SciencesPo. | GEM Groupe d'Économie Mondiale

Policy Brief

April 2009

# Déjà vu?
# Japan's Financial Crisis Revisited[1]

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[1] The author would like to thank Sciences Po, in particular Professor Patrick A. Messerlin, for the opportunity to write this paper and to give a lecture of the same title to commemorate the launch of the Double Degree Programme between Sciences Po and the Graduate School of Economics at Keio. Research assistance by Chawinda Phupoxsakul and Ayako Obashi is gratefully acknowledged. Needless to say, responsibility for all remaining errors lies with the author.

**Introduction**

As the global economy buckles under the weight of the financial crisis, a strong sense of déjà vu pervades Japan. Although denied by some in the Anglo-American world, there is a striking resemblance between Japan's crisis in the 1990s and the present global crisis. In fact, the basic structure, as well as public and private responses, are the same. This paper explains this statement.

In Japan, the financial crisis started with the burst of its bubble in 1991. The ensuing 'lost decade' was in fact a puzzle for many. It seemed as if, overnight, Japan turned from an economic powerhouse into a country that just could not get its economy back on its feet. In the 1980s, Japan was second to none if one believed some American scholars. Then, all of a sudden the growth rate dropped in the 1990s. Unemployment, which remained in the 2-3% range until then, began to creep up. Huge financial institutions went bankrupt in 1997. By 1998, people were seriously talking about a global economic meltdown originating in Japan. The Japanese economy, as well as Japan's public finance, came to show the worst performance among the advanced nations.

What happened to Japan? Why the sudden fall from No.1 to the bottom? And why did Japan have the 'lost decade'? Answers to these questions answer the parallel questions about the crisis today. What happened to the US economic model and the financial industry at the core of US prosperity? Why the sudden fall from grace? Why will it take a decade before the world economy finds its new model conducive to stability?

In this paper we first explain why a bubble developed and then burst in Japan. Then we discuss Japan's policies to counter the solvency crisis, followed by Japan's policies to counter the liquidity crisis. Next we investigate the current global crisis and review some fundamental features of financial markets, to point out that the basic structure that lead to a crisis is perennial. In other words, at an abstract level, the structure of Japan's crisis is the same as the structure of today's global crisis. The conclusion avowedly dim, this type of crisis will happen again.

**Japan's bubble and the 'lost decade'**

The simplest way to explain why Japan had the bubble and the 'lost decade' is to say that both were needed for Japan. Both were needed in order for Japan to transition from the old system to a new system. The old system was an insular, self-sufficient system which suited the post-war recovery period. Once the Japanese economy became strong enough, the country had to adopt a new system that was more open and interactive. This process necessarily involved destruction of vested interests. Hence, it had to be forced upon Japan. It took the crisis and the ensuing recession for the Japanese to accept it. During the 'lost decade' Japan was undergoing systemic change, which was why recovery was so slow in coming. Systemic change, as can be seen from the experiences of the former eastern block nations, takes time.

But it is important to know that even though the growth rate turned consistently positive between 2002 and 2007, the transition process has not run its course. For this reason, the long-run focus should be on Japan's systemic change towards openness, rather than its growth rate[2].

When we look back on the post-war economic history of Japan, we find success after every challenge. The devastation of war, the breakdown of the Bretton Woods System, the two oil shocks, the repeated upward leaps of the yen. Each time, after some adjustment, the Japanese managed to get their economy back on the path of growth. In 1955, the share of GDP in world GDP was 36.3% for the USA, 17.5% for the EC and 2.2% for Japan. By 1986, Japan's GDP share had grown to 11.8%, the EC's to 18.6% while the figure for the USA had declined to 25.2%. Japanese cars, fax machines, cameras and radios became the world's favourite. The current account recorded a surplus year after year, and Japan lent abroad more than it borrowed from abroad[3]. Most importantly, the Japanese had managed to keep their workers employed. From 1960 until 1995, the rate of unemployment remained below 3%. The virtues of 'the Japanese economic system' earned recognition around the world, and Japanese management became the topic studied in many a Business Schools.

Throughout this process, Japan remained an essentially self-contained system. To be sure, 99% of Japan's oil needs were met by imports from abroad. Most of the modern conveniences, such as radios, televisions, motorcars, computers, which Japan became so good at producing, were originally invented abroad. And, without the global market to absorb its products, Japan's companies would not have thrived as

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[2] There is another reason why Japan's positive growth rate between 2002 and 2008 is not much to write home about. Japan experienced bouts of mild deflation during this period. When prices are falling but nominal growth is stagnating, positive real rates of growth simply mean that purchasing power is higher because prices are lower. In other words, real rates of growth are signs of a productive economy only when inflation rates and nominal growth are positive.

[3] At the end of 1996, Japan's net external assets amounted to 103.359 thousand billion yen. Japan has kept its net lender status throughout the lost decade and its net external assets at end 2007 are still high at 250.221 thousand billion yen. (Figures are from the Ministry of Finance, http://www.mof.go.jp/bpoffice/e1c018.htm).

much. However, actual figures betray the image of Japan as a massive exporter heavily reliant on raw material imports[4]. The ratio of imports to GDP was 7.2% in 1999. And, the ratio of exports to GDP was not much higher at 9.6% in the same year[5]. Sectors such as agriculture, construction and finance remained heavily protected and closed to outside competitors. The Japanese basically fed each other, built buildings and roads for each other, borrowed from each other, sold things to each other and employed each other.

This self-contained system worked fine as long as the economy itself was growing. When the pie is getting bigger, everybody can expect a reasonable increase in his share, without having to discuss changing that share. Income was re-allocated from the productive parts of the economy to the not-so-productive parts, but nobody complained. The Japanese were happy to believe that everyone in Japan was equally well off and equally hard-working. They took pride in placing importance in 'harmony'. Differences in living standards were frowned upon, along with differences in most other aspects of life.

But as the Japanese economy grew in importance, this became an unnatural and unsustainable state of affairs. Protecting domestic industries from foreign competition can be legitimatised only for a small and developing economy. As Japan became economically stronger, trading partners rightly demanded their fair chance. In addition, some resources were misallocated due to protection and regulation. This led to many inefficiencies and even corruption. And as Japan's per capita income grew, it became increasingly difficult for Japanese companies to pay the expensive wages and still compete in the global market.

