April 2, 2003
Bank of Japan

The Effect of "Quantitative Monetary Easing" When the Nominal Short-Term Interest Rate Is Zero*

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1. Introduction: Monetary Easing Measures since March 2001

Any textbook of macroeconomics will tell you that the starting point of the transmission mechanism of monetary policy is a change in reserves and an associated change in short-term interest rates. Reserves can only be provided by a central bank. Therefore, when a central bank increases its provision of reserves, it is certain that short-term interest rates will decline. Changes in short-term interest rates subsequently affect medium- and long-term interest rates, foreign exchange rates, and stock prices, leading to changes in the behavior of economic agents such as financial institutions, firms and households.

However, no textbook clearly explains whether an increase in reserves can still stimulate economic activity when short-term interest rates stay at close to zero percent. There is an argument that, even in such a situation money supply would "automatically" grow substantially and deflationary concern would be dispelled in the near future if the Bank of Japan (BOJ) expanded monetary base significantly.

Let me explain briefly the background to this proposal calling for increasing monetary base: the quantity theory of money. Monetary base consists of bank reserves and currency in circulation. In other words, monetary base is generally defined as the liabilities of the central bank. Money supply, which is the amount of money available in an economy, is proportional to monetary base. By dividing money supply by monetary base we get money multiplier. As textbooks of macroeconomics explain, the quantity theory of money is based on the quantity equation, which can be written as M(money supply) x V(velocity of money)=P(GDP deflator) x Y(real GDP). Although this formula is merely a definition and not a description of causality, it might be seen as an equation that determines nominal GDP,

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* This article is an expanded and revised version of the text of a lecture delivered at Nagoya University, November 11, 2002. The original version appeared in Japanese on the website of the Bank of Japan on November 29, 2002. The views expressed are the author's and do not necessarily reflect those of the Bank of Japan.

PY, by assuming that both the velocity of money and the money multiplier are constant. It also assumes that both monetary base and money supply are policy instruments. This leads to the basis of the argument that deflation is a monetary phenomenon and that the BOJ is in a position to prevent a continuous decline in prices. Based on this, some have advocated an increase in monetary base in order to expand money supply, which would increase the growth of nominal GDP.

Taking this into account, the BOJ decided to adopt a new framework of monetary easing never previously employed by any central bank. Let me focus on the quantitative aspect of the current easing. The BOJ has changed the main operating target from the overnight call rate to the outstanding balance of current accounts held by financial institutions at the BOJ, which accounted for about 20 percent of monetary base as of February 2003. In general, the BOJ can guide the overnight rate down to virtually zero percent just by providing funds that exceed required reserves, which are about 4 trillion yen now. Nonetheless, it has raised the target for the current accounts from around 5 trillion yen in March 2001 to 15-20 trillion yen by March 2003 (from April 1, 2003, considering necessary adjustment due to the establishment of the Japan Post, the BOJ conducts money market operations, aiming at the outstanding balance of current accounts held at the BOJ at around 17 to 22 trillion yen). As the average balance was 23 trillion yen in March 2003, it has risen fourfold since March 2001. As a result, the overnight rate has been pushed down to 0.001–0.002 percent. Thus the current monetary policy is often called "quantitative monetary easing."

Meanwhile, the BOJ has committed to flexibly provide liquidity irrespective of the guideline above when financial institutions' precautionary demand for liquidity increases in line with rising concern about the stability of financial markets. It is very likely that, were it not for the BOJ's flexible provision of liquidity based on this contingency clause, short-term rates would have temporarily surged, destabilizing financial markets. There are various reasons for such concern. For example, demand for liquidity increased in the immediate aftermath of September 11 in 2001. Also, a plunge in stock prices, especially in stock prices of financial institutions, might act as a trigger intensifying the risk of a financial crisis.

