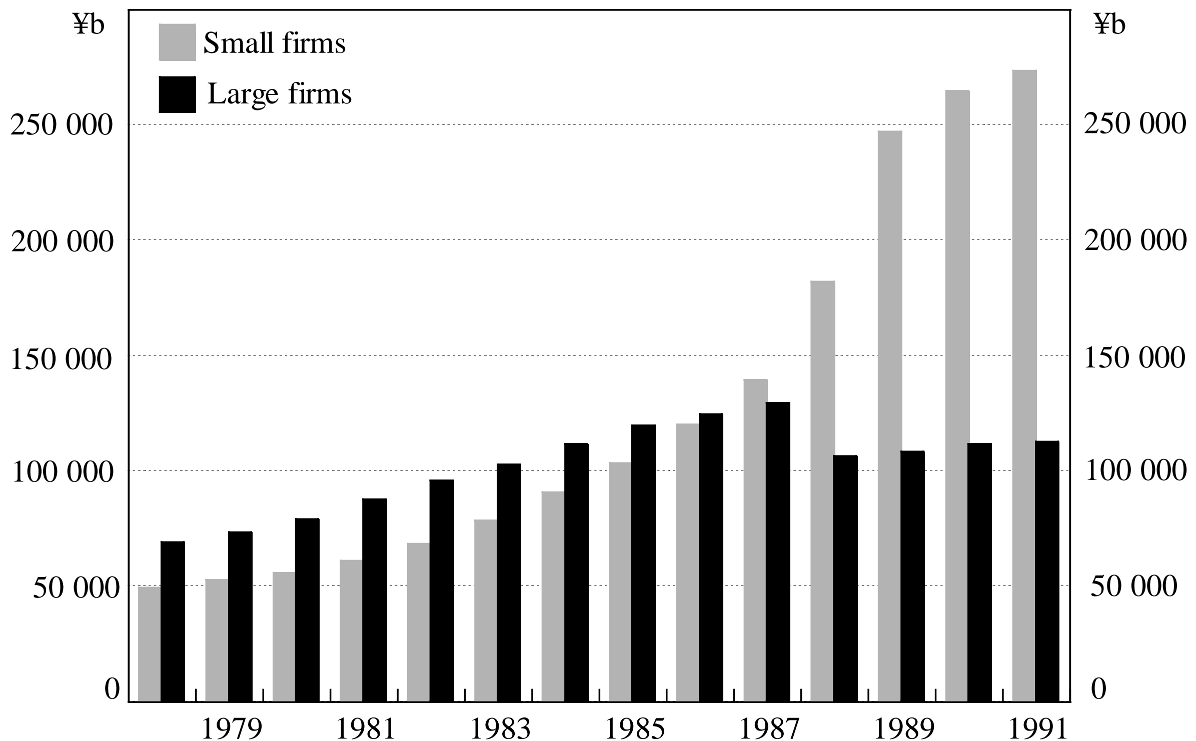


Source: Bank of Japan, *Economic Statistics Annual*, various issues

A second attraction of real estate related lending was that many of those who either wished to borrow against, or purchase, real estate were small, and therefore ineligible to securitise their finance (Figure 12). Even after relaxation of collateral and other eligibility requirements for direct debt issuance, small businesses were still more likely to depend on intermediated finance than larger firms, and the banks continued to enjoy a greater degree of market power when loan pricing in the small business sector.

A final attraction of real estate related lending was that it appeared safe. Coinciding with the rate of increase in land price inflation was a sharp decline in the rate of bankruptcies in the real estate sector as a whole (Bank of Japan, 1991a).

Figure 12: Outstanding Loans to Large and Small Firms



Source: Bank of Japan, *Economic Statistics Annual* (various issues)

Notes: Large manufacturing firms have more than 300 regular employees and more than ¥100 million in equity. Retailers and wholesalers are subject to different classification criteria.

The increase in real estate lending occurred through several channels (Table 3). The first was a direct increase in banks' lending to firms involved in real estate related transactions. But since the Ministry of Finance came to take a dim view of this lending, banks also channelled funds to the sector through the agency of finance and insurance related businesses. Third, banks' increased lending to individuals and households also reflected a greater exposure to real estate, since much of it was secured with property.

Table 3: All Banks' Loans and Discounts by Purpose

Percentage of total outstanding

	1983	1987	1990
Manufacturing	28.9	20.4	15.7
Non-manufacturing	58.0	64.5	65.0
of which:			
– Real estate	6.4	10.2	11.3
– Finance and insurance	5.9	10.2	10.0
– Other non-manufacturing	45.7	44.1	43.7
Individuals	9.9	11.3	16.3
Other	3.2	3.8	3.0

Source: Bank of Japan, *Economic Statistics Annual* (various issues)

Notes: Discounts include commercial bills, bankers' acceptances and exchange bills.