Something had to give. The pressure was there. But the unravelling of Japan Inc. did not start in earnest, because too many vested interests were at stake. Japanese society is one of the most consensus-oriented in the world. If a particular

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[4] For one thing, the ratio of manufactured goods imports in Japan's total imports increased throughout the 1980's and 1990's, owing to market opening. In the early 1980's, the ratio was 20% to 30%. Then in the latter half of the 1980's, this ratio grew to 50% as Japanese companies began to produce abroad. It was even higher at 62.5% for 1999 and 61.1% for 2000. For the USA and the EU Member States, the figure was about 75% in 1990. (Figures are from the White Papers 1993 and 2001, Japanese Ministry of Economy, Trade and Industry.)

[5] These figures are not very different from those of the USA for the same year, 11.4% for imports to GDP and 7.6% for exports to GDP. But they are much lower than those of even the larger EU member states, 20.3% for imports and 21% for exports (France), 22.1% for imports and 18.6% for exports (UK), 22.4% for imports and 25.6% for exports (Germany) and 18.5% for imports and 19.7% for exports (Italy). For the smaller EU member states the figures are much higher. For instance, for Belgium and Luxembourg the figures are 64.7% for imports and 70.9% for exports and for the Netherlands, 47.6% for imports and 50.9% for exports. (Figures are from the booklet Japan 2001, published by Keizai Koho Center.)

policy is clearly going to hurt some interests, it becomes extremely difficult to win support from even those voters who are not directly affected by it[6].

So Japan had to be pushed into change by a crisis. What triggered the crisis was a financial meltdown. Stock and real estate markets plunged. Here we already see the similarity with today's crisis. The banking model (which was essentially Anglo-American) was flawed and needed to be replaced by something more conducive to stability. But the world would not have admitted to this fact without a crisis of this magnitude. And the crisis was triggered, again this time, by a financial meltdown. This is why the basic structure of today's crisis is the same as Japan's crisis in the 1990s.

The basic structure is the same, but the concrete factors are not. There are three concrete factors behind Japan's financial meltdown; (1) expansionary monetary policy following the Plaza accord, (2) myth that real estate and stock prices 'never fell' and (3) deregulation in the financial sector.

**Concrete factors --- Expansionary monetary policy**

At the G7 meeting at the Plaza hotel in September 1985, Japan came under heavy pressure to reduce its current account surplus and open its markets to foreign competition. At that time the ratio of Japan's current account surplus to GDP was closer to 4%. Japan promised it would try to bring this down to 2.5%. With hindsight, what the government should have done was to conduct major deregulation and open up the Japanese market to foreigners. Instead, Japan took the easy way out. It chose to increase money supply. The Bank of Japan lowered the official discount rate five times between January of 1986

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[6] An example is the reaction to the temporary 'safeguard' measures imposed against imports of leaks, shiitake-mushrooms and tatami-mat materials from China, between the 23rd of April and the 8th of November 2001. In retaliation, China increased import tariffs on Japanese cars, cellular-phones and air-conditioners by 100%. Tariffs on these Japanese products rose to 171%, 125% and 140% respectively. This was continued even after the 8th of November, until agreement was reached on 21st December between China and Japan to resolve the issue of agricultural imports at meetings between private sector organisations from the two countries. The December 22nd Nihon Keizai Shimbun (Japan Economic Journal) quotes the Japan Automobile Association saying that exports to China, which hit a record high of 5,561 cars in May, declined to 319 cars in October. And yet this has not made the Japanese producers of these industrial products rise up in support of freer trade in agricultural products, at least not overtly. Japanese consumers, on their part, willingly accepted the price increase in leaks and tatami-mat materials. According to the November 24th Nihon Keizai Shimbun, the average monthly wholesale price increase was 14.3% for leaks and 26.3% for tatami-mat materials between May and September of 2001. The wholesale price of shiitake-mushrooms decreased during the same period, but this is attributed to the decline in quality due to lower average temperatures.

and February of 1987 (Figure 1). The resulting bubble in the stock and real estate markets eventually burst in the early 1990s[7].

Creating the bubble gave the Japanese authorities a way to keep their promise at the G7 to boost domestic demand without hurting domestic interests. It is important to recognise that this was not done against the will of the rest of Japan. All other sectors of the Japanese economy welcomed the bubble, too. Privatisation programmes were underway in the mid-80s, and the Ministry of Finance welcomed the stock market boom. Businesses enjoyed the opportunity to raise capital cheaply. They were also under pressure to reduce exports, and tried to raise profits by 'zai-tech' (financial engineering). Banks had to meet BIS capital adequacy requirements. Politicians benefited from increased contributions from the private sector. The yen strengthened 100% against the dollar after the 1985 Plaza accord, so low interest rates were welcome in the midst of worries of a recession. Everyone welcomed the bubble. The Nikkei index reached almost 40 thousand and land and real estate prices soared. Everyone believed the myth that stock and land prices never declined in Japan.

Two things happened during the bubble years (1985 to 1990) that came back to haunt the Japanese after the bubble ended. One, over-investment by firms. Two, the explosion of reckless lending with land and buildings as collateral. The former is a classic, textbook cause of economic downturns, and is nothing new. In fact the entry into recession in 1991 was largely due to this first factor. It was the second factor that led to painful hangovers, but also ushered in the long search for a new system in Japan.

Even after the bubble ended, it took a while for the Japanese to realise that their prized system was outdated. During the first half of the 1990's, many still believed that Japan faced just another downturn, not the start of profound change. The Ministry of Finance and the financial sector kept waiting for land and stock prices to rise again. In the meantime, the economy got worse, and unemployment kept climbing. The amount of bad debt held by banks was repeatedly underestimated[8]. Bribery scandals were revealed,

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[7] The Bank of Japan raised the discount rate from 2.5% to 6% between 1989 and 1991. We now know that macroeconomic measures were not suitable for stopping the bubble. Japan should have taken more microeconomic measures such as restraining lending related to speculative transactions in real estate. Instead, the hike in the discount rate was chosen as the main policy tool, and led to a hard landing of the entire economy. The stock market dived, and what was less expected, so did land and real estate prices.

[8] Estimates of the total amount of unrecoverable debt varied from the beginning, the highest being 150 trillion yen or 30% of GDP. Needless to say, as the economy worsened, what used to not to be unrecoverable became unrecoverable. For the economy as a whole, the burst of the bubble had a cumulative effect of draining 1,000 thousand billion yen (OECD Economic Surveys Japan, 1998, p. 4). This is two years' worth of Japanese GDP, and 1/5 of this loss is estimated to have been borne by the financial sector.

and Japanese public opinion turned gradually against the financial institutions and authorities.

