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The Japanese Financial Sector's Transition
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Abstract

This paper looks at Japan's experience in transforming its financial system. While the country is considered a model of successful Asian economic development, it has encountered many difficulties as introducing market economy. During the 1960s and 1970s, Japan experienced high economic growth, contributed by its regulated financial sector. Cooperation among the government, banks and corporations created a strong system, in which main banks played an important role. They supported companies and, sometimes, in addition to their role in the corporate governance of client enterprises, they also rescued troubled companies. In addition, banks extended loans to businesses in promising sectors, thereby assuming risks similar to those taken by venture capitalists. However, during the
1970s and 1980s, Japan's financial system, under pressure from the changing economic environment, was compelled to adjust. Economic growth led to changes in the money flow, as Japanese big business began to lose its appetite for borrowing. Instead, there developed circumvented financing outside the domestic market that, with the growing bond market and accumulation of other financial assets, led to financial liberalization.In the late 1980s, this liberalization resulted in a combination of loose monetary conditions after the Plaza Agreement, an economic boom, and the bursting of the asset bubble. Then, between 1991 and 2000, Japan experienced a "lost decade." Now, in order to pull itself out of its economic malaise, Japan continues to focus on market orientation in a bid to achieve economic reform but, so far, this has been little benefit. One of the main challenges Japan still faces is developing a new set of institutional complementarities.

Keywords:　Institutional Complementarities, Network Capitalism, Personalized System
JEL Classifications:E44, N15, O16

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1. Introduction

Japan emerged as the first successful industrialising nation in East and South Asia, playing a key role as the region's leading capitalist economy following the Meiji Restoration in 1868. Thereafter, the Japanese government was a major force behind the nation's industrialisation, particularly in the early stages of development. The government adopted the strategy of nurturing new industries by inviting in foreign professionals in order to acquire the modern production methods and management techniques of modern corporations. Many elements from the Western world such as legal and accounting systems were adopted. The establishment of state-owned corporations in important industries such as railways, textiles and steel manufacturing enabled these firms to serve as engines of the nation's industrialisation. Large private businesses such as Mitsubishi and Mitsui expanded their scope by working hand in hand with the government. The rapid development which was achieved demonstrates the success of the government-led strategy in Japan during this period.

Although the Japanese economy suffered heavy damage in the course of the Second World War and a new course became necessary, many characteristics of the government's development strategy were retained after the war ended. Whereas a significant reform of political and economic system took place, the government continued to exercise leadership in developing the economy. Japan is sometimes regarded as a typical development model of Asian economies. However, unlike the recent development strategies adopted by Japan's Asian neighbours, Japan promoted the development of national industries while Asian neighbours actively invite foreign capitals. This different approach could make the unique Japanese system in which domestic economic actors are mutually connected and supported, paying less attention to the global standards.

Japan's notable economic success during the high-growth period of the 1960s attracted much attention. By the 1970s, a growing number of scholars from the West were focussing on Japan amidst a perception that its development represented a challenge to US economic dominance. Chalmers Johnson, Ronald Dore, Ezra Vogel and others pointed to a 'Japanese model' of capitalism — distinct from the US and British versions — and laid the foundation for the literature on the developmental state (see, e.g. Wade, 1990).

Some of the key aspects of this Japanese developmental model, described by Johnson （1982） and Woo-Cumings （1999） as 'catch-up nationalism', included the role of the Ministry of International Trade and Industry (MITI) as an economic 'pilot' agency (Johnson, 1982); cooperative and non-hierarchical firm-labour relations (Dore, 1973) and a focus on continuous innovation and improvement (Womack, et al., 1900); cooperative relations between firms, suppliers and banks (the *keiretsu* system); and a long-term orientated, bank-based system of finance (Zysman, 1984).

As is clear from the above, the Japanese economic model can be understood as a combination of ‘government leadership’ and ‘cooperative relations amongst various economic agents’. It could also be described as ‘relation dependent’, in that economic agents including the government and banks were networked through the establishment of stable relations.

Focussing on the role of the government in economic development, Noguchi (1995) described the Japanese model after the Second World War as “the 1940 system’. As capital markets during the interwar period had been relatively well developed, the economy had moved towards a market orientation. As the military increased its power, however, the government restructured and consolidated the economic system to prepare for the wartime economy in the late 1930s and early 1940s. Under the National General Mobilisation Act in 1938, a planned economy was introduced and a wide range of government guidance was implemented for all industries. At the corporation level, consolidation was promoted to enhance the efficiency of production. Noguchi and others (Okazaki and Okuno-Fujiwara, 1999, and Teranishi, 1994) have suggested that some of the features of present-day Japanese management, such as the main bank system, were originally formed during this time.

The banking system in Japan had followed a similar history. After the 1868 Meiji Restoration, Japan adopted the national bank system modelled on the US practice. With the consequent loosening of each bank’s reserve requirements to issue banknotes, however, this decentralized banking system produced severe inflation. Accordingly, the Bank of Japan was established as the nation’s central bank in 1882 to curb inflation, and currency issuance was reserved to it alone.

Between the Meiji Period (1868–1912) and the beginning of the wartime regime, the number of banks increased and many small banks expanded to a nationwide scale. Under the wartime regime, a number of consolidations in the banking sector took place, and banks were required to provide funds to large-scale manufacturers; in particular, military industries were situated as ‘main banks’[2]. At the same time, banks fell under the strong control of the government, and the convoy system was established, under which banks were protected by the government.

Noguchi (1995) has suggested that the essence of this pre-war economic system was preserved under the US occupation following the Second World War, and that the wartime system bequeathed by the 1940s regime functioned very effectively to promote Japan’s economic success during the post-war period.

[2] In Japan, the number of banks varied dramatically before the Second World War. In terms of commercial banks, it recorded over 1,200 in the late 1920s. It halved after the banking crisis in the early 1930s. During the wartime period from 1941 to 1945, the number became one-third from 186 to 61. After the war, the number had not changed until the late 1980s.

This wartime financial system that survived into the post-war period was characterized by regulations and guidance, under government control. It took the form of a separation of business amongst banks, securities houses and insurance companies[3]. Each of these players was protected by the government, and new entry to the industry was highly restricted. For the introduction of new financial products, government permission was required. Returns and interest rates were set low in accordance with government policy. As a result, a substantial element of '*financial repression*' took place, in which savings were recycled and household sector was effectively taxed whilst manufacturing investment was subsidized. Real interest rates on savings were often negative in Japan in the 1960s and 1970s, although interestingly not in the 1950s (Chart 1).

Despite the regulated low interest rates on deposits, the fruits of economic success were broadly shared with the household sector in the form of a rapid increase in income. On the back of the high savings ratio, the household sector accumulated financial assets in the form of bank deposits.

As mentioned above, a separation of business was enforced in the financial sector. However, relations of mutual dependence were also preserved. Even between banks and life insurance companies, cross-holding of shares took place. Banking was specialized in the form of long-term and short-term credit banks. Despite the smaller number of branches permitted them, long-term credit banks were allowed to issue bank debentures. By holding these bank debentures, local banks supported the financing by which long-term credit banks received higher returns than deposit rates.

Taken as a whole, the Japanese economic system could be characterized as combining government intervention and mutual support amongst private agents[4]. It could also be described as network capitalism. By establishing implicit contracts, economic sectors including the government were mutually supported and risks were shared.

As high economic growth was achieved, the economy became more tolerant to risk-taking due to the increase in income and the accumulation of financial assets. The demand for risk-sharing weakened during the high-growth period, However economic ties amongst actors became firm. Deregulation and privatization progressed. Reforms proceeded in the

[3] The banks were allowed to underwrite stocks and corporate bonds in the pre-war period. It was prohibited by the Securities and Exchange Act in 1948. Banks were partially allowed for securities business by the new Banking Law and the new Securities and Exchange Act in 1981 in the stage of financial liberalization (see also footnote 9).

[4] Japan's developmental style of 'financial repression' differed from the popularised form. In Japan, although a wide range of government guidance was observed and direct intervention by the government played an important role — for example, in the form of the Fiscal Investment and Loan Programme as well as ordinary public expenditure— the government encouraged the development of private firms. As a result, the size of government was kept relatively small and the budget was balanced before the early 1970s..

direction of a market economy. Labour mobility strengthened. The development of capital markets also showed the weakening of the relations of mutual dependence, as Japan attempted to move towards a more ‘atomised’ system.