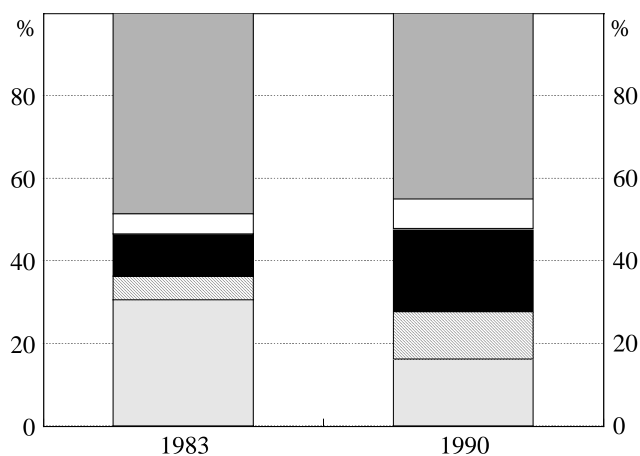
Because the banking industry was still quite segmented during the 1980s, these compositional changes in lending varied across the banking sector. The large non-financial firms which were most actively securitising their finance, or funding themselves out of retained earnings, had previously been the clients of city banks or long-term credit banks.[7] Consequently, it was the city banks and long-term credit banks which were most actively restructuring their loan portfolios. By contrast, regional banks have franchises to service particular geographic markets. On average, they lend much less to the large manufacturing companies that were securitising their finance in the latter 1980s, and so they experienced less pressure on their margins and less disruption to their client base. For that reason, the growing tendency of banks to develop exposures in the real estate sector was more pronounced among the city and long-term credit banks than among the regional banks (Bank of Japan 1991a, p 40).[8]

7 City banks are essentially commercial banks with a nationwide presence.

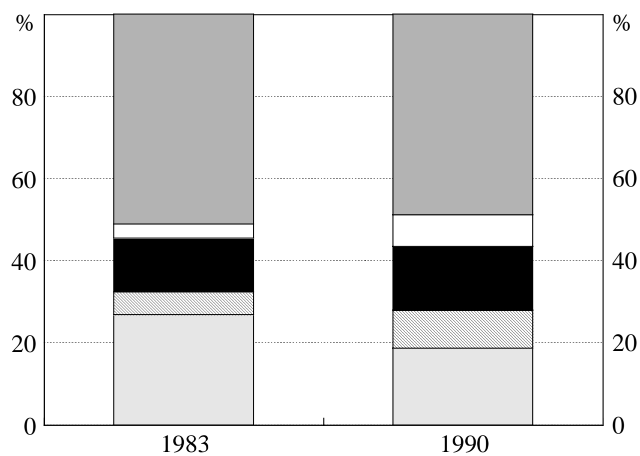
8 This is true only of the first tier regional banks, and even then it is subject to some exceptions. Smaller, second tier regional banks diverted a high proportion of their lending into higher risk sectors and they have, in consequence, fared worse than larger regional banks in the 1990s (East Asia Analytical Unit 1996).

Figure 13: Outstanding Loans by Bank Type and Purpose

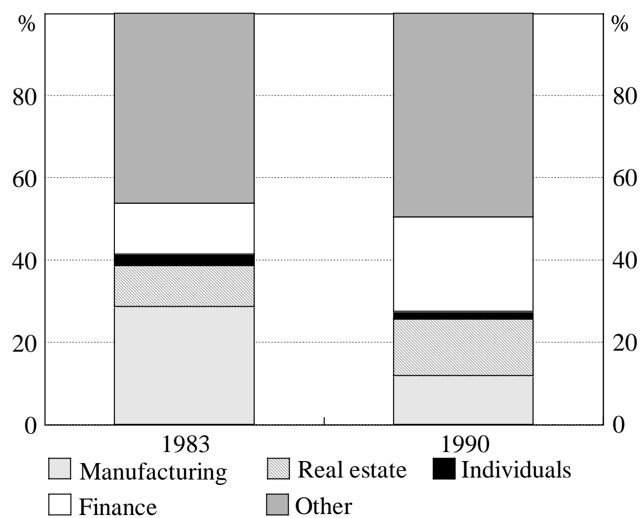
City banks



First tier regional banks



Long-term credit banks



Source: Bank of Japan, *Economic Statistics Annual* (various issues)

Despite its attractions, the redirection of bank credit into real estate brought with it considerable risks, especially default risk. There were several reasons for this. First, and most obviously, there was the question of the value of collateral. Banks' borrowers (and therefore the banks themselves) were, on average, much more exposed to downside risk in the property market than previously. Furthermore, loan-to-valuation ratios tended to be much higher in the late 1980s than had traditionally been the case. Property price inflation therefore produced an overvaluation of land held as collateral. As this inflation reached a peak in the late 1980s, both of these latent problems became acute.