It was perhaps logical that the system began to unravel where it was weakest. The bubble and its burst hit the system of financial intermediation in Japan. And that was the weak link in the system.

At the centre of every economy, there is a system of financial intermediation. Through this system, savings are lent out to firms for investment. If banks do the financial intermediation, economists call that 'indirect financing'. If the stock and bond markets do it, it is called 'direct financing'. Japan's method of financial intermediation was a peculiar one. Indirect financing by banks had absolute dominance, when it came to allocating household savings[9]. And the principle in lending by banks was one that was very dependent on the continuing rise of real estate prices.

Such a system of financial intermediation was successful because of the stable relationship between financial authorities and the financial sector. This stable relationship was built on protection, regulation, administrative guidance, frequent exchange of information and, at times, corruption.

It is extremely important to see that it was not only the authorities and the banks that gained from the stability in their relationship. Everyone gained. There was no incentive on the part of anybody inside Japan, to endeavour to alter the cosy relationship between monetary authorities and the financial sector. Japan Inc. was built around the Japanese way of financial intermediation, whose main characteristic was stability.

Depositors were happy to deposit their savings with banks, because they were risk-averse and preferred to put their money where protection guaranteed that banks never went bankrupt. Firms were happy to borrow from these banks, because they cherished the benefits of having a 'main bank' [10], which enabled them to keep their lifetime employment system through thick and thin. And so the workers, who were employed for life, deposited their savings in the stable banks. The savings were allocated in a stable manner to firms, who hired more workers to produce more. And the workers who were paid better became consumers who bought more and saved more at the same time. In the meantime, aided by their stable and long-term relationships with banks, Japanese industry

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[9] Shares and corporate bonds were issued, but households hardly ever bought them. Japanese firms, including the financial institutions, held each other's shares and corporate bonds.

[10] 'Main banks' are banks with which the firm has done business with for decades. They knew their client firms well, and often sent their retired executives to important positions in such firms. At the height of Japan's economic success, 'main banks' was counted among the virtues of the Japanese economic system, which cherished long-term relationships and trust.

went out into the world, competed and won. Names of Japanese products and companies became household words globally. Nobody inside or outside Japan stopped to ask whether there could be anything wrong with a system that produced such superstars. Nobody recognised the financial sector as the weak link in this system that seemed to be working so well.

**Concrete factors --- Two myths and a deregulation**

But there was a hidden catch. After nearly thirty years of protection and regulation, the Japanese financial sector had adopted a lending method based on myths[11]. The myths were that real estate prices and stock prices never fell. Figure 2 shows the change in land price in post-war Japan. Clearly, 'land-prices never fall' was a reasonable assumption until 1991. The same could be said about buildings and houses built on land. Before long, banks began to lend on the basis of whether real estate was available as collateral, rather than of whether the investment plan was economically viable. This principle of lending has a name: 'the collateral principle'. This principle caused no trouble, so long as real estate prices kept rising. There was also the rise in the stock market, shown in Figure 3. So as long as the stock prices showed an upward sloping curve, the balance sheets of firms which held these shares improved.

Then came financial sector deregulation. Due to increases in the 1970s in government bond issuance and cross-border financial transactions in the 1980s, ceilings on deposit interest rates were gradually removed. In addition, large firms could raise funds in the capital market by issuing bonds. Because of this, the business environment for Japanese banks changed, from protection and regulation under the 'convoy system' to increased competition in terms of both deposit-taking and lending. So the banks chose to expand real estate-related business.

This fuelled the bubble. Stock and real estate prices skyrocketed. The country went into a frenzy of investment, not only in equipment but also in stocks and real estate. Companies as well as households joined the frenzy. Banks kept lending more, taking on more real estate as collateral. Add to this the fact that land-prices in Japan were determined according to location of the land, instead of the expected return from investment in that land. It was not surprising that when the bubble burst, the banks

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[11] Banks were regulated against competing with each other by offering more attractive interest rates. They were not allowed to differentiate risky borrowers from safe ones by imposing higher interest rates. So they insured themselves against risk by taking sufficient land and real estate as collateral.

ended up with unrecoverable debt of massive scale. As the economy and land prices failed to recover, the amount of unrecoverable debt continued to increase, even as they were written off. Major financial institutions, two securities houses and a bank, went bankrupt in 1997.

The 'collateral principle' based on the myths was supported also by a uniquely Japanese standard on disclosure, transparency, accounting etc[12]. Lending was done between two agents who knew and trusted each other. Disclosed information did not have to be comprehensive to general shareholders. If the information was comprehensible to the 'main bank' (and the other firms who held their shares), that was sufficient. This type of accounting and disclosure ensure stability only in a particular, insulated environment. It worked marvellously as long as the system remained intact. But with deregulation, the old standard was no longer functional. Major revisions were necessary, yet never made[13].

Deregulation in the Japanese financial sector began gradually in the late 1970's, and then progressed throughout the 1980's and 90's. However, the fundamental nature of the relationship between the monetary authorities and the financial institutions did not change at all until the late 1990s. To repeat, everyone gained from the system. Changes do not take place as long as the overall benefit of the status quo exceeds the cost. Further, deregulation in the financial sector (for instance allowing banks to choose their own interest rates) is not the same as competition in the financial sector. The former can induce the latter, but not necessarily. In the case of Japan, the financial markets were segmented by regulation. Firewalls between the different types of banking and security firms did not go down until the Big Bang started in earnest in 1997, in the midst of the recession. There was also very little competition with foreign financial institutions on Japanese soil until recently. The Japanese banks and securities houses continued to be protected.

The persistent problem of unrecoverable debt finally began to change all this. Admittedly, the change was slow, much slower than some foreign commentators and officials wanted. During the first five years of the 1990s, neither the authorities nor the banks were ready to change. Change occurred in earnest towards the end of the 1990s

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[12] It is possible to argue that this standard is not unique, but shared by some East Asian countries. Reckless expansion of lending with land and real estate as collateral took place in other parts of Asia. But many of the reckless lenders in Asia were Japanese, who unfortunately did not adjust their risk management styles after experiencing their own bubble. The Japanese crisis could be seen as a slow-motion version of the Asian crisis of 1997-98.