Disruption appeared in the form of the economic bubble, and the long-lasting financial problems in the wake of its implosion. Although the reforms continue into the present, some modifications have been implemented. For example, the protection of small firms was introduced and a proposal was made to review ‘relationship banking’. The reforms are thus encountering various types of friction, and a conclusive picture of the future economic system is not yet apparent. Development remains in progress, although a firm trend is seen in the direction towards economic integration with the rest of East Asia.

Focussing on the financial aspects of economic developments in Japan, this paper outlines the changes over time to Japan’s financial sector in recent decades, with attention paid to the introduction of market mechanisms and its influence on changes in the economic system. We discuss how the network economy was formed through collaboration under government leadership. It also discusses why the economy developed more independently and continues to develop.

In the following sections, we divide the post-war period into three segments: (1) the 1960s to 1974; (2) 1974 to 1989; and (3) the 1990s and after. Interestingly, each of the three periods for Japan described above is characterised by strikingly different economic performance (Chart 2). Given that financial liberalisation in Japan started in the 1970s, it is appropriate to begin our outline from the 1960s to better capture changes in the economic environment.

2. The 1960s to 1974

A notable feature of the Japanese economy — prior to the first oil shock and the adoption of the floating exchange rate in the mid-1970s — is that it achieved high growth through a strong ‘organisational’ or ‘relation-dependent’ political and economic system that combined the government, the banking sector, and corporations. In addition to Japan’s well-known main bank system, many long-term relationships amongst economic actors were widely observable in the economy. For instance, in the corporate sector, the system of mutual dependence based on established business ties (the *keiretsu* system) — for example, between large assembly makers and small parts makers and between wholesalers and retailers — had gradually been established. In labour relations, full-time employment had been established and labour unions became an important player in corporate management. Employment was guaranteed with wage flexibility utilising the bonus system. Employees acquired company-specified skills through on-the-job training, and labour relations were internalized within firms. Many characteristic private-sector practices came into being, complemented by government guidance during the period. There seems to be no firm conclusion as to when many of these elements such as the *keiretsu* system, life-time employment and company unions were established; some of them like the main bank system can be traced back to the pre-war period. But they became more firmly embedded during the high-growth period to realize greater efficiency.

In Japan's financial sector before the 1980s, informal relationships were gradually institutionalised, and various types of bargaining amongst economic actors took place inside organisations such as firms and *keiretsu* firms as the internal market. This system can be broadly characterised as a system of risk-sharing. Cross-holding of corporate stocks was a device to ensure that corporations would provide mutual support, particularly when they encountered economic difficulties. It was important for companies to maintain firm business relationships and thus ensure their 'reputation'.

With respect to the relation between banks and corporations during the period, it should be noted that strong ties were first achieved between large banks and relatively large corporations, evolving later into the main bank system. As for small and medium-sized corporations, their relations with banks remained rather less well defined, although they became more institutionalised at a later stage after the 1980s, when banks began to lose large businesses as their dependent borrowers.

The system of income redistribution was also facilitated by another important aspect of Japan's economy during this period. In recent years, increasing divergence of incomes and other economic conditions has been observed in other Asian economies that are undergoing rapid economic development, such as China. Japan's development, on the other hand, was achieved through income redistribution by means of a number of economic mechanisms, which helped maintain the stability of the network (Teranishi,1997). Government policy in Japan was a major contributor through fiscal redistribution. By means of the local allocation tax system, a substantial portion of central government tax revenues was allocated to local governments. As explained later, since large banks (city banks) in Japanese urban areas were borrowing funds from small banks (regional banks) continuously, a smaller part was played by the redistribution of income from large urban groups to small regional ones through the banking sector[5]. During the Japanese economy's high-growth period, industrialisation took place mainly in the nation's central coastal area, and the labour force shifted from regional localities to central hubs, thus reducing the potential for economic growth in rural areas. Income redistribution between urban and rural areas played an important role in softening the shocks engendered by the rapid changes during the high-growth period. Ironically, with time this mechanism promoting social

[5] The magnitude of the income shift in the financial sector was, of course, much smaller than that in the fiscal sector.

stability during the high-growth era would become an obstacle to systemic change.

Returning to the problems of the Japanese financial system during the period, it proved to function well in pursuit of the national goal of high economic growth after the Second World War, particularly in terms of the following:

1) savings and protection of small depositors were promoted;
2) bank lending served as low-cost funds for growth; and
3) the financial market remained separate from the international market.

During the post-war recovery, priority was placed on the promotion and protection of savings, since at that time Japan was impoverished with a low level of financial assets, and most people could not afford to invest in securities. Small savings were protected as bank deposits, which were deemed to be safer assets than securities that bore risks of price changes[6].

In addition, banks' profits were virtually guaranteed by the government. Interest rates were regulated to generate 'rent' at banks, a sufficient margin between lending and deposit interest rates. Competition was also restricted: permission from the government was required to sell a new product or open a new branch. These measures formed what was called the 'convoy system', since the government protected the weakest banks and helped them avoid bankruptcy.

The financial sector was segmented into securities houses, insurance companies, and banks, and the bank loan market was separated into long- and short-term loans for the long-term credit banks and the commercial banks such as city banks and regional banks, individually. In addition, by controlling the numbers of branches, the government essentially controlled the scope of operations of city banks and regional banks.

The bond market in Japan at this time was undeveloped. Strict requirements were imposed on new bond issuance, and only a limited number of firms were allowed to issue bonds[7]. At the same time, the government started issuing bonds on an increasing scale in the 1970s, triggering the liberalisation of interest rates on bonds as well as interest rates in general.

In this system, the banks did not need to consider the control of risk in lending. Basically, there was no market risk with regulated interest rates and no potential for maturity mismatches in the segmented loan market, and therefore banks could seek to boost their size by

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[6] The one year time deposit rate was fixed around at 5 or 6 % for nearly 20 years from 1951 to 1970.

[7] These measures protected the banking sector. Even though the issuance of corporate bonds was limited, long-term credit banks were allowed to issue bank debentures. In addition, in the case of new issuance of corporate bonds, main banks maintained their status as bond administrator under the tight separation of the banking and securities businesses. In Japan's regulated financial sector, banks were favourably treated (see also footnote 5).

increasing deposits with little consideration of risk[8]. Due to the vigorous appetite for corporate investment, there was ample demand for bank credit. Banks could choose customers of good credit quality and control credit risk with little effort. Thus, in later years, when banks had to operate in an economic environment of financial liberalisation, they lacked the necessary experience with risk management, especially where small corporations were concerned.

Low-cost loans were allocated by banks as discretionary rationing. This encouraged capital expenditure and served as an engine of high economic growth[9]. Bank lending was the only effective route for corporate financing, as neither the bond nor equity markets were well developed[10]. Most of the credit in the economy was controlled by banks.

The main bank system gradually prevailed across the spectrum from large business enterprises to small and medium-sized ones. The scope of business of banks in those days was broad. In addition to conventional activities such as monitoring and screening, banks conducted investment banking activities such as provision of advice and organisation of customers' businesses as part of their standard services, sometimes even taking the dominant hand in running the businesses[11].

Since money flow was straightforward (Chart 3), banks' mission at the time was also simple: the allocation of funds to growing industries such as large manufacturing firms. This can be depicted as the following.

Households (bank deposits)[12] $\Rightarrow$ Banks (bank lending) $\Rightarrow$ Corporations
('Corporations' above are typically export sector and large manufacturers.)

(Small) Regional banks (interbank market lending) $\Rightarrow$ (Large) City banks

In addition to the flow of funds from households to corporations, funds flowed from small regional banks to major city banks, with large city banks borrowing funds from small

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[8] Bank size was important in those days, since the government's discretionary actions and 'voluntary' adjustments inside the banking sector were largely determined by referring to the size of the banks' total assets and deposits.
[9] There is a counter-argument that effective lending rates, which took into account the compensated deposit balance, were higher than the displayed lending rates. Even so, banks could provide cheap fund by financing low-cost deposits.
[10] The equity market was relatively well developed compared to the bond market, but cross-holdings of shares were used from the 1960s. A substantial portion of equity was thus tied up in financial institutions (banks and life insurance companies). Banks also undertook and purchased corporate bonds.
[11] Banks sometime sent their staff to a customer corporation to serve as high-ranking managers. This happened particularly when a customer firm fell into difficulty. But the investment banking activities mentioned here were usually provided on a daily basis.
[12] During this period, a massive portion of household savings went into bank deposits. This occurred because the capital market was under-developed and overseas investment was restricted. However, even after liberalisation, households still keep a significant part of their savings in the form of bank deposits.

regional banks to satisfy the large investment appetites of the major corporations they served in urban areas. Through this activity, a portion of the profits of large corporations was transferred to the small regional banks.

