Japanese monetary policy: 1998-2005 and beyond

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1. Introduction

The objective of this paper is to review critically policy actions of the Bank of Japan under a deflationary environment from 1998 to 2005. The economic environment was unfavourable from 1998 to 2004. Output activities were stagnating at best. The deflation, in the sense of a negative inflation rate, was getting worse and the unemployment rate was increasing. Confidence in the financial system was quite weak as several banks failed. During the period, the Bank, having become legally independent in March 1998, aimed at stimulating the economy, ending deflation and stabilizing the financial system. The availability and effectiveness of traditional policy instruments was severely constrained as the policy interest rate was already virtually at zero, and the nominal interest rate could not become negative (the zero bound problem). Worsening deflation means that the real interest rate (the nominal interest rate minus the inflation rate) has to rise. Therefore a deteriorating economy, putting pressure to lower prices, would reinforce itself by increasing the real interest rate.

The actions and decisions of the Bank of Japan have become a focus of policy debate in Japan, as well as the theme of many academic papers, since the experience of deflation combined with the zero bound problem was quite unique in postwar history. Some papers examined Japanese monetary policy in the period since the early 1990s with the view that the Bank might have been too eager to burst the bubble and allow a sharp decline and slow recovery in output activities. The mistake was to allow deflation to occur in the first place. Other papers put the emphasis on how to affect expectations of the future inflation rate once the general price level had started to decline and the interest rate had become zero. This paper focuses on the period after 1998, when the Bank gained legal independence and the economy fell into deflation (ie, the CPI inflation rate became negative).

Several key decisions from 1998 to 2005 will be examined in this paper. First, the decision to move to the zero interest rate policy (ZIRP) in the spring of 1999 will be examined as to whether it was taken later than would have been desirable. Second, the judiciousness of the decision to lift the ZIRP (ie, raise the interest rate) in August 2000 will be examined. At the time, the inflation rate was still negative and the prospect of economic recovery was nascent at best. Third, the effectiveness of quantitative easing (QE) that was introduced in March 2001, along with the decision to go back to a zero interest rate, will be examined. Quantitative easing means that the Bank of Japan provides enough liquidity to financial markets so that commercial banks will pile up excess reserves at the Bank of Japan. The policy interest rate in the interbank market naturally becomes zero. The balance of the current account at the Bank of Japan becomes the policy variable. The effectiveness of QE, or any additional effects to ZIRP, has been debated. Fourth, the Bank did not adopt proposals for non-conventional monetary policy measures, including to purchase foreign

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bonds, to purchase equities (as a monetary policy), to purchase real estate (funds), to adopt inflation targeting, and to cooperate with the Ministry of Finance to carry out nonsterilised interventions. Fifth, the policy switch from QE back to ZIRP and announcement of a desirable inflation rate range (although not as a target) in March 2006 will be briefly touched upon. The exit from the QE framework in March 2006 was made smoothly, as the Bank of Japan decided to lower the excess reserves gradually. The range of inflation that is called the "understanding" of policy board members about price stability was disclosed at the same time. The paper will examine whether this is a first step towards inflation targeting.

All of these issues will be examined in the light of the political economy of an independent central bank. The 1998 Bank of Japan law enhanced independence and increased transparency. The Policy Board members include the Governor and the two Deputy Governors and six members appointed as monetary experts. The Governor has a five-year term, during which he/she will not be fired unless determined by the House of Representatives to be physically incapacitated.

Section 2 will review chronologically how the Bank of Japan operated from 1998 to 2003, the era under Governor Hayami's leadership. Section 3 will review the Bank's policy under Governor Fukui's leadership. Section 3 examines the debate on inflation targeting in Japan. Section 4 discusses the exit conditions of QE, and Section 5 discusses the exit from QE in March 2006.

2. Japanese monetary policy, 1998-2003

2.1. New Bank of Japan, 1998

Although it is interesting to examine the monetary policy that led to the difficult position of 1998, those policy issues are yielded to the rich literature of the bubble and burst of the Japanese economy from mid-1980s to mid-1990s. See Cargill et al (1997) and Ito and Mishkin (2006) for a summary and assessments of Japanese monetary policy since the mid-1980s. See also Ito (2004a) for reasons for the long stagnation of the Japanese economy. In this section, monetary policy since 1998 will be discussed.

The Bank of Japan law was revised in 1997 and became effective on 1 April 1998. Due to a corruption scandal, the Governor was replaced just before the new law took place. The new Governor Yujiro Hayami, when appointed in March 1998, was 72 years old. He was originally on the Bank of Japan staff, but had left the Bank 17 years earlier as an executive. The two Deputy Governors were Mr Yamaguchi, a long-time Bank employee, and Mr Fujiwara, a journalist. The latter was a surprising appointment.

The Bank of Japan Law of 1998 is in every sense a state-of-the-art modern central banking law. The central bank is given a mandate of price stability (Article 2), and there is no mention of aggregate demand or full employment as part of its objective. Institutional independence is guaranteed in the sense that Governors as well as Policy Board members will not be dismissed unless physically or mentally incapacitated; their terms of appointment are five years; government officials attend Board meetings only as non-voting members. See Cargill et al (2000, chapter 4) for a detailed comparison of the old and new Bank of Japan Laws. Cargill et al (1997, ch 4) concluded that the score of independence, developed by Cukierman et al (1993), rose substantially for the Bank of Japan with the new BoJ law, from near bottom among 18 advanced countries to the middle of the pack.

Monetary policy decisions are made by majority vote at the Monetary Policy Meetings (MPMs) of the Policy Board. (Note that the Policy Board will decide many other policy and internal administration matters. The MPMs are only part of the Policy Board's tasks at the Bank of Japan.) The new law states that members of the Policy Board are appointed on the basis of their expertise. Two government representatives attend the MPM but as non-voting

members. The Board is composed of nine members: the Governor, two Deputy Governors and six experts on monetary affairs and economics.

The transparency of monetary policy decision-making was greatly enhanced under the new regime supported by the new law. It was often said that real decision-making was done internally (internal executive meeting) and the MP Board was rubber-stamping the decision that was already made. Under the old regime, there was no disclosure of minutes or transcript. The Monetary Policy Board was revamped in the appointment criteria. In April 1998, the Bank under the new law started to announce the decision on the day of meeting and the Governor gives a press conference on the decision within a few days. Detailed minutes are publicly disclosed several weeks after the meeting - comparable to the Federal Reserve Board, and the meeting minutes in about a month and a half. It was decided that the transcript would be disclosed in later years.

2.2. Zero interest rate policy

The new team of members in the Policy Board installed in April 1998 immediately faced a challenging situation: the average growth rate had been extremely low, at around 1% since 1992, and the financial institutions had become very weak. In particular, a major financial institution failed in November 1997, and the psychology of the financial market turned extremely negative in the spring of 1998. The growth rate turned negative in the first quarter of 1998, the fragile financial institutions were downgraded by credit rating agencies and obliged to pay a higher interest rate in the interbank market ("Japan premium"), and prices started to decline.

Three events contributed to a weakening of the Japanese economy in 1997-98: the consumption tax (VAT) rate was increased in April 1997; Japan's banking crisis erupted in November 1997 and continued to the spring of 1999; and the Asian currency crisis started in July 1997 and continued to the spring of 1998. The Japanese financial institutions had to pay the Japan premium (see Ito and Harada (2005)) when they borrowed dollars in the London offshore markets. The growth rates were quickly going down and so was the inflation rate.

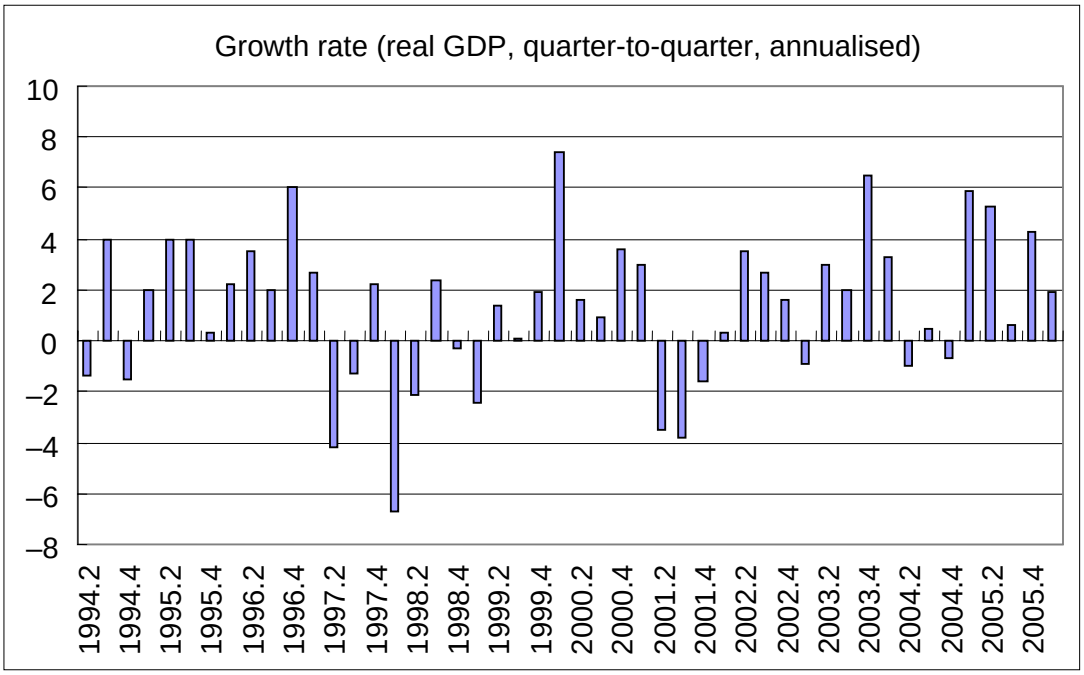
The textbook policy response to this kind of economic weakness would be to relax both fiscal and monetary policy. The fiscal position changed from tightening with the April 1997 tax hike to relaxing with a large stimulus expenditure package in the autumn of 1997. But monetary policy could not be relaxed substantially, because the official discount rate was already at a historical low of 0.50% and the policy interest rate (uncollateralised call rate) was slightly below the official discount rate in the spring of 1998. Monetary policy basically did not change in 1998, except for lowering the call rate from just below 0.50% to 0.25% 9 September, and making a decision to allow commercial paper (CP) monetary policy operation instruments 13 November.