In addition, the BOJ established a so-called "Lombard-type" lending facility. The BOJ provides ample funds exceeding required reserves by 16 trillion yen, but some financial institutions might still be short of funds if a large proportion of the funds is held by other influential funds suppliers and this might lead to financial market instability. In order to achieve stability in financial markets and prevent large fluctuations in short-term interest rates, the BOJ introduced the Lombard-type lending facility. This facility allows financial institutions with eligible collateral to borrow funds from the BOJ at the official discount rate (Figure 1 for the outstanding balance of eligible collateral accepted by the BOJ).

Furthermore, the BOJ has increased its outright purchases of long-term government bonds when necessary to provide liquidity smoothly. The volume of outright purchases per month has been increased from 400 billion yen as of March 2001 to the current 1,200 billion yen. Long-term government bonds holdings amounted to 44 percent of the BOJ's total assets at the end of February 2003. Also, the BOJ held 12 percent of the total outstanding of long-term government securities as of January 2003.

The important point to note is that the current policy framework has another component besides ample provision of reserves. The BOJ has made a commitment to maintain the new framework for its market operations explained above until the year-on-year growth of the Consumer Price Index (excluding fresh food) becomes stable at or above zero percent. The expectation hypothesis of the term structure of interest rates tells us that long-term interest rates today will be the sum of market expectations regarding the future course of short-term interest rates and a term premium based on risk caused by uncertainty or the preference of market participants. Thus, the commitment based on the CPI can be understood as strengthening easing effects by clearly indicating the path of monetary policy in the future. If this commitment wins the market's confidence, the market participants can understand the path of monetary policy in the future and expect the overnight call rate to stay around zero percent as long as deflation continues. This will result in term rates and medium- to long-term rates stabilizing at extremely low levels. The effect of this monetary easing based on the BOJ's undertaking or commitment to the market is called the "commitment effect", or the "duration effect."

2. Two Years' Experience of Quantitative Monetary Easing

About two years have passed since the introduction of the quantitative easing measures in March 2001. Some market participants reckon that in addition to committing to maintain short-term interest rates at zero as long as deflation continues, the BOJ has also explored the possibility that, even with short-term rates at zero, further quantitative easing could affect economic activity. Various policy recommendations have been made regarding the additional easing of monetary policy, but let us pause here a moment to look closely at our experience over the past two years before we discuss policy options for the future.

A. Decline in Long-term Interest Rates

After the adoption of quantitative easing, the unprecedentedly abundant supply of liquidity has make the overnight call rate and other short-term rates fall to their lowest possible levels, even though the room for them to fall was limited. What is more important is that Japanese 10-year government bond yield has already declined to the lowest level in the history, moving in the range of 0.700-0.780 percent in March 2003. Volatility of long-term

interest rates has also declined. The expectation theory of interest rates must be recalled here. The commitment effect has been successful in affecting market expectations. The BOJ's policy commitment greatly contributes to reduce uncertainty about future short-term interest rates. If the economy is on a downward trend, this commitment would have market participants believe that termination of the current easing measures will be put off. As a consequence, longer-term interest rates go down and the yield curve becomes flatter.

Reviewing policy recommendations in relation to additional monetary easing after short-term interest rates reach zero, some assume that a policy action such as an increase in purchases of long-term government bonds leads to a decline in long-term interest rates, thereby stimulating the economy through portfolio balance effects and credit channel effects (Clouse et al (2000)). For example, Bernanke (2002) points out that the Federal Reserve could increase the outright purchase of long-term government bonds and try to lower long-term interest rates. It might thereby stimulate aggregate demand even if the short-term rates were zero. From a theoretical viewpoint, this is a valid argument. However, as of the end of March 2003, the differential between the interest rate on 6-month government bills and that on 10-year government bonds is about 290 basis points in the United States and about 170 basis points in Germany, but in Japan it is only about 70 basis points (Figure 2). Therefore, one can safely state that, so far as the current Japanese economy is concerned, Bernanke's prescription cannot be an effective measure to stimulate economic activity.