The banking sector was one of the primary routes through which monetary policy was implemented. It should be noted that when monetary tightening occurred, it affected city and regional banks differently, with the end effect being a further redistribution.

Thus, in the case of monetary tightening, there born a relatively small increase in the official discount rate (ODR) to which lending and deposit rates were linked. By comparison, the monetary operations of the Bank of Japan sometimes caused a relatively large rise in the money market rates to take place. Since city banks were borrowers and regional banks were lenders in the money market, profits moved from the city banks to the regional banks in the form of a decrease in profits of the former and an increase in profits at the latter.

This was another necessary condition for the regulated Japanese system. Capital controls were imposed, although they were only selective and later they were relaxed. Inward foreign direct investment (FDI) was restricted through controls on foreign ownership and cross-holdings of corporate shares.

Foreign exchange transactions for current accounts (exports and imports) were allowed and were concentrated at banks with such permission (‘forex banks’). However, forex banks were controlled by position guidance (the forex position, the sum of the spot and forward rates, had to be squared by each bank every day). The under-development of the capital markets helped to keep the markets closed to foreign investors, as it effectively shut down the major route for inward investment (including portfolio investment) from overseas (Table 1)..

3. From 1974 to 1989

Japan’s high-growth period came to an end around the time of the first oil shock, in 1974. The Japanese economy weathered both this oil shock[13], despite a subsequent hike in inflation, and the shock that followed in 1979. This outcome argued for the nation’s superior economic performance, since other advanced economies suffered higher inflation as well as economic stagnation at the time.

As the Japanese economic system was implicitly designed assuming continuous high growth across many fronts, in facing decelerating growth it was approaching a turning point. One example of this was in labour relations. As the economy grew more slowly, it became difficult to maintain the life-time and seniority system because of its upward-sloping cost

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[13] After the oil shocks, growth slowed. At the same time, the oil shocks led the Japanese economy to become more energy-efficient.

increase. In addition, as foreign investors began to pay greater attention to Japanese firms, there was increasing pressure on the firms to boost profitability ratios such as return on equity (ROE). Japanese corporations could not afford to maintain the past financial standards in order to adjust to the global financial market. Thus, even as the well-known *Japan as Number One* was being published (Vogel, 1979),Japan was encountering difficulty .

Financial liberalisation was carried out in the 1980s. During this period, regulation of interest rates and separation of financial businesses were relaxed, and banks were allowed to enter the securities business. Although its pace accelerated in the late 1980s[14], liberalisation remained gradual: 15 years were required for liberalisation of interest rates and 34 years for capital controls to be lifted (Takahashi and Kobayakawa, 2003; see also Tables 1 and 2). The main reason for the delay was the difficulty of coordinating the interests of players in the differing financial industries. Banks, securities houses, and life insurance companies were segmented by the regulations, and vested interests in each segment worked to prevent the coordination of reform. The conflict of interest amongst government authorities could be pointed to as a reason for the delay: banks, securities houses, and life insurance companies were supervised by separate bureaus inside the Ministry of Finance. Agricultural financial institutions, meanwhile, were supervised by the Ministry of Agriculture[15].

The causes of financial sector liberalisation can be summarised as follows:

1) A structural change in money flow (Chart 3)

   This was the basic change in the financial market. In terms of the investment-saving (IS) balance, as economic growth slowed, capital spending decreased and corporate profits accumulated as corporate saving. The corporate sector turned into a net saver, offsetting the emergence of the government as a net debtor. Households remained net savers even though the personal saving rate gradually declined. Overall, the current account increased, which meant that the foreign sector was as much of a net debtor as ever.

   With the change in the financial position of corporations from net borrowers to net savers, they became depositors to banks. Banks thus began to lose customers to which to lend. This spurred change in the business of banks.

2) Accumulation of financial assets in the private sector

   The increased ability in risk-taking (i.e. households able to engage in portfolio selection)

[14] The pace of liberalisation accelerated in the late 1980s. The increasing issuance of government bonds induced a liberalisation of interest rates to attract investors by offering higher returns. Foreign pressure intensified due to the increasing external surplus.

[15] Some non-bank corporations such as credit card companies and finance lease companies were supervised by MITI (Ministry of International Trade and Industry). The separation of supervision, which was named "bureaupluralism" by Aoki(2001), made difficult to coordinate to plan the reform.

naturally required higher returns and a variety of financial products.

3) Development of bond markets

This relates to item 1 above. A substantial issuance of Japanese government bonds (JGBs) became necessary due to an increasing fiscal deficit. Corporate bonds also began to be issued in large amounts. This in turn required the liberalisation of interest rates to attract investors.

4) Internationalisation and adoption of the floating exchange rate system

The adoption of floating exchange rates triggered financial liberalisation. Due to arbitrage between the spot and forward rates, the foreign exchange forward market can work as a non-regulated market in terms of interest rates. This represented a good investment opportunity for investors. Non-financial corporations such as trading houses (*sogo shosha*) as well as financial corporations became active investors in the market. Thus, after the adoption of the floating exchange rate system, the process of liberalisation became inevitable.

The hollowing-out of domestic financial markets became a problem with the emergence of the euro-yen market. Large Japanese corporations started to issue corporate bonds in the euro-yen market and Japanese institutional investors (e.g. life insurance companies) started to purchase them in the 1970s; in the 1980s, this market boomed[16]. This led to further relaxation in regulations in the domestic bond market. As a result, large corporations (the large, reliable customers of banks) reduced the amount they borrowed from banks, and banks lost their familiar customers in the loan business.

5) Foreign pressure

The pressure to open Japanese markets to foreign financial firms was intensified by the US authorities (e.g. the Yen-Dollar Committee,[17] set up in the 1980s) and others[18]. Although Japan adopted a passive approach to the issue in general, since it enjoyed an increasing trade surplus with the US, the latter resorted to both bilateral and multilateral negotiations via the World Trade Organisation (WTO) to open Japanese markets.

An asset price bubble developed in Japan in the late 1980s, focussed on real estate and

[16] For issuers, the process for euro-bond issuance was simpler than for the domestic bond market, and for investors the yield was higher than for bonds from the same Japanese corporations in the Japanese market

[17] This led to the Structural Impediments Initiatives (SII) in 1989, which also triggered larger-scale deregulation in the 1990s.

[18] Foreign pressure intensified in the latter half of the 1980s, but it had started at an early stage; Japan was requested to increase its purchases of US government bonds in the early 1980s.

stocks. Its main causes were as follows:

1) easier monetary conditions following the Plaza Agreement in 1985;
2) overconfidence about the outlook for the Japanese economy;
3) poor credit risk management by banks; and
4) weak prudential regulation.

The Japanese government's commitment to achieve domestic demand-led growth to reduce the trade surplus also played a role in the formation of optimistic expectations, since it was believed that the government would maintain its stimulus policies as long as Japan maintained its current account surplus (Hattori, Shin and Takahashi, 2009, p. 38).

As mentioned above, banks lost their long-standing, reliable customers as large manufacturers lost their appetite for loan-based funding and instead sought bond and equity financing[19]. Moreover, deposits increased due to new financial instruments (new term deposits due to financial liberalisation). Manufacturers, which previously had been large borrowers, turned into large depositors.

In the early stages of liberalisation, each bank sought to enhance its reputation as a financial partner for large corporations to boost the prospects for future business. Competition amongst banks grew intense; at the margin, a negative spread between deposit and lending rates appeared (Chart 4)[20]. In retrospect, given the structural change in money flow, it is clear that the Japanese banking sector grew too large and should have been slimmed down. Contrarily, however, banks continued to seek an expansion in volume, since it was believed that the expansion of the customer base was crucially important for future business (Chart 5)[21].