See Figure 1 for the GDP growth rate and Figure 2 for the inflation rate. Note that the GDP numbers in Figure 1 are the new estimates as of November 2005. The real-time growth rate published by the Cabinet Office and used as a basis of policymaking as of 1998 was different, due to the different estimation method and available statistics.

The Bank of Japan started to fight deflation, but it was more tentative than decisive. Governor Hayami repeatedly suggested that he regarded deflation as not necessarily a bad thing and that aggressive monetary policy might not be called for. See Ito (2004b) for quotes from the MPM discussions and speeches for these views.

Figure 1

Growth rate, 1994:II-2006:I

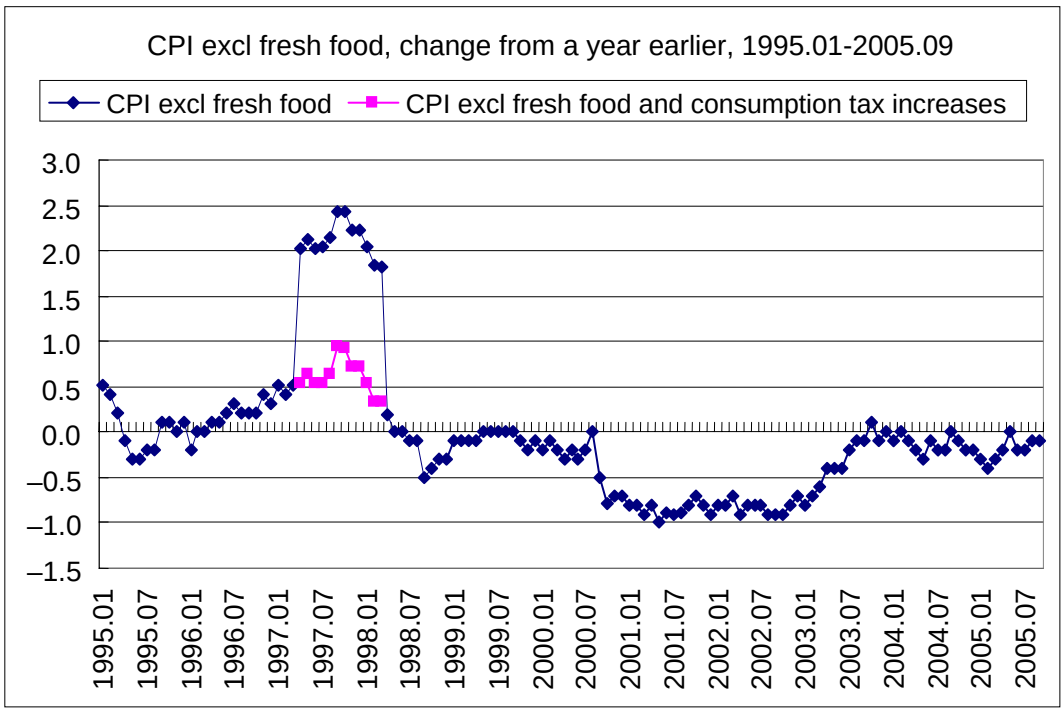


Note: Chain index, quarter-to-quarter growth rate, annualised.

Source: Cabinet Office, Japan.

Figure 2

Inflation rate



Note: Inflation rate of CPI excluding fresh food (and consumption tax increases of April 1997), percentage change from the same month a year earlier. The influence of the consumption tax increase is estimated as 1.5 percentage points.

Source: Statistics Bureau, Ministry of Internal Affairs and Communications.

After statistics showed that the Japanese economy was experiencing negative growth for several quarters and deflation was getting worse, the Bank of Japan adopted the zero interest rate policy (ZIRP). On 12 February 1999, the MPM passed the zero interest rate decision with 8:1 votes, with Ms Shinotsuka dissenting. From March 1999 to July 2000, a similar split occurred. Mr Nakahara argued that the ZIRP was not enough and proposed more actions including quantitative easing, while Ms Shinotsuka argued in favour of terminating the ZIRP.

The precise statement said that "The Bank of Japan will provide more ample funds and encourage the uncollateralised overnight call rate to move as low as possible". The Bank of Japan planned to lower the interest rate to 0.15% immediately, and would then lower it to zero in a few weeks. (See Appendix 1 for the precise language.) So, it took a few weeks to get to zero. In April, Governor Hayami mentioned that the ZIRP would continue "until deflationary concerns are dispelled". (See Okina and Shiratsuka (2004) for dating Governor Hayami's words as April.) However, the precise definition of "deflationary concerns are dispelled" was not clarified.

2.3. Was ZIRP introduced too late?

In order to answer the question of whether it was too late to introduce the ZIRP in the spring of 1999, the scope should be expanded to a period before the birth of the new Bank of Japan in March 1998. Several studies, such as Bernanke and Gertler (1999), Jinushi et al (2000), McCallum (2003) and Taylor (2001), show that the Bank of Japan should have eased quite aggressively in the early stages of the bursting of a bubble, 1991-92. Clouse et al (2000) and Ahearne et al (2002) were two studies at the Federal Reserve Board on the experience of the onset of deflation in Japan. In order to avoid deflation, the Bank of Japan should have eased much more aggressively before 1995, as by that time the effectiveness of conventional policy instruments had become weak. Both studies can be interpreted such that, learning from the Japanese experience, policy actions to ease aggressively if and when the inflation rate becomes alarmingly low are endorsed.

Harrigan and Kuttner (2005) did an exercise using two sets of Taylor-rule coefficients, one estimated from the Japanese experience and one estimated from FRB experience, in order to evaluate the Bank of Japan's actual policy from 1990 to end-1995. The one with Japanese coefficients obviously tracks the actual call rate quite well in the period 1990 to 1993. Then the Taylor-rule simulated value deviates from the actual path, showing that it would drive the interest rate to zero by early 1995. Namely, the Bank of Japan's hesitation in easing in 1994-95 was not typical even from its own reaction function. The FRB coefficients were obtained from the Volcker-Greenspan period, 1979:III to 1996:IV. When the FRB coefficients are used, the simulated interest rate was driven down to zero by 1993:II. Had Mr Greenspan taken charge of the Bank of Japan, the Bank would have adopted ZIRP much earlier.

It might be possible that the Bank of Japan hesitated to move aggressively in cutting the interest rate when it was not legally independent because it would be politically difficult to raise the interest once lowered. Was the behavior any different once the independence is obtained? Let us examine the behaviour of the Bank of Japan after April 1998.

Signs of the weakening economy were widespread in 1998, so why did it take so long to make a decision on introducing ZIRP? In 1998, the Bank of Japan made two small changes towards easing. First, on 9 September, the Bank of Japan decided to lower the call rate (policy interest rate) from below but near 0.50% to 0.25%. This was a clear step of monetary easing. On 13 November, the Bank of Japan decided to help financing corporations by using open market operations in CP. This broadening of operation instruments had both monetary policy and financial stability purposes.

One possible explanation why ZIRP was not introduced until February 1999 was that it was regarded as the last card, since no further interest rate cut is possible after the nominal

interest rate hits zero, the lower bound. (The nominal interest rate cannot be negative, otherwise cash hoarding will replace bank deposits, and the financial system will suffer massive disintermediation.) The last card should be kept for a sharp, abrupt decline in economic activities or a near meltdown of the financial system. However, keeping the last card in hand may have resulted in a slow, but steady decline in economic activities, and over time it had similar effects of not helping a stagnating economy.

In order to gain some insights on why ZIRP was not introduced in 1998, we can check the voting record of Policy Board members. It is quite revealing how the Policy Board members were divided over whether a step of additional easing was needed. From June to August, 1998, the no-change decision was made with 8 votes in favour and 1 vote against by Mr Nakahara. He argued that additional easing was needed. When the lowering of the policy interest rate was decided in the MPM of 9 September 1998, Ms Shinotsuka dissented, arguing that lowering the interest rate would hurt households by depriving them of interest income. She continued to cast a dissenting vote from September 1998 to February 1999. Even Mr Nakahara did not dissent from the no-change decision from 9 September to 13 November 1998, that is, he was content with the policy interest rate of 0.25%. But Mr Nakahara started to demand further easing from 28 November 1998 to January 1999, just before ZIRP was introduced. Therefore, in the MPMs of 28 November, 15 December 1998 and 19 January 1999, two dissenting votes were recorded, but one leaning towards easing, and another leaning towards tightening. The logic of Ms Shinotsuka's opposition to 0.25% was that it was on extraordinarily low interest rate and hurt households' interest income. In the January meeting, she also suggested that the low interest rate constituted a subsidy to commercial banks. See Table 1 for the voting record of MPM Board members.

Ms Shinotsuka's argument seems to reflect a popular confusion among the public that the zero interest rate hurt the elderly and pensioners. In fact, persons or households with nominally fixed assets (bank deposits) will have higher purchasing power as prices go down. They will be better off in deflation rather than inflation. Moreover, at the time, a political decision froze an inflation slide clause of pensions in order to prevent the nominal amount of pensions from decreasing. Therefore, nominally rigid pensions make pensioners better off in the deflationary environment. Anyway, between the two extremes, one proposing an interest hike and another proposing an interest decline, most members took the wait-and-see position from September 1998 to February 1999. The Governor's view, that was expressed in speeches and press conferences, was also similar to Ms. Shinotsuka in that deflation was not something serious and worrisome.