A second sense in which credit risk increased as a result of real estate-related lending involves the characteristics of the non-banks in the real estate sector. First, many were beyond the proper scope of prudential regulation.[9] Second, and as previously noted, many were small (Figure 12). If, as seems reasonable, there are economies of scale in the monitoring of borrowers, then the shifting emphasis toward smaller borrowers would have made the task of monitoring loans much more difficult. Both Horiuchi (1994) and the Bank of Japan (1991b, 1993a) have identified this as a problem.

A further problem with real estate lending was its association with a sharp increase in overdraft lending. Individuals and firms were increasingly able to obtain overdraft credit secured against real estate, and the ratio of city banks' overdrafts to total outstanding loans rose from 1.9 per cent at the end of 1980 to 17.6 per cent at the end of 1990. The Bank of Japan (1991b) has pointed out that this type of credit was less effectively screened and monitored than most other forms of lending.

Finally, the long-term nature of much property lending seems to have undermined the control of banks over their borrowers. As a general rule, banks are more able to set limits on the conduct of their borrowers when they have the option not to roll

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[9] The seven home mortgage companies (*jusen*) that became insolvent in 1995 are the most famous example.

over maturing debt. To the extent that the real estate lending which took place in the late 1980s was long-term, they surrendered this authority.[10]

The increase in banks' exposure to real estate-related enterprises was only one reflection of the deterioration in the average quality of bank loans over the 1980s. Others included a reduced attention to the value of non-real estate-related collateral. In particular, the proportion of bank loans unsecured by collateral increased by roughly 10 percentage points between 1980 and 1985. Although that trend abated later in the decade, the proportion of unsecured loans in 1989 was still approximately 4 percentage points above its 1980 level.

A second indicator that banks were becoming lax was their growing tendency to subordinate the work of their credit assessment and monitoring departments to the work of their loans promotions sections (Bank of Japan 1991b). In response to falling effective margins and rising deposit liabilities, banks began to pay more attention to loans promotion. Despite the weakening demand for bank loans from large business, growth in lending explained a large and stable proportion of the growth in overall assets. At times during the mid 1980s, it accounted for up to 70 per cent of overall asset accumulation (Figure 11).

This provides reasonably clear evidence of the appetite of banks for riskier lending. As Hoshi and Kashyap (1999) observe, when confronted with a decline in loan demand from quality borrowers, banks could have maintained asset quality by substituting out of lending and into bonds.[11] But they did not do so. Corporate bonds as a proportion of total bank assets remained fairly constant over the 1980s, and the proportion of outstanding government debt held by banks actually declined (Figure 14). This tends to suggest a preference for lending in unfamiliar markets over holding higher quality, if lower yielding, securitised debt.

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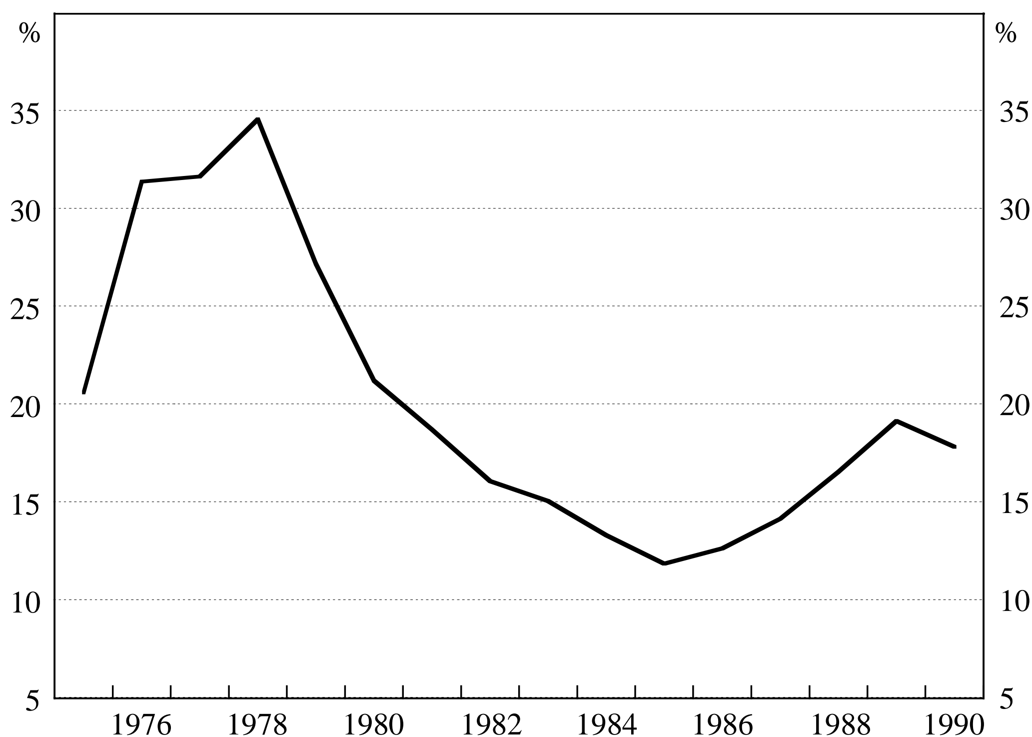
[10] This is to say nothing of the fact that banks had increased their exposure to simple interest rate risk by extending the duration of their loan portfolios and continuing to borrow short-term.