Banks played a key role in the creation of the asset price bubble. The banks extended credit to the real estate sector and/or corporations that promoted their investment in real estate related business, which was regarded as a new base of high-quality borrowers. Although the banks' relationships with these new customers were not deep, they extended loans relying on real estate collateral, which spurred the vicious cycle behind the asset price bubble. Real estate was believed to be the most reliable form of collateral, since Japan had never experienced a prolonged decline in real estate prices during its period of rapid growth (and would not do so until the early 1990s). Prior to financial liberalisation, the use of real estate as collateral had not been very popular; it became popular after large banks started to expand their loans to new

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[19] Bond issuance was fully liberalised in 1996, but because of the stagnant economy the primary markets have not been very active.
[20] Original from Figure 27 in Hattori, Shin and Takahashi (2009).
[21] In addition, even at this time, the evaluation of a bank and the guidance by the government still depended on the bank's loan volume.

customers such as small and medium-sized business enterprises and the real estate sector.

From a different angle, the creation of the asset price bubble could be regarded as a symptom of the friction caused by changing relationships. Although the economy was moving towards an atomised system characterized by securitisation, banks sought to preserve the traditional system of relationship banking. Instead of long-standing credibility, banks want collateral to prove its reliable relation. This acted to increase demand for real estate as collateral[22].

Hattori, Shin and Takahashi (2009) have shown that the interaction between the Japanese banking sector and the manufacturing sector served as the background to Japan's asset price bubble in the late 1980s. During the period, large Japanese manufacturers played a role as a kind of shadow banking sector, conducting active financial investment (dubbed z*aitech*), similar to the key role played by the "shadow banking" during the recent sub-prime crisis.

4. The 1990s and after

The full consequences of the credit boom and associated asset price bubble of the 1980s only became clear over the course of the subsequent decade. In the 1990s, Japan's financial sector accumulated a massive amount of non-performing loans (NPLs), which took banks much time to resolve. Activity in the nation's financial sector weakened in terms of not only expansion but also innovative business creation[23]. Although Japanese banks succeeded in avoiding major losses in connection with the recent sub-prime related securities, they have lagged European and American financial institutions in the field of securitisation. Until recently, low profitability plagued the banking and other financial sectors (Bank of Japan, 2010).

Financial and corporate sector deleveraging undoubtedly depressed economic growth, although other reasons have been cited for Japan's economic slump since the 1990s. Hayashi and Prescott (2002), for example, attributed the slump to a decline in productivity due to shortened working hours and other non-financial reasons. From a broad viewpoint, however, it could be said that Japan's economic system faced difficulty in adjusting to its new environment. This process can be understood in several ways.

First, as the economy matured, people's preferences diversified and the differentiation

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[22] Aoki (2001) also shows the view that that the friction caused by the transformation of the economic system resulted in the creation of bubble. For example, under the progress of financial liberalization, financial disciplines of banks came loose due to weakening of government control. At the same time, banks couldn't establish the well-functioned corporate governance.

[23] Although Japanese banks conducted investment bank type activities prior to the current stage, they did not enjoy great success in operating investment banking businesses such as M&A, unlike foreign institutions. In addition, Japanese banks were reluctant to expand their international activities. This reflected their eroding capital position, which affected their ability to take risks.

of products proceeded. As a result, the nation's established system of mass production became obsolete. Small-scale production processes compatible with product differentiation were better suited to respond to changes in consumer preferences. The shift towards this new system of production in Japan was only gradual. This response was facilitated by the application of new information and communications technology (ICT). Although other advanced economies succeeded in adopting the new technology in a quick manner, the threat that this entailed to a significant proportion of the human skills embedded in long-term employment contracts delayed adjustment in the Japanese system.

Second, a mismatch appeared in Japan's financial sector during the course of change in the economic structure. Previously, the economic system had been based on mutually dependent relations amongst agents in the system, but gradually it was transformed into an atomised system in which agents lacked close, long-standing ties. The effectiveness of the risk-sharing mechanism under the previous system was reduced, and the dual structure of the economy, consisting of large and small corporations — which had emerged in the high-growth period — became more apparent. From the 1970s, large business enterprises grew more independent of the banking sector and found it possible to finance their activities using the capital markets. By contrast, small corporations that found it difficult to access these markets had to rely on bank credit. For their part, banks expanded credit to small and medium-sized corporations in place of large corporations. Owing to the reduced 'rent' guaranteed by regulated interest rates, banks could not afford to absorb as much risk facing their borrowers as before, and could not act like a traditional main bank in providing cheap funds and rescuing troubled customers. In response, the government proposed the concept of 'relationship banking' for small and/or local banks. In fact, the government encouraged banks to expand their credit to small and medium-sized enterprises through enforcement by means of a special law.

The policy trend towards deregulation and reduced government intervention continued through the 1990s and into the 2000s. The advent of the administration of Prime Minister Junichiro Koizumi (2001–2006), which drew partly on the economic philosophy of the Nakasone administration (1982–1987), added fresh momentum to the process of institutional reform. Japan's economic performance, however, had not improved a great deal prior to the global financial crisis of 2008-2009.

In the field of finance, the comprehensive package of financial liberalization of financial "Big Bang" was proposed by the government in 1996(Table 3) and a new law governing financial services, the Financial Instruments and Exchange Act, was enacted in 2007. A new NASDAQ type stock market was launched in 2000. In addition, a bankruptcy law for banks was introduced in 2000, formalising the rules for bank bail-outs. Following the Lehman crisis, it became evident that an equivalent legal framework had yet to be established in the US and Europe.

Outside Japan's financial sector, reforms were enacted concerning the corporate system. A new corporate law characterised as more market-orientated was enacted in 2005, a response to continued economic under-performance. Japan had fallen into last place amongst the world's developed countries in terms of replacing uncompetitive businesses, and to promote innovations in the economy it was necessary to simplify the processes for starting new businesses and increasing replacement through measures such as M&A. Corresponding institutional and legislative changes accompanied these reforms[24].

During Japan's third period of economic development (the 1990s and after), institutional reform proceeded, but some cases of reversal were observed in corporate financing. Although corporations recognised that banks could no longer carry out the traditional role of a main bank in rescuing troubled customers, large business enterprises gradually increased their dependence on bank finance during the subdued economic expansion from the early 1990s.

Other changes have been made to liberalisation policies in an effort to preserve the institutional stability that Japan formerly regarded with pride as the source of its economic success. With respect to labour contracts, deregulation of temporary workers' employment was carried out. Following the Lehman crisis, however, because of the massive scale of redundancies amongst temporary workers, the government decided to support their employment by thoroughly reviewing the related regulations. Although this measure will work to increase social stability, it might at the same time decrease the mobility and speed of reallocation of the economy's resources.

To sum up, the experience in Japan shows that transformation of the economic system is a difficult task. Personalised or atomised systems are flexible to change and efficient. Under such systems, business relations can adjust easily, and adjustment in employment is also made easier. Compared to a relation-dependent network system, personalised systems are more cost-efficient and thus suitable for the restructuring of corporations. The recent crisis, however, suggests that a return to risk-sharing is called for, even though it might be more costly. The crisis also indicates the problem of finding the proper trade-off between efficiency and stability. Although greater efficiency is required under the intensifying competition accompanying the progress of globalisation, we have not yet attained a clear picture of the ideal balance.

5. A comparison with present-day China

[24] Another example is the accounting system. Most countries, including Japan, plan to adopt the new International Financial Reporting Standards (IFRS). The completion of the reformation of the accounting system has required reforms in complementary systems such as auditing and general corporate governance at a minimum.

The present Chinese banking system is similar to the Japanese system before liberalisation in the sense that both show a high degree of regulation: regulation of interest rates, restriction of competition, and substantial control over foreign exchange transactions and cross-border capital investment.

Given the internal factors such as changes in money flows mentioned previously, the liberalisation of the foreign exchange market triggered financial liberalisation in Japan, and in this respect present-day China can be likened to Japan in the early 1970s. It is highly likely that liberalisation of China's foreign exchange market will work as a trigger for the entire financial liberalisation process. China's liberalisation process, however, will not necessarily follow the steps taken by Japan, because Japan's prior economic structure and that of today's China differ in many respects. In particular, unlike Japan before liberalisation, China faces issues of inequality in income and living standards between urban and rural areas, even though full liberalisation has yet to take place. This difference suggests that China's liberalisation will be the more challenging.