[13] Here again we see a strong similarity with today's crisis where deregulation in the financial sector was not backed up by establishment of a global system of supervision, disclosure and risk management.

when Japan's mechanism of financial intermediation became completely dysfunctional. Depositors were no longer sure that their banks would never go under. Many shifted their savings from private sector banks to the government-run postal savings. Some even turned to branches of foreign banks, something that was unthinkable only three years earlier. Borrowers were no longer sure if they could count on their banks to provide funds. Aside from having unrecoverable loans on their books, the Capital Adequacy Ratio set by the Bank for International Settlements (BIS) required banks to shrink their assets. They were not at all in a position to increase lending, and came under heavy criticism for being 'reluctant to lend'. Foreign financial intermediaries, in particular foreign purchasers of Japanese stocks, were now welcome. As the recession dragged on, many in industry had to find foreign partners, too. Foreign direct investment was now helpful, rather than frightening. It was now needed in order to maintain our employment level, and to introduce new ideas, rules and methods. .

As we see below, public money was injected into Japanese banks twice, once in March of 1998, and again in March of 1999[14]. Correspondingly, the decisions to inject capital were made twice. It seems to have been between these two decisions that the financial authorities came to terms with the need to discard all traces of their old relationship with the financial sector. The fact that they were left with no choice but to nationalise Long Term Credit Bank in October of 1998, despite the earlier capital injection, may have had something to do with this change[15]. Reflecting this new attitude on the part of the authorities, the second capital injection was accompanied by conditions much more severe than the first one. And with the advent of the Financial Supervisory Agency (currently the Financial Services Agency), policy turned away from intervention and regulation.

**Victim of its own success**

The Japanese financial sector is no longer what it used to be. The number of major banking groups fell from 21 to eight, in all of three years. Japanese banks wrote

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[14] See the section on the solvency crisis below. Detailed information on the Japanese financial sector and the policy measures can be found in International Monetary Fund (2001).

[15] For capital to be injected, every bank had to prove its viability. The fact that capital was injected into Long Term Credit Bank meant that the authorities publicly affirmed the viability of this bank. A mere seven months later, the bank had to go into public receivership. Everyone began to see the 'inspection' before the first capital injection as a 'joke', and the authorities could not refute it.

off over 70 thousand billion yen worth of unrecoverable debt in ten years. For fiscal year 2000, the total of officially reported unrecoverable debt amounted to 32.5 thousand billion yen. At the middle of fiscal year 2000, the ratio of 'loans under risk management' to total loans was over 5% for city banks, over 7% for regional banks and over 8% for second-tier regional banks. Partly due to the worsening economy, these ratios increased throughout the 1990s[16].

In the long run, what is more important than solving the problem of bad loans is the establishment of a new principle in financial intermediation, one that is transparent and conducive to stability in a globalised environment. Since the crisis, Japan made it a policy goal to make its economy more reliant on direct financing. The current global crisis has thrown water over the enthusiasm, as saving in the form of any financial instrument other than bank deposits lost value. This discourages at least the supply side of direct financing[17]. But the fact remains that Japanese depositors had spent the good part of the last sixty years in an environment of protection, where they could expect the financial institutions or financial authorities to protect the values of their deposits[18].

In a way, Japan is a victim of its own success. Because the system worked so well, Japan could afford to remain mostly insular. Change did not take place, because nobody saw any need for change. And everyone inside and outside of Japan saw the virtues of its unique system. Importantly, the perceived virtues included the virtues of the Japanese way of financial intermediation, which supported the long-term planning horizon and lifetime employment at Japanese firms. There was nothing to stop the development of a unique method of financial intermediation which, at the same time as being at the core of its success, led to its eventual demise. Given that globalisation cannot be stopped completely, and that autarky is not a sensible choice for Japan, the system was bound to see its end one day. When the end finally came, the necessary adjustment

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[16] Japan center for Economic Research, 'Monetary Policy under Deflation', March 2001, in Japanese. 'Loans under risk management' is defined as loans to bankrupt borrowers, loans with delayed payments and loans on which lending conditions had to be relaxed. We will discuss below how the bad loan situation developed in the 2000s.

[17] Even in the USA, the Financial Times reports that 'bank savings deposits rose by $246 billion to a record $4.343 thousand billion in the nine weeks to 9th March 2009, according to the Federal Reserve… more than the whole of 2008, which saw savings deposits rise by $299 billion'. ('US banks deposits soar in flight to safety', March 26 2009.)

[18] As of the end of 2007, assets held by Japanese households amounted to approximately 1,544 thousand billion yen. 50.8% was held in the form of cash and deposits at banks and the postal savings system, credit corporations and agricultural corporations. Insurance and pension schemes made up 26.2%. Only 10.7% was invested in the stock market. Securities such as government bonds made up only 7.5% (http://group.dai-ichi-life.co.jp/dlri/data/data.htm).

revealed itself dramatically in the form of the bubble and its aftermath.

During the 'lost decade', Japan seemed almost to be under siege from its own lugubrious mood. One could say that it was the Japanese, not the Japanese economy, that were in depression. But the crisis can be seen as a necessary evil, which changed the balance between the cost and benefit of Japan's opening. Seen in that light, this was a necessary 'growing-pain'. During the first half of the 1990s, Japan was in a state of collective denial. We simply could not believe that the world's most successful economy could fail so miserably, that property prices could continue to decline, that the many fiscal packages could be so ineffective in reviving demand. Importantly, the policy authorities, which were supposed to take the lead and solve the problem, were bewildered. Bewildered also were the rest of the public, who were beginning to lose faith in the policy authorities and the bankers[19]. We did not realise that we were at a stage where we had to fundamentally transform ourselves. We simply tried all the old tricks, such as fiscal spending packages, that used to work in the regime that had actually already ended.

The old tricks did not work, and the public finally began to admit that change was necessary. But the country is still split between reformists and anti-reformists, even today. The cost and benefit balance of hurtful reform is changing in the midst of the global slowdown. Japan's Herculean task is to walk the very fine line between reform that is so painful that the voters turn to the anti-reformers, and reform that is only so by name. When the pie is no longer growing, the size of the tranche is an issue. For the first time since the 1960s, the Japanese are facing a situation in which they cannot gain something without hurting their compatriots.