2.4. Termination of ZIRP

After the zero interest rate was introduced in the spring of 1999, the economy started to recover. The Japanese financial system was stabilised by the second capital injection to large banks at the end of March 1999. The Japan premium that Japanese banks had to pay to western banks in the interbank market disappeared in April 1999. (See Ito and Harada (2004, 2005).) The worldwide IT stock price increases (later labelled as the IT stock price bubble) boosted confidence thus stimulating consumption and investment. The recovery was partly supported by the information, communication and technology (ICT) stock price increases. Stock prices of ICT-related companies rose sharply from the spring of 1999 to the beginning of 2000. The ICT stock price boom also spilled over to other sectors. The mood became bright by the end of 1999. The GDP growth rate rose in 1999 Q2 into positive territory, and after a slight dip in 1999 Q3, the growth rate became convincingly high in 1999 Q4. The inflation rate also showed some signs of increasing (but was still negative) in the spring of 2000.

Table 1
Voting record

Month/date	Unanimous?	Votes	Decision	Bias in Dissent
1998/4/9	○ = yes		near 0.5%	
1998/4/24	○			
1998/5/19	○			
1998/6/12	× = no	7-2		++ (more easing)
1998/6/25	×	8-1		+
1998/7/16	×	8-1		+
1998/7/28	×	8-1		+
1998/8/11	×	8-1		+
1998/9/9	×	8-1	0.25%	– (more tightening)
1998/9/24	×	8-1		–
1998/10/13	×	8-1		–
1998/10/28	×	8-1		–
1998/11/13	×	8-1		–
1998/11/28	×	7-2	Lower to 0.25%	+ and –
1998/12/15	×	7-2	"	+ and –
1999/1/19	×	7-2	"	+ and –
1999/2/12	×	8-1	Toward 0.15%	–
1999/2/25	×	7-2	Toward 0.15%	+ and –
1999/3/12	×	7-2	"	+ and –
1999/3/25	×	7-2	"	+ and –
1999/4/9	×	7-2	"	+ and –
1999/4/22	×	7-2	"	+ and –
1999/5/18	×	7-2	"	+ and –
1999/6/14	×	7-2	"	+ and –
1999/6/28	×	7-2	"	+ and –
1999/7/16	×	7-2	"	+ and –
1999/8/13	×	7-2	"	+ and –
1999/9/9	×	7-2	"	+ and –
1999/9/21	×	7-2	"	+ and –
1999/10/13	×	6-2	0%	+ and –
1999/10/27	×	6-2	0%	+ and –
1999/11/12	×	6-2	"	+ and –
1999/11/26	×	6-2	"	+ and –
1999/12/17	×	6-2	"	+ and –
2000/1/17	×	7-2	"	+ and –
2000/2/10	×	7-2	"	+ and –
2000/2/24	×	7-2	"	+ and –
2000/3/8	×	7-2	"	+ and –
2000/3/24	×	7-2	"	+ and –
2000/4/10	×	7-2	"	+ and –
2000/4/27	×	7-2	"	+ and –
2000/5/17	×	7-2	"	+ and –
2000/6/12	×		"	+ and –
2000/6/28	×	7-2	"	+ and –
2000/7/17	×	7-2	"	+ and –
2000/8/11	×	7-2	Raise to 0.25%	– and –
2000/10/13	×	8-1	0.25%	+
2000/10/30	×	8-1	"	+
2000/11/17	×	8-1	0.25%	+
2000/11/30	×	8-1		+
2000/12/15	×	8-1	"	+

When Governor Hayami and some Board members started to suggest in the spring of 2000 that ZIRP might be terminated soon, many economists and government officials questioned the basis for early tightening. The economy was only on a fragile recovery path, and the internal and external environment was turning worse, as the IT stock bubble had burst. The US economy was slowing down due to the collapse of IT stock prices. Domestic consumption and investment were also slowing down. However, the Bank of Japan pushed the agenda. It is said that the Bank wanted to raise the interest rate in the July MPM meeting, but that this was pushed back by one month because it feared a negative impact of the failure of the Sogo Department Store. As the department store failure turned out to be not so negative for the overall economy, the motion was tabled in the MPM of August 2000.

In the 11 August MP meeting, the government officials who attended the meeting without voting power argued that it would be too early to raise the interest rate. The government officials, based on a clause in the Bank of Japan law, submitted a motion to delay the voting on the interest rate hike by one month. This is the maximum resistance and show of displeasure that the government can make against the independent central bank. The delay motion was voted down by the votes of 1 in favour to 8 against. Then, the motion for an interest rate hike was passed by 7 in favour and 2 against. Mr Nakahara sided with the government proposal to table the vote for the termination, and also opposed to the termination of ZIRP. Mr Ueda, who had always voted with the majority since his appointment in April 1998, dissented from the termination of ZIRP saying that it might be too early to tell the economy was on firm ground and that the cost of a wait-and-see attitude to ZIRP would not be so high.

The MPM decision was to raise the call rate from 0% to 0.25%, showing the majority of the Board members' confidence that the economy was on a firm recovery path: "At present, Japan's economy is showing clearer signs of recovery, and this gradual upturn, led mainly by business fixed investment, is likely to continue. Under such circumstances, the downward pressure on prices stemming from weak demand has markedly receded." (See, for the full text concerning the policy decision, Appendix 2.)

However, what followed in the economy in the autumn of 2000 confirmed the fears of the critics of the Bank decision. The recession started two months after the interest rate hike, and the CPI inflation rate turned sharply negative (see Figure 2). Economic conditions deteriorated towards the end of 2000.

2.5. The termination of ZIRP a mistake

When ZIRP was introduced for the first time in March 1999, the exit condition from ZIRP had not been explicit - no precise definition of "deflation concerns" or "dispelled" was available. It was not clear at all which price indicator would be used and which rate of change would be regarded as deflation.

When the economic recovery became stronger in autumn 1999 to spring 2000, the Bank of Japan became eager to terminate ZIRP. Governor Hayami indicated an early termination through several speeches. The first indication appeared in the Policy Board Minutes of April 2000. Indeed, the economic growth rate was higher, partly fuelled by the global ICT boom. ICT stock prices increased sharply from autumn 1999 to spring 2000. It looked likely that higher growth would fill the GDP gap and soon prices would start to rise. CPI inflation was still negative, but the degree of deflation was becoming less.

To be fair, the economy did look good in the spring of 2000. The GDP growth rate of the fourth quarter 1999 was –2.4% (that became known in April 2000), but the first quarter numbers were all good. The Bank of Japan, in the opening sentences of its monthly outlook reports, changed its overall assessment of the economy from "clear signs of a self-sustained recovery in private demand have not been observed yet" to "recovery started in some areas of private demand, as seen in a gradual upturn in business fixed investment" in April 2000,

and then to "Japan's economy is recovering gradually, with corporate profits and business fixed investment continuing to increase" in July 2000. The same wording appeared in August 2000.

However, ICT stock prices had been declining since March, and the prospects for the US economy were weakening. The two engines of recovery, exports and investment, could be forecasted to slow down soon.

Let us examine these issues more quantitatively. The following Taylor rule equation is considered to evaluate Japan's monetary policy. The specification follows Clarida (1999), which is a variant of Taylor (1993):

$$i_t = r^f + \pi^* + \beta_y \cdot y_t + \beta_\pi \cdot \left(\pi_t - \pi^*\right) \tag{1}$$

where i_t is the short-term interest rate, r^f is the long-term equilibrium real rate, y_t is the GDP gap, and π_1 and π^* are the inflation rate (defined by the GDP deflator) and the target inflation rate (defined by the GDP deflator), respectively. Parameters β_y and β_π are to be estimated by the data. For the interest rate, the call rate is used. The GDP gap is defined as the log difference between potential GDP and actual GDP. The potential GDP level is estimated by the following equation:

$$Y_t^* = (1 + g_{t-1}) \cdot \exp\left[\lambda \cdot \ln Y_{t-1}^* + (1-\lambda) \cdot \ln Y_{t-1}\right] \tag{2}$$

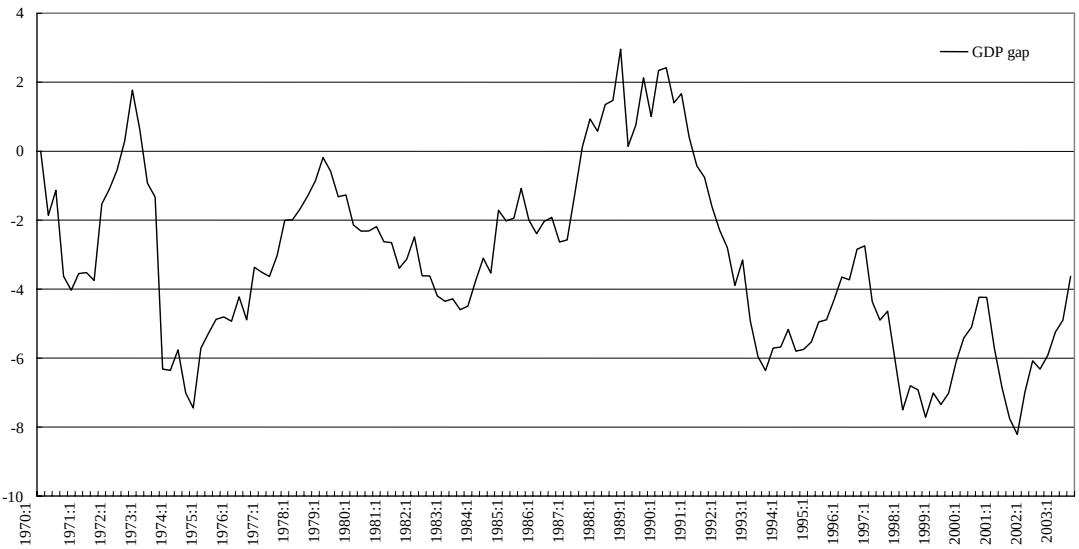
where, Y_{t-1} is the level of real GDP in the preceding period, λ is a weight parameter and set to be 0.9, and g_{t-1} is defined by the following formula:

$$g_{t-1} = \frac{1}{t-1} \cdot \sum_{j=0}^{t-1} g_j \tag{3}$$

The GDP gap is shown in Figure 3.