In China, the banking sector plays a pre-eminent role in promoting economic growth through the provision of low-cost funds for fixed investment[25]. However, the banking sector's relationship with corporations differs somewhat from the situation in Japan. Even though the sector in China has close financial ties with state-owned corporations, such ties with private enterprises are much weaker. Risk-sharing is also weak in China, and China does not have a redistribution system between urban and local areas acting through the banking sector, unlike in Japan. In China, when the central bank tightens the money supply, it resorts to window guidance to reduce bank lending or raises the regulated lending rates (and deposit rates, disproportionately to lending rates) of commercial banks. When China takes the latter policy action, the increase in money market interest rates is kept small, with the aim of avoiding a profit squeeze even at large state-owned banks, minimising the efficacy of the money market as a tool for monetary policy. In this respect, the role of the market is much more limited than in Japan's previous system, and no redistribution has occurred in the banking sector even though China has large gaps in wealth between its central hubs and outer regions.

In the case of China, the government has devoted much effort to keeping massive numbers of workers employed at state-run enterprises. This mission was assigned to the state-owned banks. The relation was designed by the government as had been Japan in the past under the wartime regime[26]. This is why the Chinese government acted to rescue Chinese banks

[25] With growth of more than 10 per cent (even in real terms), lending rates in China have been kept significantly below those dictated by the rate of growth (Table 4) , which naturally lead to a rapid increase in lending (Chart 5).

[26] Despite large volume of bank lending, a significant part of bank lending goes to the state-owned enterprises. The relationship between banks and private firms has not a

in the early 2000s and began reforming the banking sector as the final milestone on the path of economic reform. The role of banks in supporting troubled state enterprises led to the NPL problem in the early 2000s, and the situation is sometimes compared to Japan in the 1990s. There is an important difference, however: Japan's bubble developed during financial liberalisation, while China's bubble emerged prior to liberalisation. This implies that we can not exclude the possibility that China will experience another bubble in the future as financial liberalisation progresses. Although the process of reform is making headway and major banks have been listed on the stock market in Hong Kong, the economy has not undergone what could truly be called liberalisation. Banks remain protected by substantial interest margins through regulated interest rates[27].

This has an implication for foreign exchange rate policy. To maintain regulated interest rates to support the banking sector in China, capital controls are necessary. Although Chinese banks have developed into major international entities with a significant presence, it is uncertain how competitive they are against foreign rivals. State-owned banks will be expected to absorb losses stemming from further economic reforms such as the urbanisation of rural areas. This may be one reason that China remains cautious with regard to the liberalisation of its regulated system and the foreign exchange market.

Okazaki, Hattori and Takahashi (2011) present an overview of the reform of the Chinese banking sector since China's policy of opening up began. Although China has conducted bold measures such as initial public offerings of large banks in overseas markets, its reform focusses mainly on institutionalising the banking sector, which comprises several types of banks. Little has been done to activate the price (interest rate) mechanism.

6. Conclusion

Japan established a relation-dependent economic system during the high-growth period. Owing to government regulation and the rules and practices of the private sector, the system was robust and economic actors shared risks by establishing long-term relations.

As the economy developed further, its dual structure — such as that obtaining between large and small business sectors and the central and local economies — became evident. In addition to the major role played by the fiscal sector, the banking sector functioned during the period as a re-distributor of wealth. Social stability was achieved amidst rapid economic growth, inducing a reluctance to change further during the subsequent period.

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spontaneous development as in Japan.

[27] This is the main background of China's investment-led growth. The 'gap' between the growth rate and the interest rate level generates a distortion, which causes a massive inefficiency in investment. This is one of the most fundamental issues facing China's economy.

The driving forces of liberalisation were both internal and external. As background to the purely economic factors mentioned in the previous sections, Japanese industries did not require a high degree of protection as they prospered. Protection became politically problematic in particular after Japan accumulated large external surpluses and as Japanese corporations started to obtain financing abroad. Foreign pressures for the resolution of increasing trade imbalances and escalating trade disputes also played a role during liberalisation.

Japan undertook a gradual process of liberalisation. Although the Japanese financial system was heavily regulated, there was room for discretion in terms of enforcement. The government sought to review its policies in accordance with changes in the environment. The redistribution system also contributed to the stability of the system. From a different viewpoint, this could be characterised as risk-sharing. In this system, risks were diversified and shared amongst actors. However, the experience of financial crisis showed that this risk-sharing functioned smoothly only when a limited magnitude of risk obtained. If risk exceeded a certain threshold, the whole system fell into difficulty. This is in fact what happened during Japan's banking crisis after the bubble burst.

In the future, Japan will direct its efforts towards opening up the other economies of East Asia to advance the cause of economic integration. This should prove to be both a challenge and an opportunity for Japan's economy, including its financial sector, since integration will enhance competition with Asian rivals[28]. The process is likely to induce further changes in the Japanese economy, which, as past experience has shown, will probably involve the utilisation of market mechanisms, modified to suit Japanese conditions.

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[28] Japan's economy is unique in that many large manufacturers co-exist in the automobile and home electronics industries. Some foreign observers have pointed out that economic integration between Japan and other countries in East Asia would likely result in an economy similar to that of the European Union, in which increased competition induced the restructuring of many industries.