It may be worth pointing out, in passing, that the quantitative monetary easing policy enables, though unintentionally, the financial authorities to issue a large amount of government bonds at quite a low cost. In general, risks associated with long-term securities are caused by fluctuation of short-term interest rates and lack of liquidity. In this regard, the quantitative easing has stabilized at a very low level the funding costs of investing in medium- and long-term government bonds.

B. Relief from Concern over the Liquidity of Financial Institutions

I believe that ample provision of money has reduced the liquidity risk premium. It contributes significantly to maintaining the stability of financial markets, which is an essential prerequisite to prevention of a continuous decline in prices.

The importance of taking the liquidity risk premium into account is stressed by King (2002): "Transaction costs are important in determining asset prices," and "if the quantity of money can affect the size of transaction costs in financial markets, then it will have an effect on expenditures and inflation, over and above any change via the transmission from changes in risk-free interest rates." Transaction costs depend on how easily financial assets can be turned into cash on short notice, either by selling them or by using them as collateral for

external finance. If market participants expect financial markets to be highly unstable, they will boost demand for liquid assets that can be quickly turned into cash without undue reduction in prices and attempt to sell illiquid assets. This is exactly the situation where transaction costs in financial markets or liquidity risk premium rises. If a liquidity crisis spreads into financial markets more generally, firms will have difficulty in rolling over their liquid debt. This in turn calls the creditworthiness of firms into question. Credit spreads rise, compounding the liquidity crisis by cutting firms off from credit markets. In this way, falling asset prices and financial distress can be mutually reinforcing additional macroeconomic contractions. Well-functioning financial markets aid the effective conduct of monetary policy in pursuit of its objective of price stability.

Given the vulnerability of Japan's economy to exogenous shocks and stress, the role of money in reducing financial frictions cannot be overemphasized. The BOJ has provided ample money in financial markets in order to avoid a rise in liquidity risk premium touching off such a vicious cycle. In fact, even when uncertainty in the financial markets, intensified by a plunge in stock prices and other incidents, increased financial institutions' precautionary demand for reserves, we have not seen any volatility in short-term interest rates. Moreover, it might be expected that investors such as financial institutions would take more risks because of a decrease in liquidity risk premium. Looking at the credit market, we observed that spreads on high-grade corporate bonds have remained at a low level as a whole. I think that confidence in the availability of liquidity has an effect, albeit limited, of reducing the liquidity risk premium on prices of high-grade corporate bonds.

C. Little Effect on Money Supply

Consider the situation in which a financial institution's portfolio consists of money, short-term government bills and long-term government bonds. When short-term interest rates decline almost to zero percent, short-term securities will be regarded as an almost perfect substitute for money. If the BOJ massively increases the purchase of long-term government bonds under these circumstances, it might drive financial institutions to rebalance its portfolio and increase its holding of long-term government bonds. It would cause long-term interest rates to fall. In general, money is an imperfect substitute for a wide range of financial assets, including not only long-term bonds but also corporate bonds, equities, and foreign financial assets. From a theoretical viewpoint, the increase in reserves might affect financial asset prices through portfolio rebalancing effects.

However, the quantitative easing does not seem to have affected the behavior of financial institutions. In fact, they have increased their holdings of safe assets including cash, deposits at the BOJ, short-term government securities, and long-term government bonds. On

the other hand, financial institutions as a whole have curtailed their risk assets. Especially, they have become more cautious about investing in stocks and lending to firms with low credit quality. This preference for investing in safer assets has not been limited to financial institutions. Institutional investors such as life insurance companies, which typically invest for longer terms, have behaved in more or less the same way as financial institutions. Households and firms have also been increasingly risk-averse, and opted for safer assets. For example, the share of cash, deposits and savings, and Japanese government securities in the financial assets held by financial institutions, firms, and households has been increasing recently (Figure 3 for holdings of risk-free assets by type of economic agents). This shows these entities' growing preference for risk-free and liquid assets. It is quite logical that the apparent effects of ample provision of reserves have not been observed in the stock market, or the foreign exchange market. Later I shall try to give a detailed explanation of the background to the conservative behavior of financial institutions.