Figure 3

GDP gap (fixed lambda)



The Taylor rule described above is estimated for the period from 1981 to 1998 and results are presented in Table 2. The coefficient on the GDP deflator is above 1 and comparable to

a typical value in the existing literature, while the coefficient on the GDP gap is smaller than the comparable one in the literature.

Table 2

Taylor equation

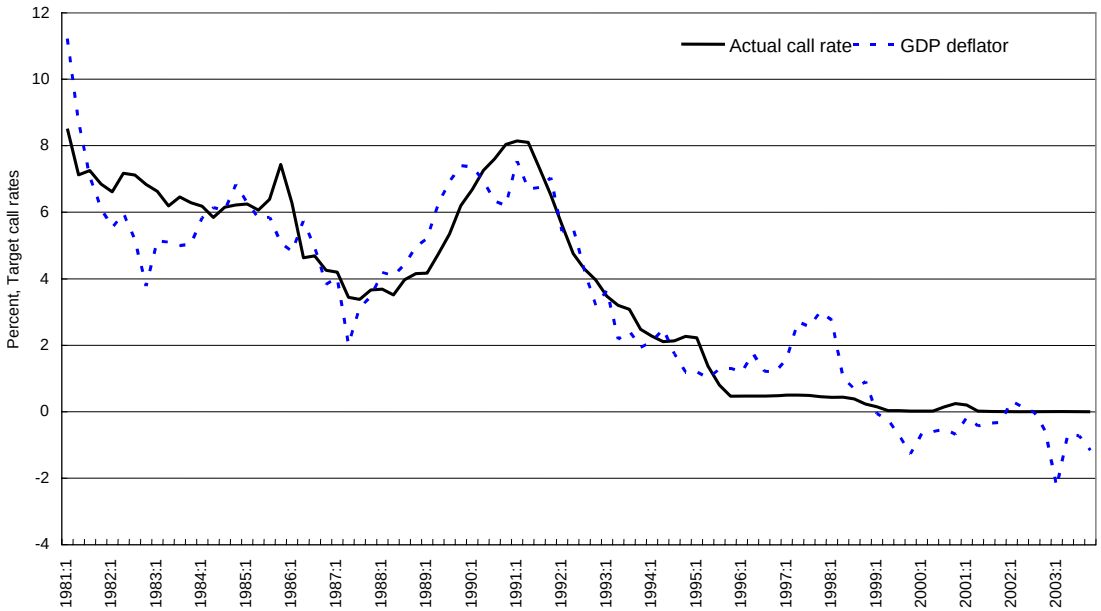
Dependent variable: call rate	
Sample period	**1981:1-1998:4**
Constant	5.717***
(s.e.)	0.184
GDP deflator	1.264***
(s.e.)	0.136
GDP gap	0.257***
(s.e.)	0.058
R^2	0.786
D.W.	0.497

*, ** and *** mean that the null hypotheses are rejected by 10%,5% and 1% respectively.

Figure 4 shows the in-sample and out-of-sample fitted values of the Taylor equations using the estimated coefficients above. These are interpreted as the normal responses of the Bank of Japan, given the behaviour in 1981-98. The interest rate increase from 1998 to 1990 was much quicker and the lowering in 1991-93 would also have been quicker. According to this estimate, the call rate would go to zero precisely at the same time as the actual rate did, while there would not have the termination of ZIRP in the second quarter of 2000.

Figure 4

Target call rate by Clarida's formulation (Taylor (1999, p 342)), estimation sample 1981-98



As discussed, there have been several different kinds of Taylor rule estimations for the 1990s. The estimates presented here broadly agree with others, but what is peculiar (ie different from other estimates) about this estimation is that the simulation value is much higher than the actual in 1997.

This result can be interpreted such that using a simple rule equation with GDP deflator, one can conclude that the lifting of the zero interest rate policy deviated from the past policy setting of the Bank of Japan. Of course the Taylor rule has some shortcomings (see Ito and Mishkin (2006) for cautionary notes), and results cannot be overly played up. However, the decision of August 2000 to end ZIRP was certainly a controversial one.

Kamada (2005) presents a careful analysis of the policy evaluation, with real-time estimation - preparing the data set known at the time of the policy decision, rather than relying on the data base that are available at the time of analysis much later. He constructed several output gap measures and applied the Taylor rule equations. He tried several different ways in presentation of the deviation of the Taylor rule type estimated gap and actual rate. First, he concluded that Bank of Japan policy in the late 1980s could have been tighter and that in the early 1990s could have been relaxed sooner. Second, most of the results, including the conventional and standard cases in Kamada (2005, p 326), show that the zero interest rate should not have been lifted in 2000. It may not be incorrect to interpret his result as support to a view that the target rate in 2000 remained negative, suggesting that lifting ZIRP in August 2000 was a mistake, although he refrains from such an interpretation.

In sum, there is little question that the decision to terminate ZIRP was a mistake ex post, since the economy turned into recession only two months later, and deflation got much worse in the following months. Moreover, the policy to raise the interest rate had to be reversed only seven months later in view of the deteriorating economy. An interesting question is whether the decision was a mistake ex ante. The economy did look to be on a recovery path in the first quarter of 2000, and an interest hike by 0.25% was small enough not to disturb investment or consumption. On the other hand, the ICT bubble was already on the way of bursting, and the US economy was slowing down. There were many forecasts that predicted slower growth in both the United States and Japan. The exit was attempted when the CPI inflation rate was still negative, without any clear sign that deflation would be ending soon. In the midst of deflation with weak forecasts ahead, the judgment on lifting the ZIRP can be considered a mistake, even in the ex ante sense.

2.6. Quantitative easing

By the end of 2000, economic activities had slowed down considerably, and stock prices had declined substantially. The MP Board members, realizing that something had to be done, started to explore ways to stimulate the economy. Many outsiders speculated that the Bank would revert to ZIRP. The Governor issued “instructions to the Bank’s staff” (MPM document) on 19 January 2001, asking the staff to come up with an idea how to “examine the possible room for further improvements in the way of liquidity provision to the market, with a view to ensuring the smooth functioning and stability of the financial market”. In the 9 February MPM, the official discount rate was cut from 0.5% to 0.35% and the so-called lombard-type lending scheme was introduced (namely, capping the interbank rate at 0.35% for anyone who has collateral). In the 28 February MPM, the official discount rate was cut to 0.25%, and the policy interest rate was cut from 0.25% to 0.10%. However, these changes did not make any impact on the market.

The Bank of Japan made a substantial policy change in the MPM meeting of 19 March 2001. The Bank decided that the policy instrument would be changed from the interest rate to current accounts at the Bank of Japan, the sum of required and excess reserves, and that excess reserves would be maintained. The Bank emphasised that the decision was extraordinary under extraordinary circumstances: “[T]he Bank has come to a conclusion that

the economic conditions warrant monetary easing as drastic as is unlikely to be taken under ordinary circumstances."(This quote is translated by the Bank of Japan. See Appendix 3 for a full text.) The required reserve was about 4 trillion yen at the time, and the target was set to be 5 trillion yen. Enough liquidity to the market is provided to the system, so that the banks would place excess funds in the Bank of Japan account that bears zero interest. By implication, the zero interest rate would result.

The change of instrument was a radical move towards quantitative easing (QE). Whether providing higher monetary base at the zero interest rate made any difference was, and still is, controversial. However, at least it had the psychological effect that the Bank of Japan had become more serious about exploring ways to fight deflation.

What monetary policy can do under deflation and ZIRP has become a hotly debated question in policy as well as academic circles. Several non-conventional monetary policy measures were proposed and debated. One such measure was to increase the amount of long-term bond purchases. The Bank increased the amount of monthly purchases of government bonds (JGB) from 400 billion yen in 1998, in several steps, to 1,200 billion yen by October 2002.

The decision of 19 March 2001 was also accompanied by a more explicit condition on when quantitative easing would end. Conditions for making a decision to exit from QE and ZIRP were clarified as follows: "The new procedures for money market operations continue to be in place until the consumer price index (excluding perishables, on a nationwide basis) registers stably 0% or an increase year on year." This was innovative in two respects. First, the exit condition clearly stated that the CPI (excluding fresh food) was a measure to watch. This was a reversal of the position mentioned in the October 2000 document. Second, the new exit condition was much clearer than the earlier exit condition ("until the deflationary concerns are dispelled"), in that the numerical condition, "0% or an increase year on year", was mentioned. This can be seen as a step toward inflation targeting (but still far away from a full-fledged inflation targeting framework). However, how "stably" was defined remained ambiguous.

The Bank of Japan also announced in the March 2001 decision that it would increase the amount of monthly JGB purchases that was set to be 400 million at the time. This decision was to answer calls for additional measures even at the zero interest rate. Purchasing assets that are riskier than short-term government paper would help asset reallocation in the economy, so that the private sector would take more risk. It was also expected that the Bank of Japan purchasing longer-term assets would flatten the yield curve, so that investment that is sensitive to a long-term interest rate, rather than a short-term interest rate, would be stimulated. This was an additional policy the central bank could implement even under ZIRP.