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Chart 1

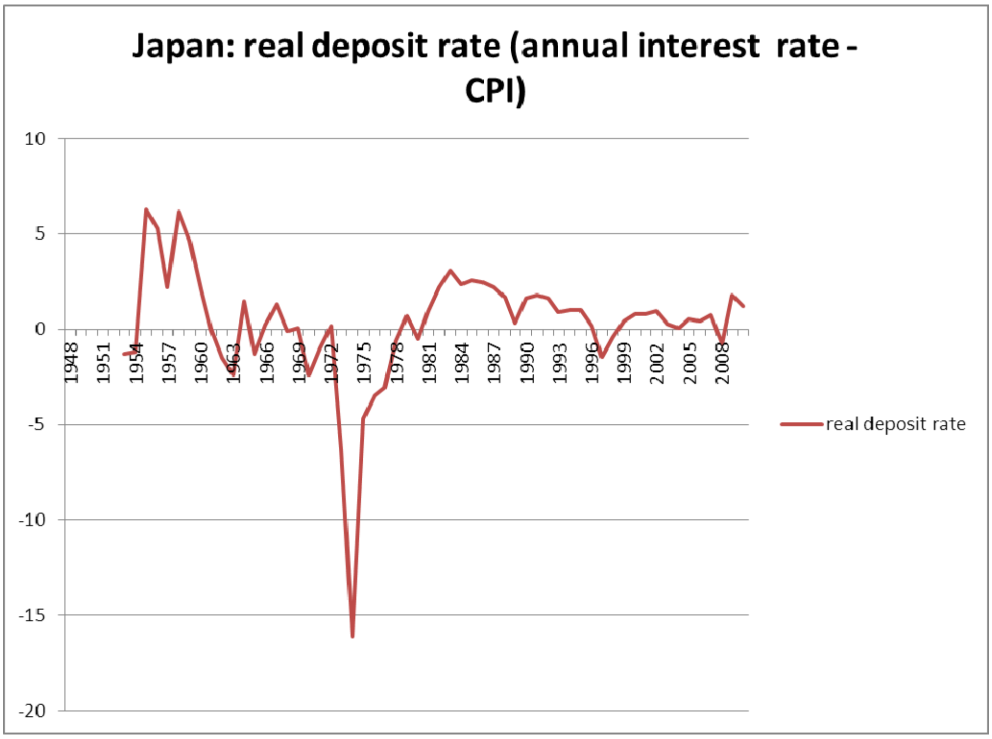


Chart 2

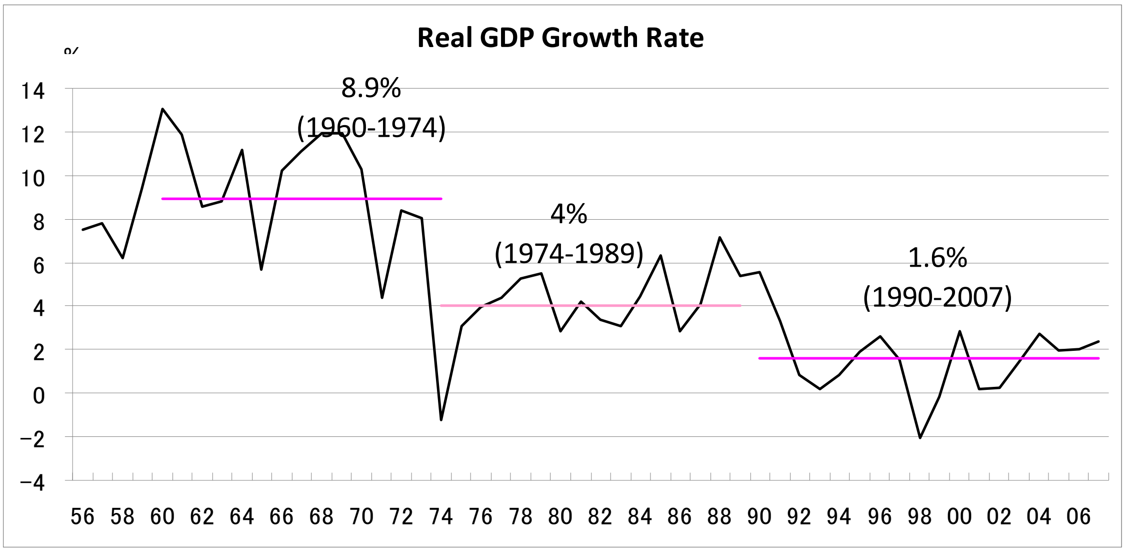
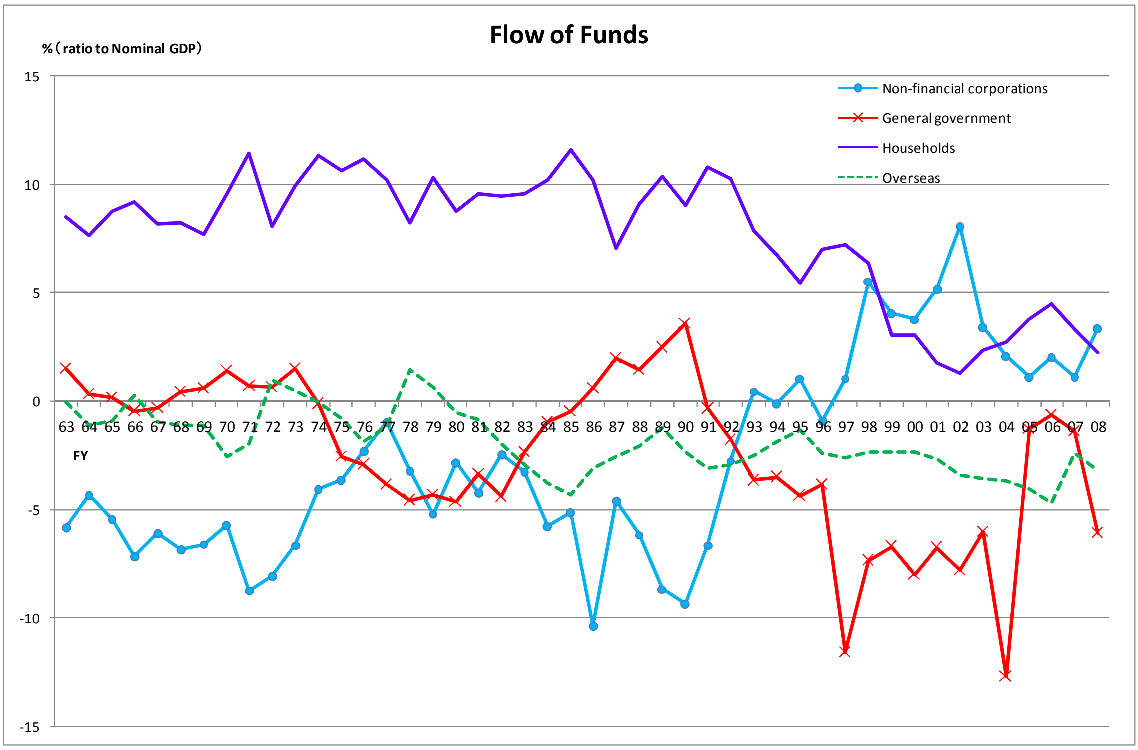


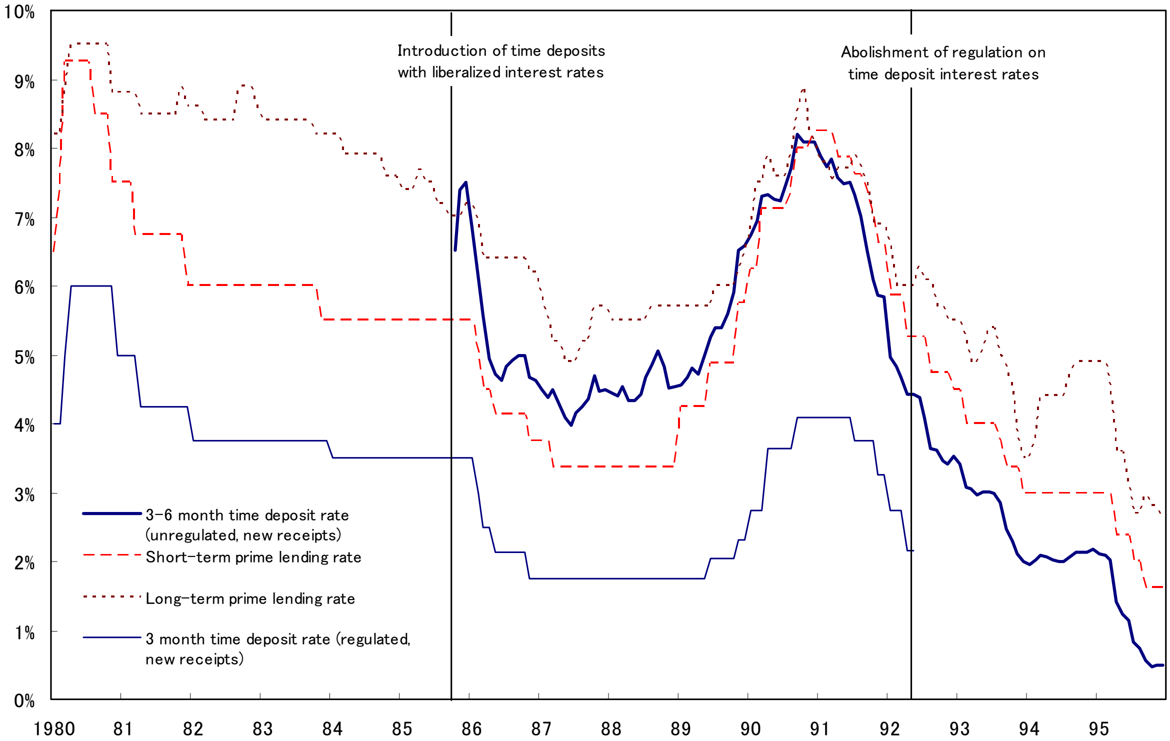
Chart 3



Flow of Funds
%（ratio to Nominal GDP）
15
10
5
0
-5
-10
-15
63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08
FY
Non-financial corporations
General government
Households
Overseas

Chart 4

Time Deposit Rates and Prime Lending Rates

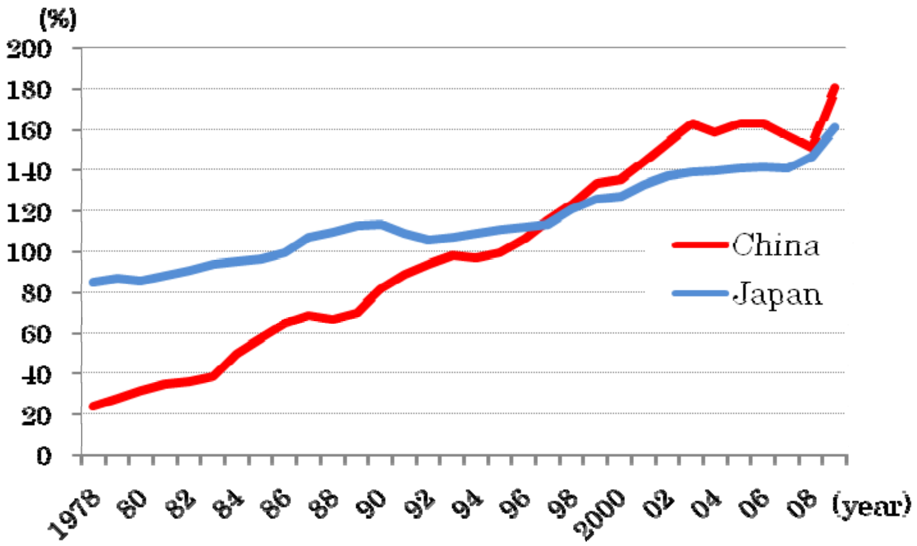


Note: The '3–6-month time deposit rate (unregulated, new receipts)' is the average interest rate on newly received time deposits with unregulated interest rates of terms between three and six months. '3-month time deposit rate (regulated, new receipts)' is the interest rate set by the regulation on newly received 3-month time deposits.