It should be clear by now that exactly the same can be said about the current global crisis. The financial sector at the centre of the current global crisis is a victim of its own success. It was doing so well (especially in the USA and in the UK) that nobody dared to suggest any change was needed. Authorities gave a free rein, and encouraged

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[19] This included the macroeconomists. It took them a while to recognise, and then openly lay the blame on, the Ministry of Finance, the Bank of Japan and the private sector bankers. In Japan, bankers and monetary authorities were among the most highly respected and revered professions. The bankers could expect a lifetime income that was on average 30 to 40% higher than those in industry. And the Ministry of Finance bureaucrats and BOJ officials could expect a well-paid position in the private sector after retirement. Graduates of the best departments in the best universities became bankers, MOF bureaucrats and BOJ officials. Many economists studied and graduated with them. Many economists taught students who later followed the footsteps of their fathers and uncles to become bankers and monetary authorities themselves. The economists also sat in governmental committees and discussed monetary policy or financial regulation, together with the bankers and officials. It therefore came as a shock to realise that it was the banking sector and its relationship with the authorities that was at the core of the problem.

the introduction of complex financial instruments which were sold internationally. Now that the intricate web of financial interdependence has come crumbling down to crush the entire world economy, we suddenly realise that nobody was keeping a close eye on this development. None of the authorities were institutionally ready to handle this. Doubt, denial and disbelief have taken over the psyches of consumers, investors as well as authorities all over the world. It would not be surprising if it took five or even ten years for all to regain confidence and mutual trust.

**Policies to counter the solvency crisis**

In this section and the next section, we discuss how the Japanese authorities dealt with the crisis in the 1990s. The first order of business was to deal with the solvency crisis. In November of 1997, Sanyo Securities, Hokkaido-Takushoku Bank and Yamaichi Securities failed. A severe credit crunch developed in Japan and all Japanese borrowers were charged a 'Japan premium', as shown in Figure 4. Confidence in the Japanese accounting and auditing system was lost. By the end of 1997, Japan had its Emergency Economic Package comprising 13 thousand billion yen for capital injection to solvent banks and 17 thousand billion yen for protection of depositors in failed banks. The package did not work however, because in March of 1998 only 1.8 thousand billion yen was injected into 21 large banks without complete examination or comprehensive cleanup of bank balance sheets. The fact that the examination and cleanup were not enough became abundantly clear when in October of 1998 the Long Term Credit Bank went into public receivership.

Just before LTCB went into receivership, 60 billion yen (12% of GDP) was made available. Two things were new this time, the Financial Revitalisation Act and the Bank Recapitalisation Act.

The Financial Revitalisation Act was basically for 'insolvent' institutions, but it also covered privatization procedure (introducing efficient new management, injecting capital, disposing bad loans). Public funds are used to protect depositors and replenish damaged capital base. 18 thousand billion yen became available. Under this law, LTCB and Nippon Credit Bank were nationalized in October and December of 1998.

The Bank Recapitalisation Act, on the other hand, was for 'solvent' institutions. 25 thousand billion yen was made ready for injections to restore credibility of solvent banks. Under this law, 7.5 thousand billion yen of capital was injected into 15 major banks at the end of March 1999.

The Deposit Insurance Corporation which existed since 1971, was also strengthened. 17 thousand billion yen was prepared for protection of depositors. The limit of coverage was increased twice from 1 million to 10 million yen by 1986, and the DIC obtained new power to assist mergers of failed institutions and sound institutions. The DIC was allowed in 1996 to fully protect depositors beyond the normal 10 million yen as temporary measure until March 2001. And in May 2000, the Deposit Insurance Law (DIL) was further amended to prepare a permanent resolution scheme for failing banks.

As a result of these more serious policies to tackle the solvency crisis, by late 1997, Japan premium began to subside. Then came the major sea-change when Resona bank (formerly Daiwa and Asahi banks) was rescued in 2003, by injection of 1.96 trillion yen through the DIC. The markets took this as a sign that the government will save shareholders, not just depositors. The Tokyo stock market rallied.

As of 31st March 2008, the Japanese government has recovered 8.8 thousand billion yen out of the 12.3 thousand billion yen injected into private sector banks between 1998 and 2003. The government started selling off the banks' *Preferred stock* (no voting rights, but given priority over common stock in payment of dividends and upon liquidation) purchased with the public money. The government had made 1.3 thousand billion yen worth of profits, due to the rise in stock prices as of March 2008.

**Liquidity Crisis and Monetary Policy**

The Bank of Japan's monetary policy has changed from the control of the Official Discount Rate, to the Overnight unsecured call rate (including the Zero Interest Rate Policy) and then to Quantitative Easing, before returning to the Call Rate. The Bank of Japan ended the Quantitative Easing policy in March 2006, and has not officially taken it up since then. But the loosening of monetary policy in reaction of the global crisis can be interpreted as Quantitative Easing in all but name.

The Official Discount Rate (ODR) was the rate at which private banks borrowed directly from BOJ. In the era of regulation, deposit rates moved with ODR. After 1994 when deregulation completed, deposit rates no longer followed ODR, and the latter was no longer a direct policy tool.

The Overnight unsecured call rate is the rate at which banks borrow short term from each other. The Bank of Japan uses the ODR as ceiling for the Overnight unsecured call rate which it controls by changing money supply. The Bank of Japan adopted the 'Zero Interest Rate Policy' between February of 1999 and August of 2000, by aiming at keeping this close to zero. This policy was temporarily abandoned in August of 2000, but then re-adopted when the Bank increased liquidity, on the 19th of March 2001. Then on the 9th of February 2001, the Bank of Japan cut the discount rate from 0.5% to 0.35%. The Bank also said that whenever market rates rise above this rate, it would be ready to meet lending requests at 0.35%. This new lending facility was called the 'Lombard lending'. Then on the 28th of the same month, the Bank lowered the overnight rate by 10 basis points to 0.15% and official discount rate by 10 basis points to 0.25%. See Figures 1 and 5.

Further, on the 19th of March, the Bank of Japan shifted its policy target from the call rate to the quantity of money. This was the 'Quantitative Easing' policy. They did this in search of a way to increase money supply further, when the rate of interest was already zero. Specifically, the Bank said it would target the amount of 'current accounts' held by private-sector banks[20]. The target for the 'current accounts' was increased from an average of 4 thousand billion yen to 5 thousand billion yen. To meet this target, the bank would buy long-term bonds if necessary. The central bank's new measures were interpreted as a kind of inflation-target. The governor announced that these measures will stay in place until 'the annual rate of change in the consumer price index stably registers zero or higher'.