Figure 5 shows how the amount of long-term JGB purchases and the target amount of current accounts at the Bank of Japan were increased since the introduction of QE in March 2001. Figure 6 shows the decline in the interest rate towards zero since 1998.

The economy remained weak in 2001. The economic growth rate registered four consecutive quarters of negative growth from 2001 Q2, and the inflation rate remained about –1% from early 2001 to early 2003. The Bank of Japan tried several steps to enhance QE. First, it increased the target amount of current account balances in several steps (August 2001, December 2001 and October 2002). Second, the Bank increased the purchase of JGB in four steps (August 2001, December 2001, February 2003 and October 2002) from 400 million yen to 1.2 trillion yen. Third, the official interest rate was reduced from 0.50% to 0.35% in February 2001, then to 0.25% in March 2001, and to 0.10% in September 2001.

Figure 5

JGB purchase and current account balance target

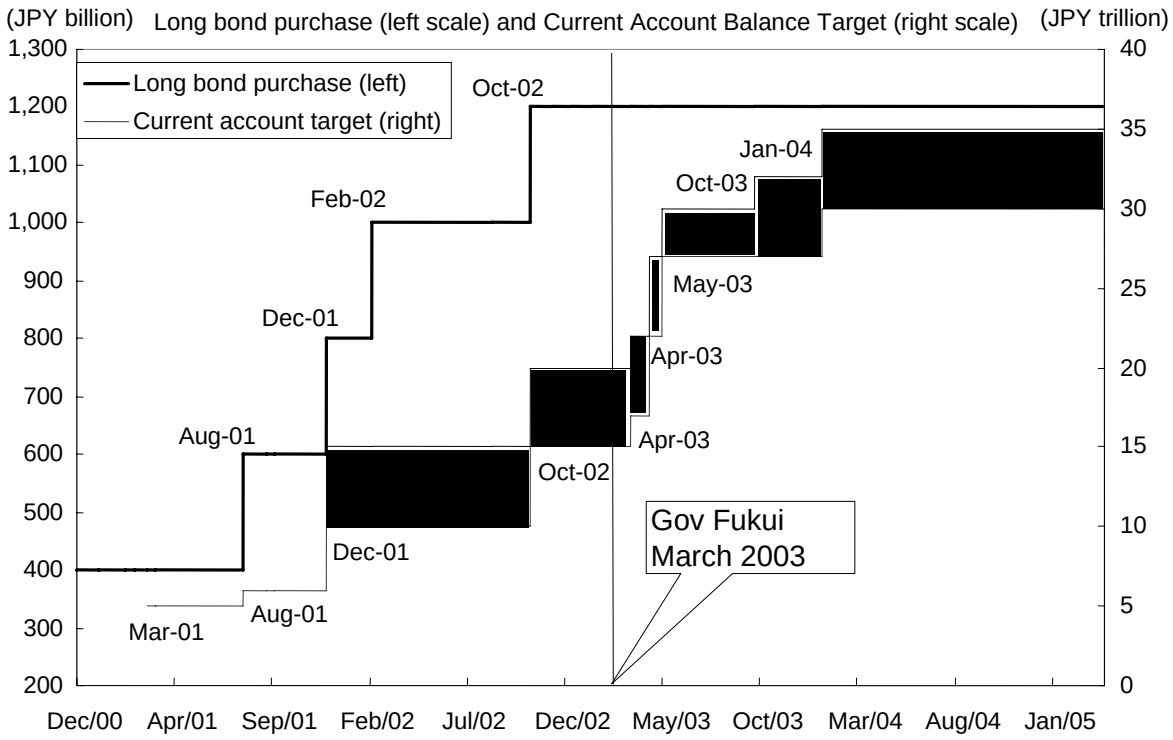
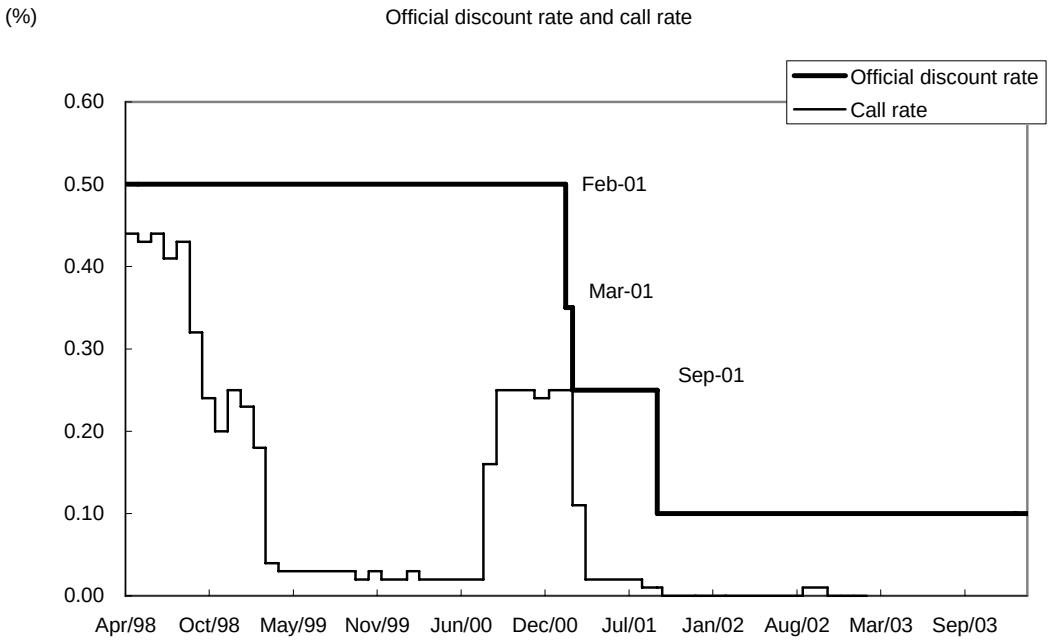


Figure 6

Movement of the official discount rate and the call rate



3. Inflation targeting

Many critics were calling for the Bank of Japan to adopt inflation targeting in order to show its resolve to fight deflation. Adoption of an inflation targeting framework with decisive actions may influence inflation expectations. Ito (2004b) examined the MPM minutes to see whether the MPM came close to adopting inflation targeting during the course of fighting deflation. Inflation target advocates argued that the inflation targeting framework would have a positive influence on inflation expectations, which would help fight against deflation by changing the forward-looking real interest rate. Moreover, clarifying the goal of the policy might be necessary for an independent central bank to be accountable for its action.

There are several arguments opposing the inflation targeting framework. First, the most commonly heard argument against inflation targeting was that credibility would be lost, rather than built, if inflation targeting was announced when there was no instrument to get out of deflation. Second, inflation targeting would not influence inflation expectations, since these are backward-looking. Third, some regarded inflation targeting as a way to increase the inflation rate no matter what, in order to help debtors in the economy - large indebted corporations and the national government with large fiscal debts. Once generated, inflation would be difficult to stop. Fourth, if inflation targeting was credible, then the long-term interest rate would go up immediately (via the Fischer equation) and that would be bad for the economy. Mr Hayami also argued, at an early stage of his regime, that restoring inflation would delay structural reform. (See Ito (2004b, pp 246-51) for pros and cons of inflation targeting.)

The discussion on inflation targeting in MPMs, measured by "word counts" in the Minutes, peaked in the autumn of 1999, responding to the critics outside the Bank. But the discussion was shelved in the spring of 2000, as it was decided to commission a study from the staff on price stability. After six months, the Bank of Japan issued a report called "On Price Stability" in October 2000. In this report, the Bank was quite negative on defining numerically an appropriate inflation rate: the Bank refused to endorse any price index as an appropriate measure of inflation; and it refused to define price stability, saying price stability is defined "as a situation which is neither inflationary nor deflationary". It sounds like a tautology, since inflation and deflation cannot be defined without defining price stability. The report stated that: "In view of current development of prices in Japan, it is difficult to set specific numerical values to the definition of price stability that are consistent with the sound development of the economy. Furthermore, even if some numerical values were announced, they would not serve as a reliable guidepost in the conduct of monetary policy, and the exercise would not likely contribute to enhancing transparency of the conduct of monetary policy. Therefore, it is not deemed appropriate to define price stability by numerical values." This kind of assessment is quite far from conventional wisdom in the literature of inflation targeting. By this negative assessment, inflation targeting was not discussed at all in MPMs in 2000 and the first half of 2001. See Ito (2004b: pp 245-46) for the second wave and third wave of inflation targeting discussions in MPMs, mostly in negative tones, in the second half of 2001 and late 2002.

Monetary policy during the Hayami regime gives an impression that it was behind the curve in easing monetary policy, and timid in trying non-conventional policies, not to mention mistaken in tightening in August 2000. (Cargill et al (2000) called this an independence trap, namely, the Bank tried to be less active in order to lower the probability of mistakes, so that it could quickly establish credibility after obtaining independence. However, the attempt did not succeed.) Mr Hayami and the majority of the Board rejected several measures, and then switched position, without ample explanations for the switch. For example, an increase in the purchase of government bonds was rejected earlier as an option, but was implemented later. Quantitative easing, an increase in excess reserves, was also rejected earlier, but suddenly adopted in March 2001. These switches gave an impression that the Bank of Japan was trying to do something, but only reluctantly. The failure was not tactical, but strategic. There was no firm framework to guide the policy, such as an inflation targeting framework. (For details of discussions on policy board discussions of inflation targeting, see Ito (2004b).)

4. Monetary policy, 2003-05

4.1. Commitment effect

A new Governor and two Deputy Governors were appointed in March 2003, upon expiration of the five-year term for the previous team of top management. The newly appointed Governor Fukui used to be Deputy Governor of the Bank of Japan, before he resigned and took a position in the private sector in 1998. Once appointed, Governor Fukui was keen on building a better relationship with the government and was skilful in communicating to the public that he would be fighting deflation with commitment. The rhetoric of fighting deflation was much better in his speeches soon after he took office. He argued that he would be patient before terminating quantitative easing (see Fukui (2003)).