[11] The main impediment to increasing the weighting of corporate bonds in total assets was the fact that many of those bonds were equity-related, and restrictions apply to banks' holdings of equity.

Figure 14: Proportion of Government Debt Held by Private Banks



Source: Bank of Japan, *Economic Statistics Annual* (various issues)

The strong emphasis on the promotion of lending compromised the screening of loans applications and, as a result, the average quality of borrowers fell (Bank of Japan 1991c). A related problem was that banks' internal management and control systems were weakened over the period (Ministry of Finance 1993, p 40). Particularly common were failures of banks to maintain adequate control over the lending activities of their own branches.

Taken together, these developments suggest that the change in bank lending behaviour was not entirely driven by adverse selection in the corporate finance market. Banks seem to have deliberately selected higher risk borrowers and to have monitored and screened them inappropriately (see, for example, Nakajima and Taguchi 1995; Bank of Japan 1991b). This behavioural change seems to have been a response to the compression of lending margins and the implied threat to the franchise value of banking.

3.3 Moral Hazards

Declining franchise values are probably not sufficient explanation for the more adventurous approach of banks to lending: complementary considerations, such as moral hazard are almost certainly necessary to explain the preference of banks for riskier debt. The banking industry had, for most of its postwar history, been subject to latent moral hazards, and while many of these hazards were not unique to Japan in the 1980s, others were.

First consider the protection offered to shareholders in banks. Between the end of the Pacific War and 1996, no bank had been allowed to fail. As an alternative to formal liquidation, troubled financial institutions were merged – when necessary, and subject to official oversight – with more stable banks, and often on terms that respected the interests of shareholders in the troubled institution (Aoki *et al* 1994). These arrangements were certainly not at the expense of bank profitability. As a group, banks were much more profitable than industrial firms for most of the postwar period (Calder 1993). At best, this made the banks vulnerable to managerial slack; at worst, it may have encouraged individual bank managers to seek out projects with a high-risk/high-return profile, when franchise values were threatened.

There were also problems with the protection offered to the depositors of banks. Between 1971 and 1996, deposit insurance premia were levied at a flat rate of 0.012 per cent of deposit liabilities. As Oda (1999) has pointed out, the insensitivity of this pricing arrangement to the riskiness of portfolios may well have encouraged banks to target lending sectors that had high risks attached to them.

The behaviour of depositors themselves would have been an important aspect of this problem. Although banks were increasingly targeting high risk borrowers and monitoring their clients less effectively, households continued to use deposits as a store of wealth (Table 1). Hoshi and Kashyap (1999) have argued that this may have been because alternative instruments were inaccessible to households, in spite of some financial deregulation. But a standard moral hazard story is a plausible alternative to this view. Households continued to hold their savings as bank deposits because they believed, with some justification, that those savings were

subject to implicit guarantees. The attraction of this theory is that it helps to explain why depositors drove up the rate of return on savings to the point at which banks were compelled to target higher return, but riskier, borrowers. Without at least the perception of implicit deposit insurance, depositors are unlikely to lend to banks offering very high rates of return, since very high rates of return in a climate of low lending rates would have been a signal of low asset quality.