The Bank raised the target for the banks' 'current accounts' by 1 thousand billion yen, to 6 thousand billion in August 2001. Then, in response to the terrorist attacks, it raised the target to 'over 6 thousand' on the 19th of September. At the same time, the official discount rate was lowered to 0.1%. In early December 2001, the target of the 'current account' was once again raised to between 10 to 15 thousand billion yen. Figure 6 shows the developments.

Since March 2006, when the Bank judged this condition had been met and quit QE, the Bank has been targeting the Overnight Unsecured Call Rate again. As already mentioned, though, the monetary easing in response to the current global crisis is beginning to resemble more and more the QE policy.

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[20] Financial institutions, foreign central banks and foreign governments hold 'current accounts' at the Bank of Japan. No interest is earned on this account. Under normal circumstances, private sector banks would prefer to earn interest, and their 'current account' balances are the minimum required by law. An increase in this balance above the minimum means that the money available for lending is higher than normal.

**The Current Global Crisis and the similarities**

Now we briefly turn to the current global crisis. There are three concrete factors behind it; Microeconomic and Macroeconomic policy mismanagement, financial imbalances and global imbalances.

Microeconomic policy was mismanaged in the sense that regulations encouraged off-balance-sheet transactions. In the USA, no license is required to become a mortgage broker, one factor behind the housing bubble. Furthermore, authorities cheered on as new instruments such as CDOs were introduced. Behind this was the misguided belief that securitisation and 'originate-to-distribute' made markets fundamentally more stable because it diversified risk. To begin with, risk was not priced correctly. Credit rating agencies stand out as obvious culprits but buyers and sellers of financial instruments, as well as policy authorities should also have done more.

Macroeconomic policy was mismanaged under the constraint of what is called the Timbergen's principle; in order to achieve n goals, we must have at least n tools. With monetary policy as a tool, we cannot achieve both price stability and market stability at the same time[21]. The former Chairman of the Federal Reserve chose price stability and adopted a policy that came to be known as the 'Greenspan put'. Emphasis was on price stability, the bubble can be dealt with after it burst.

While policy was being mismanaged, financial imbalances were developing in the world. Leverage increased especially in the USA. For instance, financial sector debt to GDP ratio went up from 20% to 200% in the last 30 years. US Household debt to GDP doubled to 100% in 20 years, as the saving rate went down to zero.

As some 'richer' nations went on a spending spree, other 'rich' nations and emerging nations went on a 'lending' spree. The current account deficit/net foreign borrowing on the part of developed countries such as the USA went up, funded by the current account surplus/net foreign lending on the part of Japan, China and 'non-rich' countries. Household spending and borrowing exploded, backed up by the wealth effect of the housing boom in the USA and in the UK.

What do the two crises have in common? Both crises originated in the financial sector, spreading to the rest of economy as financial intermediation froze. Both involved the downfall of the 'number 1' model. Disbelief, denial and disgrace became perennial, as bankers turned from respected highly-paid workers to the bête noir of society. And in

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[21] More than n goals can be achieved with just n tools when some or all of the goals are not independent of each other. To see this, one can imagine two sheets of paper on a desk near an open window. To stop both sheets of paper from being blown off, we need two paper weights, unless one of the papers is on top of the other.

both crises, policy reaction was not swift enough to stop a collapse of the economy, as shocked policymakers scrambled to find the correct policy.

The current global crisis and Japan's crisis have more in common, at a more fundamental level. These are the following five natures of financial markets:

i. Fear and greed
ii. Moral hazard
iii. Information asymmetry
iv. Low cost of transactions, high speed of adjustment
v. Inconsistent triangle

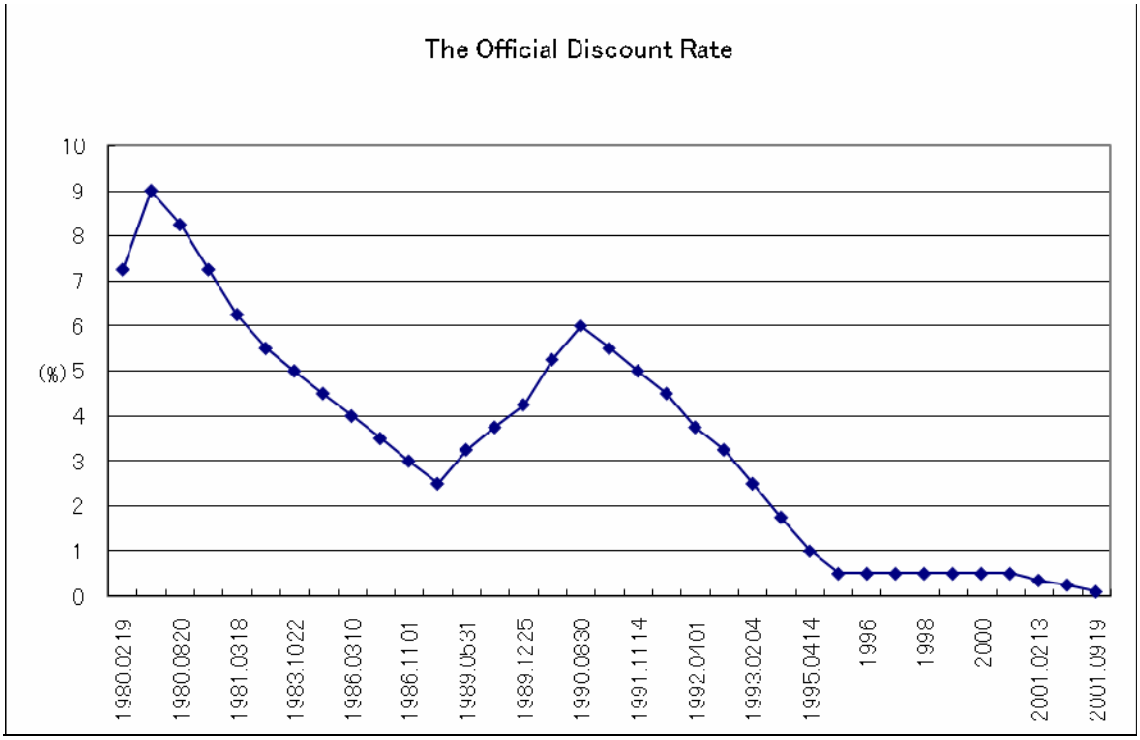
We cannot remove any of these fundamental characteristics of financial markets, the best we can do is to affect some of them by policy. In addition, memories are short. This means that the crisis originating in financial markets will happen again.