Under such circumstances, money supply has continued to grow stably at around 3 percent. The growth in money supply is relatively high in comparison with the real growth rate and inflation, but much lower relative to the growth of monetary base which reached 25.7 percent in 2002. When the BOJ introduced the current quantitative easing measures two years ago, the question was whether it would be able to automatically increase money supply by expanding monetary base. This way of thinking is based on two assumptions. One is that the main constraint on the expansion of money supply is related to monetary base. The other is that both the velocity of money and the money multiplier are constant. Experience over the past two years might suggest, however, that monetary base is not the main constraint on the growth of money supply. It seems reasonable to suppose that the decline in the financial intermediary function of financial institutions has negated both the monetary easing effect of extremely low interest rates and the expansion of monetary base. In this situation, the money multiplier is markedly decreasing. We should also recall the reason why money-growth targeting was abandoned in the 1980s. Sharp changes in the demand for money, which means that the velocity of money is unstable, made money-growth targeting an ineffective strategy. The relationship between money demand and the real economy has been unstable recently in Japan.

D. No Significant Influence on Expected Inflation

It might be concluded, from what has been explained above, that an increase in monetary base has hardly had any effect on either economic activity or inflation expectations. Some argue that, even when short-term interest rates stay at zero, drastic expansion of monetary base could still cause people to expect a future increase in inflation. I will not deny that there might be room for argument on this point. The important point to note from

the experience over the past two years, however, seems to me to be that neither the adoption of the current quantitative monetary easing measures nor a sharp increase in the purchase of long-term government bonds, which many market participants had not expected before, has raised current inflationary expectations. We may, therefore, reasonably conclude that the BOJ cannot affect expectations of inflation without tools by which it can credibly increase future inflation and current inflationary expectations.

3. Limitations of the Quantitative Easing

Let us now consider why the quantitative easing has not had any noticeable effect on asset prices other than on those of interest-bearing assets. There are various points to be discussed, but here I would like to focus on the background of the growing preference for safe assets, which will hinder demand for risky assets from increasing. People must decide how to distribute their wealth among many types of assets. While the decision about which assets and how much of each asset to hold can be complex, expected return, risk, attitude toward risk-taking and liquidity are the important factors in deciding portfolio allocation. These four characteristics will be helpful in attempting to examine the background of economic entities' increasing caution with regard to holding risky assets.

A. Low Expected Return

To begin with, the expected rate of return is low. Why do economic entities expect the rate of return to be low? The basic reason is that they cannot anticipate a high economic growth rate for some time.

When faced with the zero bound on interest rates, it is entirely plausible for the private sector to reason as follows: "The path toward economic recovery through lower interest rates has come to a dead end. Therefore, the mechanism for ending deflation will not function. Indeed, deflationary pressure may increase since the zero bound will prevent the economy from recovering. Against this background of further deflationary pressures, a rise in real interest rates and a consequent deterioration of the economy might set off a vicious circle." This leads to a decline in the expected rate of return. In other words, deflation itself might lower the expected rate of return.

B. Cautious Attitude toward Risk-taking

The essence of the credit intermediary function of financial institutions is to develop specialized information on the creditworthiness of their borrowers and use this information in ways that take advantage of portfolio diversification. If financial institutions manage risks properly, capital can be efficiently allocated among economic entities. In addition, against

the background of advances in information processing and communications technology, financial innovations enable financial institutions to unbundle and rebundle risks for their customers. This greatly enhances the lists of financial products available and creates new types of transactions based on the pricing of risks that have not previously been priced.