A final, and rather peculiar, type of moral hazard involves non-bank lenders to firms. When Japanese banks have the largest share of a firm's bank debt, they typically bear a very heavy responsibility as monitors of that firm. This monitoring is not only conducted on behalf of all constituents of the firm, it is usually integrated with respect to the borrower's life-cycle: the bank monitors and screens the activities of borrowers who are in good states, and in cases of the borrower's financial distress, it bears a disproportionately high share of the cost of workouts or liquidation, often voluntarily subordinating its own claims to those of other creditors in the process (Pascale and Rohlen 1983; Packer and Ryser 1992; Horiuchi 1993; Suzuki and Wright 1985; Aoki 1990; Aoki *et al* 1994).[12]

Gower (1996) presents a model which reveals that this priority structure is subject to a moral hazard which may lead to credit pricing that is inconsistent with proper bank monitoring of borrowers. In the model, the bank is a price taker in both its wholesale funds and lending markets, but it enjoys discretion over whether or not to monitor any loans that it makes, on the understanding that, if the borrower becomes financially distressed, it will subordinate its own claims to those of other borrowers and organise costly workouts.

The bank competes in its lending markets with a perfectly competitive fringe of the firm's non-bank creditors.[13] If the price set by the fringe is very low, then the opportunity cost of borrower failure to the bank (that is, the interest rate on the loan) is minimal, and the bank will not undertake the regular monitoring and screening which is necessary to prevent that failure. The structure of claims against the assets of a financially distressed borrower allows this to happen. Since the

[12] The reasons for this, and some further references, are canvassed in Gower (1996, p 151).

[13] The fringe prices according to the cost of wholesale funds, which is assumed to be set by the monetary authority. In other words, monetary policy affects the real cost of wholesale funds, and in that way influences credit pricing and the potency of moral hazard problems.

claims of minor creditors to a firm are senior to those of the firm's bank, competitive minor creditors can generate credit prices which will mean that their investments are not monitored. In doing this, they are pricing their seniority in adverse states, and so are subject to a form of moral hazard. This may help to explain why margins on some Japanese bank loans were reduced to the point at which banks ceased to monitor and screen them effectively.

3.4 Other Regulatory Issues

Problems with the regulatory infrastructure also emerged during the 1980s. Some features of bank supervision were less well-suited to the partly liberalised banking market of the 1980s than to the regulated system for which they had been designed. This facilitated certain lending practices which the authorities might not otherwise have tolerated.

One problem was the inability of the authorities to exercise moral suasion over the banks. Until the deregulation of the wholesale funds markets, banks accumulated very large liabilities at the discount window and they were regularly instructed on the appropriate uses of funds borrowed through this facility.[14] However, this instrument of monetary control became much weaker as a means of directing credit flows once banks and their borrowers were given wider choice over their sources of finance, and the practice of 'administrative guidance' in bank lending was formally discontinued in 1991.

The emerging problems of bank monitoring may have been exacerbated by opaque accounting practices. Only since the onset of widespread bad loans have Japanese bank accounting practices approached internationally accepted standards. During the 1980s, they were still relatively lax. To a certain extent, this is necessary in a financial system where tax law and judicial process encourage financial institutions to perform private workouts for financially distressed borrowers (Packer and Ryser 1992). However, it has recently allowed banks to conceal their problem loans and, in the 1980s, it allowed them to circumvent regulatory oversight. The lending which took place to real estate-related ventures through non-bank financial intermediaries is a good case in point.

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[14] Ito (1992) observes that, during the 1950s and 1960s, the borrowing of city banks at the discount window exceeded their borrowing through the call market.

A final problem was the regulation of non-bank financial intermediaries. Many of the NBFIs to which the banks lent were beyond the jurisdiction of the Ministry of Finance. They either evaded financial regulation outright or were subject to a system of financial regulation that was itself subject to demarcation problems.

4. Summary

This paper has traced Japan's current banking problems back to the displacement of the banking system that occurred during the 1980s. It has argued that one key cause of the problem was a trend deterioration in the average quality of borrowers, as large firms experienced a reduced need for bank finance on account of their own natural maturation and the greater accessibility of securities markets.

At the same time, banks became more adventurous in their lending. Their franchise values had declined with their shifting customer base and the deregulation of the wholesale funds markets. They responded with more aggressive loans promotion and less attention to their monitoring and screening of borrowers.

Financial deregulation certainly influenced both processes. By the late 1970s, the internationalisation and domestic liberalisation of Japan's capital markets were overdue. But the evidence presented in this paper highlights the difficulties that the authorities experienced in insulating the banking system against the more harmful effects of necessary reforms.

Macroeconomic policy, and monetary policy in particular, may also have contributed to Japan's banking problems. Although suited to inflationary and exchange rate conditions of the time, monetary policy in the late 1980s was less consistent with stability in the banking system. It contributed to an emerging adverse selection problem in the lending market, and it compressed bank margins in a way that encouraged the preference of banks for risky lending.

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