In the short-run, measures must be taken to restore the health of financial intermediation. Banks' balance sheets must improve and confidence must return. Monetary policy would need to include 'unconventional measures'. We also need to discuss seriously how to deal with Timbergen's theorem, for instance by introducing another policy tool. As Japan's experience shows, none of this is easily done. At the same time, we cannot allow protectionism to spread.

In the longer run, we will be asking ourselves the following questions. In light of the global imbalances, to what extent can saving-investment balances be changed by policy? Even if financial crises cannot be eliminated from this world, we should still aim at minimising the cost and size of such crises. How can we assure that risk is properly priced? How can we construct global and local regulatory structures that discourage destabilising behaviour?

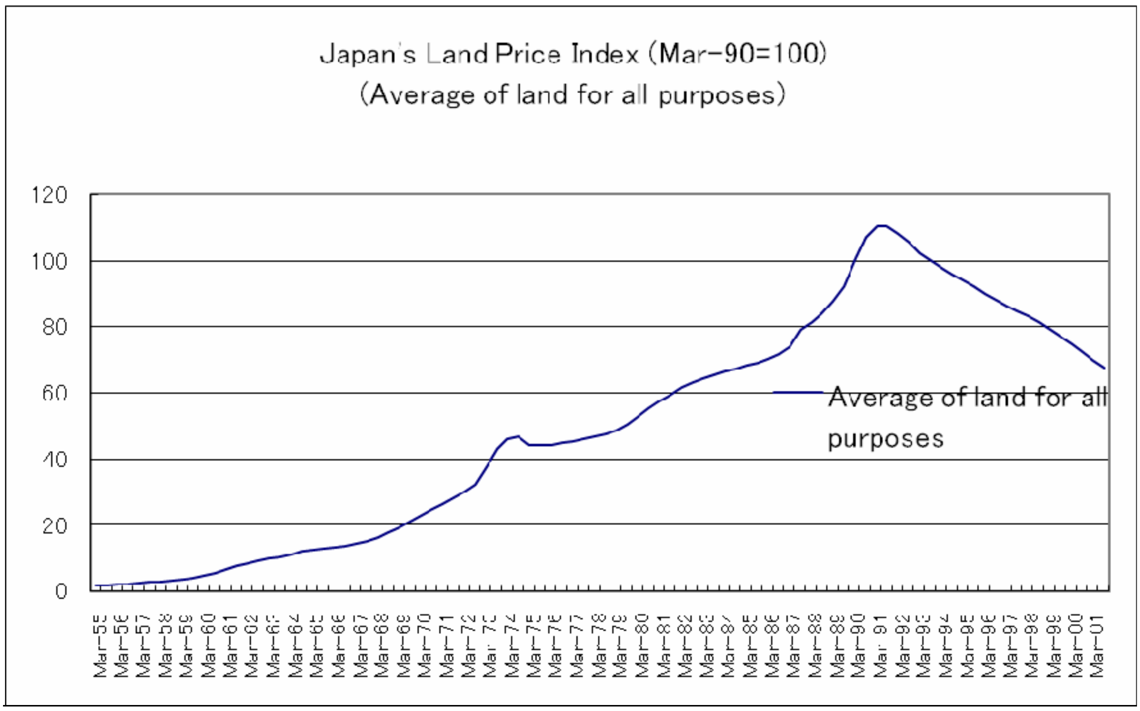
One thing is clear. The current crisis is revealing the importance of markets, not the uselessness of markets as some are suggesting. Nobody, not the government, not the private sector, can function without the credible price of their transactions. Today, all prices are no longer credible, because none of the financial markets are functioning properly. Just as we need to contain the spread of protectionism, we need to make sure intervention and regulation remain such that they do not distort market signals.