Source: Hattori, Shin and Takahashi (2009)

Chart 5

Comparison between Japan and China:
Ratios of Money Supply (M2 Base) to GDP



Latest data (2009): China 180.8%
Japan 161.2%

Note: The M2 data of China are amounts outstanding at the year-end, while those of Japan are average amounts outstanding in December.

Sources: Cabinet Office of the Government of Japan, Bank of Japan, National Bureau of Statistics of China, People's Bank of China.

Table 1

History of Capital Account Liberalization in Japan

Year	Month	Changes in regulations
1964	Apr.	Japan accepts IMF Article VIII obligations. Japan becomes an OECD member.
1968	Feb.	Yen conversion controls introduced to restrict conversion of foreign currencies into yen and domestic investment in yen.
1971	July	Upper limit on foreign securities purchased by investment trusts and insurance companies abolished.
	Aug.	United States suspends dollar conversion to gold (the so-called ‘Nixon Shock’).
	Dec.	IMF parity changed to ¥308/US$1 (Smithsonian rate) and band widened by +/– 2.5%.
1972	Feb.	Purchase of foreign securities by trust banks liberalized.
	Mar.	Purchase of foreign securities by commercial banks liberalized.
	June	Outward foreign direct investment liberalized.
1973	Feb.	Floating exchange rate regime introduced.
	May	Inward direct investment liberalized with exception of five categories of business.
	Dec.	Yen conversion controls on banks partially eased (non-residents permitted to hold yen accounts [except inter-office accounts]).
1974	Jan.	‘Voluntary restraint’, to balance net foreign securities investments by banks, securities companies, investment trusts, and insurance companies introduced.
1976	Nov.	Conditions attaching to outward long-term bank loans are eased.
1977	Mar.	‘Voluntary restraint’ on foreign securities investments by banks abolished.
	June	Acquisition of foreign equities and bonds by residents belonging to foreign companies permitted. Regulations on net open positions of residents abolished.
1979	Jan.	Regulations on acquisition of yen-denominated bonds excluding those with remaining maturity of more than one year by non-residents relaxed.
	May	Repo transactions by non-residents liberalized (*gensaki* market). CD issuance commenced.
	June	Short-term impact loans introduced and regulations on long-term impact loans lifted.
1980	Dec.	New Foreign Exchange and Foreign Trade Control Law implemented; in-and-out transactions free in principle.
1984	Apr.	Regulations based on the principle of real demand related to forward foreign exchange transactions abolished.
	June	Regulations regarding the conversion of foreign currency-denominated funds into yen abolished. Yen-denominated loans to residents contracted in overseas markets liberalized.

1985	Oct.	Interest rates on large time deposits liberalized.
1986	Dec.	Japan Offshore Market (JOM) established.
1993	June	Interest rates on time deposit fully liberalized.
1994	Oct.	Interest rates on demand deposits (excluding current accounts) liberalized.
1995	June	Restriction on the number of new branches a bank can establish removed.
	Aug.	Recycling restrictions on yen-denominated bonds issued by non-residents in overseas markets abolished.
1996	Nov.	'Big Bang' reform of capital market announced.
1997	Dec.	Ban on financial holding companies lifted.
1998	Apr.	Revised Foreign Exchange and Foreign Trade Law enforced.

Source: Takahashi & Kobayakawa (2003).

Table 2

History of Interest Rate Liberalization in Japan

Year	Month	Changes in regulations
1947	Dec.	Temporary Interest Rates Adjustment Law enforced.
1949	Dec.	Foreign Exchange and Foreign Trade Control Law enforced.
1979	Apr.	Call rate liberalized.
	May	Negotiable certificates of deposit (CDs) introduced.
	Oct.	Trade bill rate liberalized.
1980	Jan.	Medium-term government bond funds introduced.
	Dec.	Foreign Exchange and Foreign Trade Control Law amended.
1982	Apr.	New Banking Law enforced.
1984	Apr.	Sales of foreign CDs and CP permitted.
	Dec.	Interest rates on short-term euro-yen CDs liberalized.
1985	Mar.	Money market certificates introduced.
	July	Interest rates on medium- and long-term euro-yen CDs liberalized.
	Aug.	Large-lot open-end bond investment trusts introduced.
	Oct	Interest rates on large time deposits over ¥1 billion liberalized.
1986	Mar.	Long-term government bond funds introduced.
1989	June	Small-lot money market certificates over ¥3 million introduced.
1991	Nov.	Interest rates on time deposit over ¥3 million liberalized
1992	Mar.	Money management funds introduced.
1993	June	Interest rate on time deposits fully liberalized.
1994	Oct.	Interest rates on demand deposits (excluding current accounts) liberalized.
1998	June	CD issue terms fully liberalized.

Source: Takahashi & Kobayakawa (2003).

Table 3

Japan's Financial 'Big Bang'

1. Diversification of investment and financial choices		
1998	Apr.	Cross-border capital transaction liberalized.
	Sep.	Securitization of loan assets permitted.
	Dec.	Securities derivatives fully liberalized.
		Sale of investment trusts by banks permitted.
		Definition of 'securities' expanded and enhanced.
2001	Apr.	Over-the-counter sale of insurance products by banks partly permitted.

2. Improvement of intermediary agent service quality and fostering competition		
1998	Mar.	Establishment of financial holding companies permitted.
	Dec.	Licensing of securities activities shifted to register system.
1999	May	Range of fund-raising for financial companies diversified.
	Oct.	Scope of business widened for subsidiaries of financial institutions.
.		Equity brokerage commissions fully liberalized.

3. Development of user-friendly financial market		
1997	July	Sale of unlisted and unregistered equities by securities companies permitted.
1998	Dec.	Stock exchange features improved, and off-exchange equities transactions permitted.
		Over-the-counter market for equities improved (introduction of market maker and new register system).
		Features of financial futures contract improved.

4. Development of credible, fair, and transparent business system		
1998	Dec.	Disclosure practices enhanced.
1999	Apr.	Prompt corrective action introduced.
2001	Apr.	Law on Sales of Financial Products enacted.

Table 4

Comparison between Japan and China

Interest Rates

	Japan		China[1]	
	End of 1970	**March-end, 2010**	**End of 1991**	**March-end, 2010**
Long-term lending	8.50 (prime rate)	1.600[2] (prime rate)	9.00 (1-3 years, including three years)	5.40 (1-3 years, including three years)
Short-term lending (a)	6.25[3] (prime rate)	1.475[4] (prime rate)	8.10 (six months or les s)	4.86 (six months or less)
Short-term deposits (3-month) (b)	4.00[5]	0.388[6]	3.24	1.71
(a) – (b)	2.25	1.087	4.86	3.15

Notes:
1. The legal interest rates (base rates) for renminbi lending and deposit set by the People’s Bank of China.
2. The interest rate adopted and released by Mizuho Corporate Bank.
3. The rate surveyed under the Temporary Interest Rates Adjustment Law.
4. The lowest interest rate adopted by the six city banks. Since January 23, 1989, these banks have independently set the rate, taking into consideration funding costs and other factors.
5. The Bank of Japan guideline rate.
6. The average interest rate on 3-month time deposits of less than ¥3 million posted at financial institutions.
Sources: Bank of Japan, People’s Bank of China.