The Japanese economy in the spring of 2003 was considered to be very weak. The Nikkei stock price index fell below 8,000, merely one fifth of its peak 13 years before. The government became tough on the treatment of accounting standard for the balance sheets of major banks in 2002-03, and many banks had to declare heavy losses in the spring of 2003. Some banks had to be rescued by the government. The systemic stability of the financial markets was regarded as threatened.

The Bank of Japan, under the leadership of Mr Fukui, explored ways to stimulate the economy and stabilise the financial system, although the room to manoeuvre was very much limited. The policy interest rate had been lowered to zero, and it cannot become negative. The two prominent measures of quantitative easing were the increase in the monthly purchase of long bonds and the target for current account balances (namely, excess reserves). The Bank of Japan decided to raise the current account balance target to show it further supported the fight against deflation. The target was raised from 17-22 trillion yen to 22-27 trillion yen in April, just one month after the new team of the Governor and two Deputy Governors took office. The decision was unanimous among the nine voting members of the Monetary Policy Meeting.

The target level of current account balances was increased three more times in the next nine months: In May, it was increased from 22-27 trillion to 27-30 trillion; in October, to 27-32 trillion; and finally in January 2004, to 30-35 trillion.

The May 2003, October 2003 and January 2004 decisions were not unanimous. The May decision was opposed by two members; the October decision was opposed by three members; and the January decision was opposed by two members. Opposition was based on the uncertain effects of raising the target level on the economy, while there was no imminent risk in the financial markets.

Indeed, the effect of having excess reserves was not seriously debated at the time. Some seem to have believed that it is good to provide more than enough liquidity to prevent sudden failure of banks. Since several banks were rumoured to be very weak in their capital position, providing excess liquidity was considered to be a safety measure.

However, the increase of the target level for current account balances was decided as a monetary policy measure, in addition to any stabilizing effect on the financial market and institutions. The transmission channel from excess reserves to output is a subject of discussion. Several channels were thought to be possible. First, providing more liquidity to the banking system leads to the expansion of monetary base and then money supply. This channel is important if the bottleneck for recovery was a credit rationing or bank loan problem. However, this did not prove to be an effective channel. Bank lending continued to decline during the ZIRP and QE period.

Second, providing liquidity worked as a safety valve for a possible, sudden liquidity squeeze that would jeopardise systemic stability. For financial stability purposes, an expansion of liquidity worked well.

Third, QE was a signal that the Bank of Japan would continue monetary easing. Since it would take time to reduce liquidity without disruption, the Bank of Japan was committed to easing and ZIRP into future by providing excess reserves. It was called the policy "duration effect" in Japan. Therefore, the more excess reserves, the stronger the commitment. Hence, the increase of the target for current account balances at the Bank of Japan made an impact on the economy to flatten the yield curve. Oda and Ueda (2005) argue that increasing amounts of current account target helped keeping the yield curve flatter, since QE influenced expectations of how long ZIRP would continue in the future.

4.2. Exit condition elaborated

In October 2003, the MPM issued the document on improving transparency, in which the exit condition was clarified. Earlier, the inflation rate (excl fresh food) be zero or above, stably. The document defined the meaning of "stably". There were two criteria for judgment. First, the backward-looking inflation rate had to be on average at zero or above. Second, the forward-looking inflation rate had to be forecast by the Board members to be at zero or above. Details will be described in the next section on exit conditions. But, even under the new definition, it was far from full-fledged inflation targeting, since the time frame for overcoming deflation was not committed, and no upper bound for tolerance was given.

Stock prices had declined significantly in 2002 and again in the spring of 2003. The Nikkei 225 index recorded a low of 7,600 in April 2003, less than one fifth of the peak at the end of 1989. But the stock market regained confidence for the rest of the year, as did the economy as a whole. The growth rate increased to close to 6% (quarter to quarter rate, annualised) in 2003 Q4 and 2004 Q1. Optimism spread to the economy. The size of deflation shrank from about 1% to near zero by the end of 2004.

The Bank of Japan adopted some of the non-conventional measures proposed by critics, including purchases of long bonds. However, other measures were not tried, including purchases of foreign currency denominated bonds, equities (indexed equity funds listed on the exchange) and real estate (funds); the adoption of inflation targeting; and cooperation with the Ministry of Finance to carry out non-sterilised interventions.

Two quick notes on these non-conventional measures may be added. First, although the Bank of Japan bought equities from commercial banks in 2002, it was stated as a measure to stabilise the financial system and not part of monetary policy. Commercial banks had substantial holdings of equities on their books, and as the stock prices declined, they had become burdens as some marking-to-market had to be done and any losses had to be deducted from bank capital positions. However, selling stocks in the market would further drive the prices down, with a negative impact on the balance sheet. Therefore the Bank of Japan decided to purchase those equities from commercial banks outside the market. The Bank took pains to exclude the measure from the agenda of MPM. It was decided in the "regular" Board meeting. The Bank was afraid that once the purchase of equities was regarded as part of monetary policy, the pressure to do more might increase.

Second, the increase in monetary base during calendar year 2003 roughly equalled the cumulative amount of intervention, mostly because of the target amount for current accounts. However, the suggestion of unsterilised interventions was rebuffed as "mere coincidence" by Deputy Governor Iwata. (See Ito (2004c) for a detailed description.)

Of course, in effect, any simultaneous increase in intervention and monetary base can be viewed as unsterilised intervention by definition. The reason that the Bank of Japan was reluctant to play that up was that it wished to avoid its monetary policy being ruled by the exchange rate policy (in the jurisdiction of the Ministry of Finance). Bank of Japan economists often cite the period in the late 1980s bubble when there was pressure to lower the interest rate to stem yen appreciation pressure.

Another reason why the Bank of Japan was reluctant to engage in unsterilised intervention was that the traditional benefits of unsterilised intervention as opposed to sterilised intervention disappear at the zero interest rate bound. In the usual setting of positive interest rates, an unsterilised intervention is more potent than a sterilised intervention since unsterilised intervention will lower the interest rate, which would be stimulative for the economy. However, under ZIRP, there is no difference in the interest rate consequence between an unsterilised intervention and a sterilised intervention. In 2003 the Bank of Japan was operating under QE, which is ZIRP with excess reserves. Unsterilised interventions will expand the monetary base faster than sterilised interventions. If QE is more powerful than ZIRP, which the Bank of Japan must have believed at the time of its introduction, unsterilised interventions would be more expansionary.

5. The exit

5.1. Exit conditions: a review

The Bank of Japan had articulated conditions for terminating ZIRP or QE, along with its policy implementation. The first commitment was made when ZIRP was introduced in February 1999, when the policy was to continue until deflation concerns were dispelled. However, ZIRP was terminated in August 2000 amid deflation. The decision was based on the hope of getting out of deflation if the economy continued its expansion. As argued above, this turned out to be a mistake, at least in judgment.

The second commitment was made when ZIRP was readopted with an additional policy measure, quantitative easing (QE), in March 2001. this time the exit condition was much clearer. QE was to continue “until the consumer price index (excluding perishables, on a nationwide basis) registers stably above 0% year on year”. CPI (excluding fresh food) was mentioned as a price index for judging inflation and deflation. Also, the numerical condition, zero or above, was mentioned as an exit condition. These were advances compared to the experience of the earlier ZIRP episode. The only ambiguity was “stably”.

The third occasion was to clarify what “stably” means in a numerical manner. In October 2003, the Policy Board issued the following three conditions for terminating QE in the future: “(1) the most recently published core CPI should register 0% or above, but also that such tendency should be confirmed over a few months; (2) the Bank needs to be convinced that the prospective core CPI will not be expected to register below 0%; and (3) the above conditions are only the necessary condition. There may be cases, however, that the Bank will judge it appropriate to continue with quantitative easing even if these two conditions are fulfilled.”

As an important footnote, it should be pointed out here that “core CPI” is the CPI excluding fresh food, but including energy prices. (The Bank of Japan changed the translation from “CPI, excluding fresh food (or perishables)”, to “core CPI”, but the definition is the same.)

The first condition was to confirm a positive rate of inflation, for a few months, with a backward-looking definition (actual core-CPI rate, over the 12-month period). The second was to confirm a positive rate of inflation for the forward-looking manner. The third condition states that the backward and forward conditions were only a set of necessary conditions. Even when the two conditions were satisfied, QE might not be terminated.

The second condition could be tricky, if forecasts are not specified as whose forecasts. The decision also states that, for (2), “many Policy Board members need to make the forecasts that the core CPI will register above 0% during the forecasting period”. The forecasts are made public twice a year in the “Outlook”.

These three conditions (or two numerical necessary conditions and a judgmental condition) made it much clearer that both backward-looking and forward-looking inflation rates had to be zero or above. Although these exit conditions were far more transparent than before, there remained several questions: Why not 1% or above instead of 0% or above? Why not announce a ceiling on the desirable inflation rate in addition to the floor? When were these conditions likely to be achieved? Would the Bank introduce measures with a view to achieving these conditions faster?

The floor of 0% was first used in March 2001, probably because that was the least controversial condition as stable price level. The Policy Board was operating on the basis of consensus, and to bring in the numerical condition a broadly acceptable condition was needed. By stating it must be "stably" above zero, there was discretionally room to wait for some positive number, rather than just above zero. The upward tolerance was not mentioned.