Figure 1




Source: Bank of Japan

Figure 2

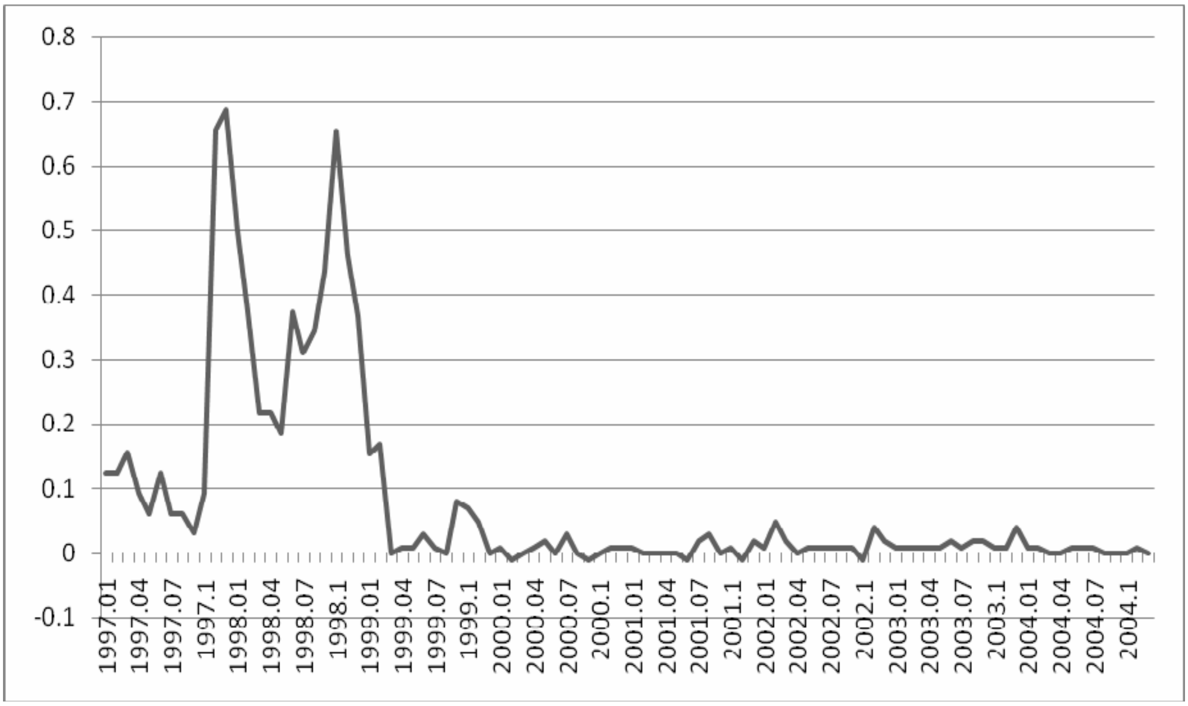



Source: Japan Real Estate Institute

Figure 3

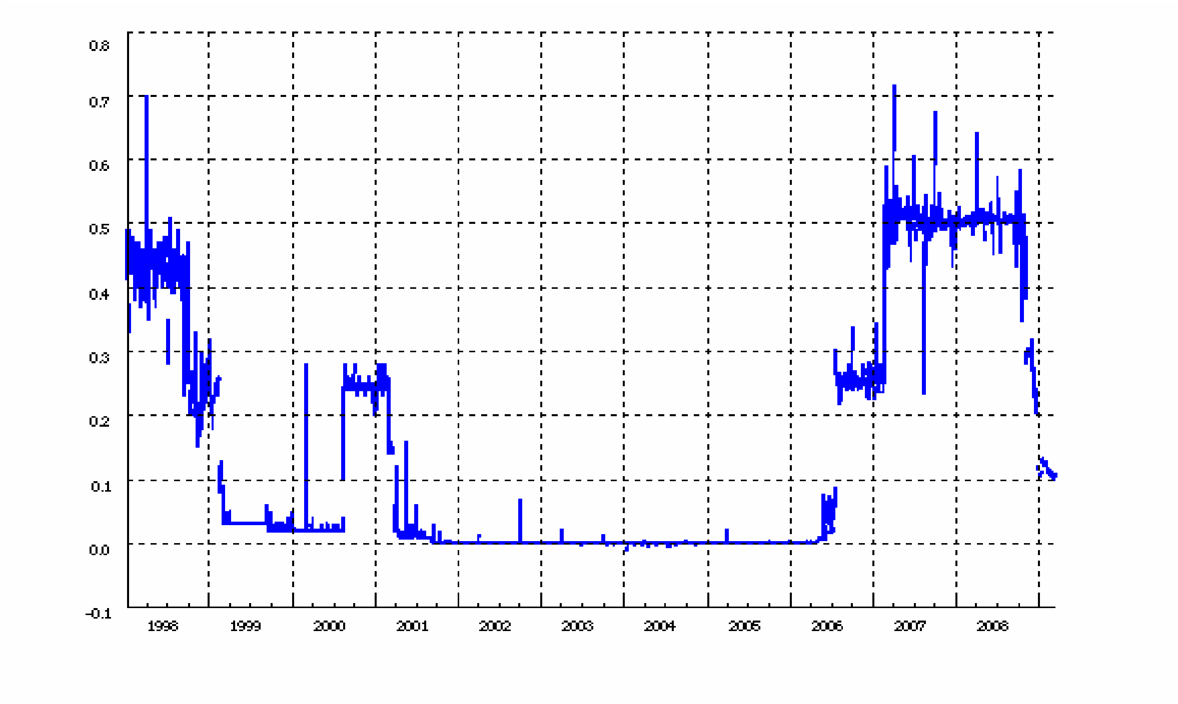

Source: Bank of Japan

Figure 4



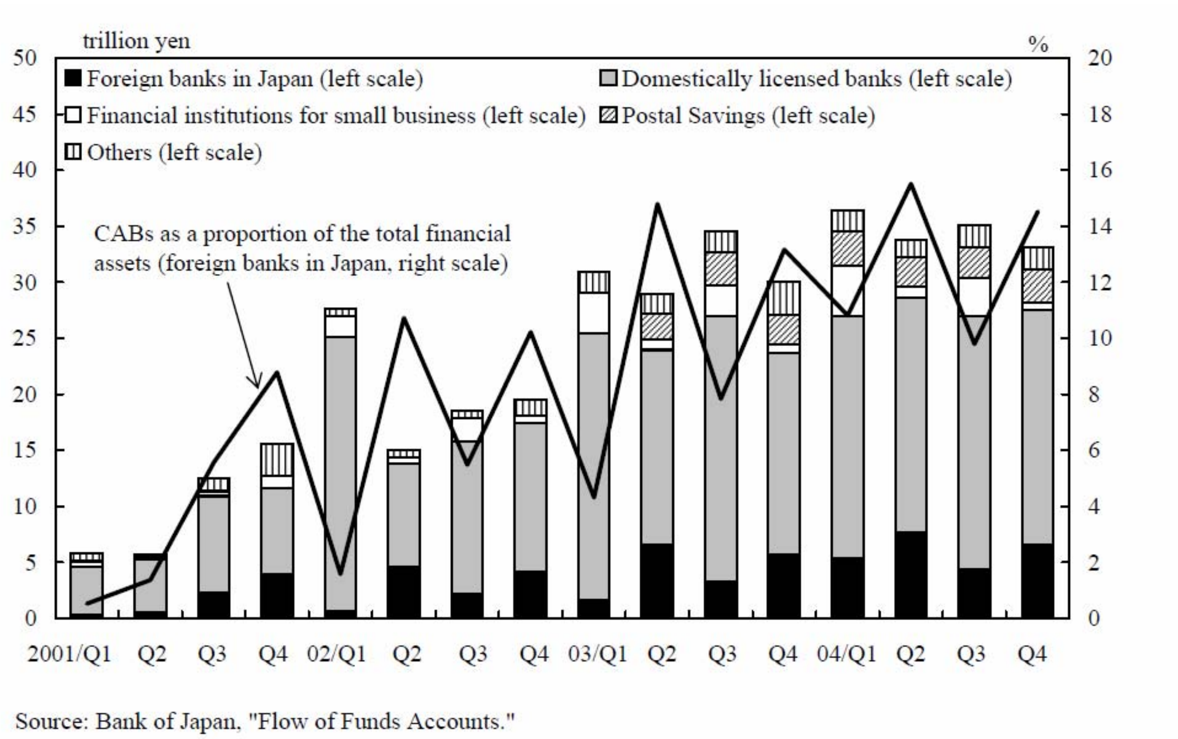

Source: Bank of Japan

Figure 5 Overnight Unsecured Call Rate




Source: Bank of Japan

Figure 6 Current Accounts held by Banks at the Bank of Japan




Source: Bank of Japan

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