Key Economic Indicators

Period	Nominal GDP	Real GDP	Consumer Price Index	Corporate Goods Price Index	Land Price				Current Balance		Trade Balance	Yen − U.S. Dollar Exchange Rate	Crude Oil Price (WTI)	M2+CD	Overnight Call Rate	Japanese Government Bond (10 years) Yeilds to Subscribers	Stock Price Index (Nikkei 225)	U.S. FF Rate	U.S. Government Bond (10 years)
					Average	Residential	Industrial	Commercial	Total	Ratio to Nominal GDP									
	(change, %)	(change, %)	(change, %)	(change, %)	(change, %)	(change, %)	(change, %)	(change, %)	(100 million yen)	(%)	(100 million yen)	(yen)	(dollar)	(%)	(%)	(%)	(yen)	(%)	(%)
1970	17.9	10.3							7,333	1.0	14,377	360.0		18.8	8.0		1,987	7.2	7.3
1971	10.0	4.4	−0.8	6.3	16.5	20.3	15.2	7.4	20,714	2.5	27,193	315.0		20.5	5.5		2,714	4.7	6.2
1972	14.5	8.4	1.6	5.0	12.4	14.8	10.8	6.4	20,797	2.2	27,482	301.7		26.5	4.7	6.72	5,208	4.4	6.2
1973	21.8	8.0	15.7	11.6	30.9	33.3	23.9	23.7	−342	0.0	10,160	280.3		22.7	10.5	7.30	4,307	8.7	6.8
1974	19.3	−1.2	27.5	23.2	32.4	34.7	28.4	23.6	−13,824	−1.0	4,667	301.0	7.1	11.9	13.5	8.41	3,837	10.5	7.6
1975	10.5	3.1	2.8	11.7	−9.2	−8.9	−9.5	−9.3	−2,085	−0.1	15,126	305.2	7.9	13.1	8.0	8.23	4,342	5.8	8.0
1976	12.3	4.0	5.5	9.4	0.5	0.8	0.1	0.1	11,207	0.7	29,563	293.1	8.6	15.1	7.1	8.23	4,991	5.0	7.6
1977	11.4	4.4	3.3	8.1	1.5	1.9	0.7	0.8	29,566	1.6	46,290	240.0	8.8	11.4	5.0	6.68	4,866	5.5	7.4
1978	10.1	5.3	−0.5	4.2	2.5	3.3	1.0	1.3	36,236	1.7	52,381	194.3	9.5	11.7	4.6	6.18	6,002	7.9	8.4
1979	8.4	5.5	5.0	3.7	5.2	6.5	2.7	3.1	−20,481	−0.9	3,655	240.3	17.0	11.9	8.0	7.79	6,569	11.2	9.4
1980	8.4	2.8	14.9	7.8	10.0	12.3	6.2	6.7	−26,801	−1.1	3,504	203.1	25.8	9.2	9.4	8.23	7,063	13.4	11.5
1981	7.4	3.2	1.4	4.9	9.6	11.4	6.5	6.7	11,928	0.5	45,551	219.8	30.8	8.9	6.6	8.37	7,682	16.4	13.9
1982	4.9	3.1	0.4	2.7	7.4	8.3	5.5	5.8	18,454	0.7	46,153	234.7	28.0	9.2	6.7	7.97	8,017	12.3	13.0
1983	4.1	2.3	−0.6	1.9	4.7	5.1	3.7	4.0	51,583	1.8	75,892	231.7	29.7	7.4	6.3	7.70	9,894	9.1	11.1
1984	6.7	3.9	0.1	2.3	3.0	3.0	2.3	3.5	86,836	2.8	106,881	251.6	26.4	7.8	6.4	6.97	11,543	10.2	12.4
1985	6.6	4.4	−0.8	2.0	2.4	2.2	1.8	3.8	119,773	3.7	133,150	200.3	26.4	8.4	7.9	6.58	13,083	8.1	10.6
1986	4.7	2.9	−4.7	0.6	2.6	2.2	1.7	5.1	142,527	4.2	155,492	158.3	18.0	8.7	4.4	5.45	18,821	6.8	7.7
1987	4.3	4.2	−3.1	0.1	7.7	7.6	2.8	13.4	121,939	3.4	136,031	121.3	16.7	10.4	4.0	5.00	21,564	6.7	8.4
1988	6.9	6.2	−0.5	0.6	21.7	25.0	10.4	21.9	101,525	2.7	121,458	125.1	17.0	11.2	4.0	4.81	30,159	7.6	8.8
1989	7.0	4.8	1.9	2.3	8.3	7.9	9.3	10.3	87,168	2.1	113,509	143.8	21.8	9.9	6.3	5.31	38,916	9.2	8.5
1990	7.5	5.1	1.5	3.1	16.6	17.0	15.2	16.7	64,777	1.5	103,349	135.8	28.5	11.7	8.2	6.80	23,849	8.1	8.6
1991	6.6	3.8	1.0	3.3	11.3	10.7	13.5	12.9	91,815	2.0	132,856	124.9	19.1	3.6	6.2	5.84	22,984	5.7	7.9
1992	2.8	1.0	−0.9	1.7	−4.6	−5.6	−0.4	−4.0	142,439	3.0	162,189	124.9	19.5	0.6	3.8	4.76	16,925	3.5	7.0
1993	0.9	0.3	−1.6	1.3	−8.4	−8.7	−4.7	−11.4	146,782	3.0	159,159	111.9	14.2	1.1	2.4	3.47	17,417	3.0	5.9
1994	0.8	0.6	−1.6	0.7	−5.6	−4.7	−3.7	−11.3	133,509	2.7	151,454	99.6	17.8	2.1	2.2	4.55	19,723	4.2	7.1
1995	1.4	2.0	−0.8	−0.1	−3.0	−1.6	−2.3	−10.0	103,927	2.1	126,908	103.5	19.6	3.0	0.40	2.91	19,868	5.8	6.6
1996	2.2	2.7	−1.7	0.1	−4.0	−2.6	−3.6	−9.8	71,533	1.4	88,485	116.4	25.9	3.3	0.43	2.75	19,361	5.3	6.4
1997	2.2	1.6	0.7	1.8	−2.9	−1.6	−2.8	−7.8	117,337	2.3	120,980	130.2	17.6	3.1	0.40	1.99	15,259	5.5	6.4
1998	−2.0	−2.0	−1.5	0.7	−2.4	−1.4	−2.4	−6.1	155,277	3.1	157,524	113.6	12.1	4.0	0.24	0.97	13,842	5.4	5.3
1999	−1.4	−0.1	−1.5	−0.3	−4.6	−3.8	−4.3	−8.1	130,522	2.6	137,785	102.5	25.6	3.6	0.010	1.84	18,934	5.0	5.6
2000	1.1	2.9	0.0	−0.7	−4.9	−4.1	−5.0	−8.0	128,754	2.6	123,719	114.8	26.8	2.1	0.230	1.66	13,786	6.2	6.0
2001	−1.0	0.2	−2.3	−0.8	−4.9	−4.2	−5.5	−7.5	106,524	2.1	84,015	131.4	19.8	2.8	0.001	1.31	10,543	3.9	5.0
2002	−1.3	0.3	−2.1	−0.9	−5.9	−5.2	−7.4	−8.3	141,397	2.9	115,503	118.7	31.2	3.3	0.001	1.01	8,579	1.7	4.6
2003	−0.2	1.4	−0.8	−0.2	−6.4	−5.8	−8.5	−8.0	157,668	3.2	119,766	106.9	32.5	1.7	0.001	1.38	10,677	1.1	4.0
2004	1.6	2.7	1.3	0.0	−6.2	−5.7	−8.7	−7.4	186,184	3.7	139,022	102.5	43.5	1.9	0.001	1.45	11,489	1.3	4.3
2005	0.7	1.9	1.7	−0.3	−5.0	−4.6	−7.4	−5.6	182,591	3.6	103,348	117.5	61.0	1.8	0.001	1.46	16,111	3.2	4.3
2006	1.4	2.4	2.2	0.2	−2.8	−2.7	−4.9	−2.7	198,488	3.9	94,643	118.9	61.1	1.1	0.21	1.63	17,226	5.0	4.8
2007	1.3	2.1	1.8	0.1	0.4	0.1	−1.8	2.3	247,938	4.8	123,225	112.0	96.0	1.6	0.45	1.48	15,308	5.0	4.6