The Bank of Japan rejects the interpretation that the March 2001 condition was inflation targeting or that the October 2003 clarification was a form of inflation targeting. Objectively speaking, these numerical conditions were steps towards inflation targeting. However, important ingredients were still missing if they were to be interpreted as an inflation targeting framework. The ceiling was not announced, as zero percent seems to be a floor. The framework was only an exit condition, and not a permanent framework. The commitment to overcome the deflationary state was less clear, as the horizon and instruments to achieve the exit conditions were not clarified. The conditions read like a set of circumstances that the Bank of Japan would sit and wait for rather than something the Bank intended to achieve. For these reasons, it is far-fetched to interpret these conditions as constituting inflation targeting.

5.2. Preparation for the exit

As signs of economic recovery became clearer, an exit from QE became a popular topic in 2005. Starting in April 2005, some Board members proposed lowering the target amount for current account balances at the Bank of Japan. The market started to expect that the Bank would make a move to exit from QE and raise the interest rate by the summer of 2006. From the spring of 2005, the Governor and many Bank Board members gave speeches and press interviews, arguing that the economy was recovering and deflation would end by mid-2006. Obviously, high GDP growth rates and strong profit figures of major corporations gave support to the view that deflation would end soon.

In the Outlook of April 2005, the Bank changed the coverage of inflation expectations to include the range of forecasts of the inflation rate for FY 2006 (the inflation rate 12-24 months later) expressed by the Board members. This may have been due to the desire to show that the second exit condition could be satisfied immediately. The median view was that deflation would finally be over by FY 2006. The view was reflected in the voting results in MPMs.

Until March 2005, the decision to target current account balances at 30-35 trillion yen was carried unanimously in the MPM meetings (since February 2004 when the target was raised). On 6 April, one dissenting vote (Mr Fukuma) appeared, and the opposition increased to two votes (Messrs Fukuma and Mizuno) in the 28 April and 20 May MPMs. They proposed that the current account balance target should be lowered to 27-32 trillion yen. Then one member (Mr Mizuno) went a step further and proposed lowering the target to 25-30 trillion yen, while the other member (Mr Fukuma) maintained his proposal of moving the target to 27-32 trillion yen. Their earlier arguments, in April and May, were as follows. First, since financial market stability was restored, excess liquidity would no longer be necessary. Second, reducing the huge balance would take time; therefore when raising the policy interest rate would finally be required, it might be unnecessarily delayed unless the target current account balance had been reduced beforehand. Third, by maintaining the zero interest rate without excess

reserves, the same stimulative effect could be achieved. Fourth, demand for liquidity was declining, so that lowering the target would not disrupt the market. (See Minutes of MPM on 28 April 2005, available on the Bank of Japan homepage.)

The dissenters' reasons for the proposal to lower the target amount had changed slightly by September 2005. First, it was argued that the zero interest rate had distorted the market mechanism and made market participants unaware of the possible risk of interest rate volatility. Second, in order to maintain the high balance, it had become necessary to conduct market operations with relatively long maturities, implying that it would take time to lower the target amount before raising the interest rate, thereby reducing the timeliness and flexibility of the Bank's conduct of monetary policy. Third, gradual reduction of the target amount was appropriate. Fourth, maintaining the zero interest rate without excess liquidity was enough to support economic recovery. Fifth, financial institutions' precautionary demand for liquidity had become lower. (The first four reasons were mentioned by Mr Fukuma and the third and fifth reasons by Mr Mizuno. See Minutes of MPM on 8 September 2005, available on the Bank of Japan homepage.)

Although the inflation rate measured against a year earlier was still negative, it was expected to turn to positive in the following several months. First, the month-to-month inflation rates had registered positive rates in recent months, as shown in Table 3. Second, one-off effects of the rice and utilities price decline of the autumn of the previous year would be out of the range of 12 months by end-2005. Third, the past forecasts of Monetary Policy Board members may have had a bias towards lower inflation (ie overestimating the degree of deflation). If the downward bias were to persist even once the inflation rate turned positive, the actual inflation rate might turn out to be higher than 0.5% in 2006. It is also the case that the Policy Board members underestimated the strength of the economy in terms of the GDP growth rate.

Table 3

CPI inflation rate (ex fresh food)

	Month-to-month, annualised	**Over the same month a year earlier**
Jan 2005	–0.8	–0.3
Feb	–0.1	–0.4
Mar	+0.3	–0.3
Apr	+0.3	–0.2
May	+0.2	0.0
Jun	–0.1	–0.2
July	–0.1	–0.2
Aug	+0.2	–0.1
Sep	+0.2	–0.1
Oct	+0.1	0.0
Nov	–0.2	0.1
Dec	+0.1	0.1
Jan 2006	–0.4	0.5
Feb	–0.1	0.5
Mar	+0.3	0.5
Apr	+0.3	0.5

According to this view, the inflation rate would certainly be positive in 2006. Those who favoured tightening in the spring of 2006 also cited the past performance of forecasts of inflation and GDP growth by the Board members. The Board members tended to be more pessimistic than warranted by the subsequent outturn in 2004. The economy was stronger than the Board had forecast.

The views expressed by Messrs Fukuma and Mizuno can be critically reviewed. First of all, why hurry? The inflation rate in September 2005 was –0.1% (compared to 12 months earlier), and the median of MPC members' forecasts of the inflation rate in FY 2006 was a mere 0.5%. Should this be a concern for a central bank with a mandate of price stability? Second, the concern over the Bank possibly becoming "behind the curve" because of large current account balances was unwarranted. In order to get out of deflation, it is critically important to conduct monetary policy so as to convince the public that deflation will be ending soon (see eg Bernanke (2000, 2003), Krugman (1998) and Eggertsson and Woodford (2003)). In other words, it is important to send a signal that the central bank is in control and has a strategy that cannot be ended prematurely. A credible way to do so is to pile up excess liquidity. Therefore, while Mr Fukuma's analysis was correct in that it would take time to take out liquidity from the system, his conclusion did not necessarily follow. The point is that he thought that getting out of deflation was a foregone conclusion and that there was a risk that the inflation rate would become unacceptably high. Many critics, on the other hand, thought that maintaining the higher balances was still useful as it would strengthen expectations that deflation would finally end. The critics also argued that there was little risk that the inflation rate would become excessive.

There were substantial voices that opposed an early termination, or preparation for termination, of quantitative easing in 2005. First, the CPI inflation rate was still negative. Even if the CPI inflation rate did turn positive, it might have been due to energy price increases, and it is debatable whether a supply shock (oil price increases) should be countered by monetary tightening. It is unfortunate that no CPI inflation rate excluding both fresh food and energy is published in Japan.

5.3. The exit, March 2006

The Bank of Japan finally terminated QE on 9 March 2006, citing that the QE conditions had been satisfied. The Bank of Japan switched the policy instrument from the target for current account balances with the Bank to the interest rate. This is a return to ZIRP. However, since the excess reserves could not be brought down to zero at once without disruption to the financial market, ZIRP had to continue for several months. When the amount is brought down to near the amount of required reserves, then ZIRP could be terminated.

The first condition, backward inflation rates being above zero for a few months, was considered to be satisfied, since the inflation rate had been positive since October (data until January 2006 had been available at that point). The second condition, forward-looking inflation as forecast by the Policy Board members, had been positive for 2006-07 since April 2005.

Some sceptics pointed out that the inflation rate had been positive only three months, and there was some downside risk. The US economy might slow down towards the second half of the year. But, in general the decision was accepted calmly.

There was one other twist to this exit. The Bank of Japan disclosed the "understanding" of price stability as interpreted by the Policy Board members. The range was disclosed to be 0-2% measured by CPI inflation. It was considered to be a medium-term inflation rate. Was this an introduction of inflation targeting? The Bank of Japan said this would not constitute inflation targeting, since it was not billed as a target. However, this could become an important step towards genuine inflation targeting further down the road. This was a positive development at the time of exit from QE.

6. Concluding remarks

This paper has reviewed Japanese monetary policy from 1998 to the present. The beginning year of analysis was set at 1998 because it was the year the Bank of Japan gained legal independence. Transparency, such as MPM minutes disclosure, has been greatly enhanced since 1998. The critical review of the first five years of its independence reveals that the Bank's policies were not aggressive enough to ease monetary policy. Moreover, it made a mistake of tightening amid deflation in August 2000. Adoption of quantitative easing in March 2001 was significant, but could not prevent the economy from sliding into deflation and economic stagnation in 2001 and 2002.

Governor Fukui took office in March 2003. He quickly changed the course towards more aggressive fighting of deflation by expanding the monetary base. He also used better rhetoric in convincing the public that the Bank of Japan would be patient, ie not raise the interest rate on the way out of deflation. The economy gained momentum in 2004 and into 2005. The decision to exit from quantitative easing was finally taken in March 2006 as the monetary Policy Board members concluded that the conditions for its ending had been fulfilled. Now the debate is about when the Bank of Japan will also exit from the zero interest rate policy.

Appendix 1:
Zero interest rate policy (ZIRP), 12 February 1999

"(1) The Bank of Japan today held a Monetary Policy Meeting, a regular meeting of the Policy Board on monetary policy. By majority vote, the Policy Board determined to ease further the stance of money market operations for the inter-meeting period ahead as follows:

> The Bank of Japan will provide more ample funds and encourage the uncollateralized overnight call rate to move as low as possible.
>
> To avoid excessive volatility in the short-term financial markets, the Bank of Japan will, by paying due consideration to maintaining market function, initially aim to guide the above call rate to move around 0.15%, and subsequently induce further decline in view of the market developments."

Appendix 2:
Termination of ZIRP, 11 August 2000

"1. In February 1999, the Bank of Japan adopted the zero interest rate policy, unprecedented both in and out of Japan, to counter the possibility of mounting deflationary pressure and prevent further deterioration in economic conditions. Furthermore, it announced in April 1999 to continue the zero interest rate policy until deflationary concern is dispelled.

2. Over the past one year and a half, Japan's economy has substantially improved, due to such factors as support from macroeconomic policy, recovery of the world economy, diminishing concerns over the financial system, and technological innovation in the broad information and communications area. At present, Japan's economy is showing clearer signs of recovery, and this gradual upturn, led mainly by business fixed investment, is likely to continue. Under such circumstances, the downward pressure on prices stemming from weak demand has markedly receded.

Considering these developments, the Bank of Japan feels confident that Japan's economy has reached the stage where deflationary concern has been dispelled, the condition for lifting the zero interest rate policy."

Appendix 3:
Quantitative easing, introduced on 19 March 2001

"3. In light of this, the Bank has come to a conclusion that the economic conditions warrant monetary easing as drastic as is unlikely to be taken under ordinary circumstances. Accordingly, the Bank decided at its Monetary Policy Meeting of today to take the following policy actions.

(i) Change in the operating target for money market operations

The main operating target for money market operations be changed from the current uncollateralized overnight call rate to the outstanding balance of the current accounts at the Bank of Japan. Under the new procedures, the Bank provides ample liquidity, and the uncollateralized overnight call rate will be determined in the market at a certain level below the ceiling set by the Lombard-type lending facility.

(ii) CPI guideline for the duration of the new procedures

The new procedures for money market operations continue to be in place until the consumer price index (excluding perishables, on a nationwide statistics) registers stably a zero percent or an increase year on year.

(iii) Increase in the current-account balance at the Bank of Japan and declines in interest rates

For the time being, the balance outstanding at the Bank's current accounts be increased to around 5 trillion yen, or 1 trillion yen increase from the average outstanding of 4 trillion yen in February 2001 … . As a consequence, it is anticipated that the uncollateralized overnight call rate will significantly decline from the current target level of 0.15 percent and stay close to zero percent under normal circumstances.

(iv) Increase in outright purchase of long-term government bonds

The Bank will increase the amount of its outright purchase of long-term government bonds from the current 400 billion yen per month, in case it considers that increase to be necessary for providing liquidity smoothly. The outright purchase is, on the other hand, subject to the limitation that the outstanding amount of long-term government bonds effectively held by the Bank, ie, after taking account of the government bond sales under gensaki repurchase agreements, be kept below the outstanding balance of banknotes issued."

Appendix 4:
Clarification on the exit condition, 10 October 2003

"2. More Detailed Description of the Commitment to Maintaining the Quantitative Easing Policy

With the aim of laying the foundation for sustainable growth of Japan's economy, the Bank is currently committed to maintaining the quantitative easing policy until the consumer price index (excluding fresh food, on a nationwide basis, hereafter the core CPI) registers stably a zero percent or an increase year on year. Such commitment is underpinned by the following two conditions.

First, it requires not only that the most recently published core CPI should register a zero percent or above, but also that such tendency should be confirmed over a few months.

Second, the Bank needs to be convinced that the prospective core CPI will not be expected to register below a zero percent. This point will be described in such materials as the analysis and the forecasts of Policy Board members in the Outlook Report. To be more specific, many Policy Board members need to make the forecasts that the core CPI will register above a zero percent during the forecasting period.

The above conditions are the necessary condition. There may be cases, however, that the Bank will judge it appropriate to continue with quantitative easing even if these two conditions are fulfilled."

Appendix 5:
Dissenting voices in the stay-the-course decision of the MPM (Minutes, 8 September 2005)

Mr T Fukuma dissented from the above proposal for the following reasons. First, as market participants' views on the economy and interest rates were changing, provision of massive amounts of funds based on the current target range for the outstanding balance of current accounts at the Bank was hindering smooth formation of interest rates based on the market mechanism, and could also increase interest rate volatility risk. Therefore, the Bank should correct this situation as long as the maintenance of the current framework of the quantitative easing policy would not be hindered. Second, if the Bank continued to conduct market operations with relatively long maturities in order to maintain the outstanding balance of current accounts at the Bank within the target range, a longer period of time would be needed for the process of termination of the quantitative easing policy, thereby reducing the timeliness and flexibility of the Bank's conduct of monetary policy. Third, termination of the quantitative easing policy should be done gradually in a step-by-step manner, while carefully examining economic and financial developments. And fourth, it was possible to support the ongoing economic recovery and thereby emergence from the current situation of slight price declines by maintaining the zero interest rate environment based on the Bank's commitment in terms of policy duration.

Mr A Mizuno dissented from the proposal for the following reasons. First, there had been no change from the downtrend in financial institutions' precautionary demand for liquidity, and thus lowering the outstanding balance of current accounts at the Bank as a response to this was reasonable policy conduct. And second, to ensure financial market stability in the period around the termination of the quantitative easing policy, it would be appropriate to start lowering the outstanding balance in line with developments in the market, rather than lowering it intensively over a short period of time.

References

Ahearne, Alan, Joseph Gagnon, Jane Haltmaier, Steve Kamin and others (2002): "Preventing deflation: lessons from Japan's experiences in the 1990s", Board of Governors, *International Finance Discussion Paper* 729, June.

Bernanke, Ben S (2000): "Japanese monetary policy: a case of self-induced paralysis?", in Ryoichi Mikitani and Adam S Posen (eds), *Japan's financial crisis and its parallels to US experience*, Institute for International Economics, 2000.

——— (2003): "Some thoughts on monetary policy in Japan", speech before the Japan Society of Monetary Economics, Tokyo, Japan (available from Federal Reserve Board home page).

Bernanke, Ben and Mark Gertler (1999): "Monetary policy and asset price volatility", Federal Reserve Bank of Kansas City, *Economic Review*, 4th Quarter, 17-51. [Also reprinted in Federal Reserve Bank of Kansas City, *New challenges for monetary policy*, 77-128.]

Cargill, Thomas, Michael Hutchison and Takatoshi Ito (1997): *The political economy of Japanese monetary policy,* Cambridge, MA: MIT Press.

——— (2000): *Financial policy and central banking in Japan*, Cambridge, MA: MIT Press.

Clarida, Richard H (1999): "Comments" in John B. Taylor (ed), *Monetary policy rule*, Chicago: NBER-University of Chicago Press: 341-47.

Clouse, James, Dale Henderson, Athanasios Orphanides, David Small and Peter Tinsley (2000): "Monetary policy when the nominal short-term interest rate is zero", Board of Governors of the Federal Reserve System, *International Finance Discussion Paper* 729.

Cukierman, Alex, Steven B Webb and Bilin Neyapti (1993): "Measuring the independence of central banks and its effect on policy outcomes", *World Bank Economic Review*, 6, pp 353-98.

Eggertsson, Gauti B and Michael Woodford (2003): "Optimal monetary policy in a liquidity trap", *NBER Working Paper* 9968.

Fukui, Toshihiko (2003): "Challenges for monetary policy in Japan", *Bank of Japan Quarterly Bulletin*, vol 11, no 3: 15-24.

Harrigan, James and Kenneth N Kuttner (2005): "Lost decade in translation: did the United States learn from Japan's post-bubble mistakes?" in T Ito, H Patrick and D Weinstein (eds), *Reviving Japan's economy: problems and prescriptions*, ch 3: 79-106.

Ito, Takatoshi (2004a): "Debt, deflation, and declining growth: new challenges of the Japanese economy", in Robert Solow (ed), *Structural Reform and Economic Policy*, Palgrave, Macmillan, June 2004: 131-70.

——— (2004b): "Inflation Targeting and Japan: why has the Bank of Japan not adopted inflation targeting?" in Christopher Kent and Simon Guttmann (eds), *The future of inflation targeting*, August 2004: 220-67.

——— (2004c): "The yen and the Japanese economy 2004." C F Bergsten and J Williamson (eds), *Dollar adjustment: How far? Against what?,* ch 8, Washington, DC: Institute for International Economics: 171-96

Ito, Takatoshi and Kimie Harada (2004): "Credit derivatives premium as a new Japan premium", *Journal of Money, Credit and Banking*, vol 36, no 5, October: 965-68.

——— (2005): "Japan premium and stock prices: two mirrors of Japanese banking crises", *International Journal of Finance and Economics*, vol 10, 195-211.

Ito, Takatoshi and Frederic S Mishkin (2006): “Two decades of Japanese monetary policy and the deflation problem”, in T Ito and A Rose (eds), *Monetary policy with very low inflation in the pacific rim*, NBER-University of Chicago Press: forthcoming.

Jinushi, Toshiki, Yoshihiro Kuroki and Ryuzo Miyao (2000): “Monetary policy in Japan since the late 1980s: Delayed Policy Actions and Some Explanations”, in Mikitani and Posen (eds), *Japan’s financial crisis and its parallels to US experience*, Washington D C: Institute for International Economics, chapter 6.

Kamada, Koichiro (2005): “Real-time estimation of the output gap in Japan and its usefulness for inflation forecasting and policymaking”, *North American Journal of Economics and Finance*, vol 16: 309-32.

Krugman, Paul (1998): “It’s Baack! Japan’s Slump and the Return of the Liquidity Trap”, Brookings Papers on Economic Activity 1998, vol 2, pp 137-87

McCallum, Bennett T (2003): “Japanese monetary policy 1991-2001”, Federal Reserve Bank of Richmond, *Economic Quarterly* 89, no 1: 1-31.

Oda, Nobuyuki and Kazuo Ueda (2005): “The effects of the Bank of Japan’s zero interest rate commitment and quantitative monetary easing on the yield curve: a macro-finance approach”, *Bank of Japan Working Paper Series*, No 05-E-6, April.

Okina, Kunio and Shigenori Shiratsuka (2004): “Policy commitment and expectation formation: Japan’s experience under zero interest rates”, *North American Journal of Economics and Finance*, vol. 15: 75-100.

Taylor, John (1993): “Discretion versus policy rules in practice”, *Carnegie-Rochester Conference Series on Public Policy*, vol 39: 195-214.