In Japan, however, the credit intermediary function of financial institutions has weakened recently because of a decline in their risk tolerance, which is closely related to their capital bases. Capital base is a cushion for unexpected losses in the future. There is a strong possibility that economic entities experiencing a reduced capital base would become cautious in their own risk taking and also find it difficult to maintain business relations if trading partners demanded higher risk premiums. Recently financial institutions have been facing the risk of their capital being impaired by unexpected losses in the process of disposal of non-performing loans (NPLs). Also, market risk pertaining to the shareholdings of Japanese banks has become a significant destabilizing factor for their management. Therefore, it is difficult for financial institutions to take risks. All businesses face risks. Risk-taking is a precondition of the growth of the economy. If capital cannot be used properly, economic entities might find it difficult to reinvigorate the economy. This line of thinking will lower the expected rate of return in Japan.

C. High Level of Uncertainty

Next, the uncertainty about the return. It can be defined as the possibility that the actual return received on assets is significantly different from the expected return. Many people don't like risk. Therefore, the expected return on risky assets is required to be higher than that on safe assets, such as government securities. In other words, if risk premiums of risky assets are high, the risk-adjusted rate of return might be expected to be negative. Therefore, demand for risky assets such as loans and stocks would hardly be expected to increase greatly.

For the same reason, firms have recently been reluctant to increase capital investment in Japan. At present, the main reason for the inability of the economy to gain upward momentum is sluggish business fixed investment. Firms seem to have succeeded in markedly improving their profits for fiscal year(FY) 2002 with their restructuring efforts. As a result, they have a large surplus cash flow. In addition, firms are expected to increase their profits in FY2003. Nevertheless, business investment has been constrained for two years. The main reason for this seems to be a wait-and-see attitude. According to a business fixed investment survey of firms carried out by the Development Bank of Japan in August 2002, some 80 percent of respondents explained that factors other than profitability were significant, and more than 70 percent of them were adopting a "wait-and-see" stance due

to “uncertainty about the future business environment.”

Now Japanese firms face up to three kinds of uncertainty. First, uncertainty about the world economy. The U.S. and European economies seem to lack strong momentum and there are geopolitical risks. Second, uncertainty about the financial markets. Firms seem to worry that, in addition to weak stock prices, the progress in NPLs disposal could have negative effects on corporate financing in the future. Third, uncertainty about deflation, as I have mentioned before.

D. Much Need for Liquidity

In addition to expected return and risk, liquidity affects the desirability of assets. As I have already explained, the liquidity of an asset is important in determining asset prices. When economic entities think they may face a liquidity shortage in the near future, their demand for liquid assets will increase. A liquid asset can be easily exchanged for money with less loss if there is an emergency need for it. In such circumstances, the prices of illiquid assets might decrease due to an increase in liquidity risk premium. There has been an increase in economic entities’ precautionary demand for liquidity against the background of uncertainty with respect to liquidity conditions in Japan.

4. Options for the Future

Let me summarize what I have explained before. For the past two years the BOJ has been successful in preventing financial markets from being disrupted and bringing longer-term interest rates down to flatten the yield curve by providing fairly abundant liquidity and indicating the policy duration embodied in “until the CPI registers stably zero percent or an increase on a year-on-year basis.” On the other hand, despite the continued injection of liquidity with nominal short-term interest rates at zero, financial institutions have not significantly changed their desired portfolio allocation, and therefore they have not attempted to rebalance their portfolios by shifting away from excess reserves at the BOJ to loans. An increase in loans used to be the main factor in the expansion of money supply, but the impaired balance sheet of both financial institutions and firms has prevented the process of multiple expansion of loans and deposits from functioning well. Thus, it is not surprising that it is difficult to identify a marked impact up till now on the real economy.

Under such circumstances, with the Japanese economy still in a potentially deflationary situation, the BOJ has been urged to adopt alternative policy tools. Before bringing today’s lecture to a close, I would like to explore the two types of policy recommendations discussed by some economists home and abroad. First, monetary transfers as a policy measure for the additional easing, by which I mean increasing monetary base by

transferring money as if you were sprinkling the grass with water. Some call this operation "helicopter drop of money" or "money rains." Second, inflation targeting as a framework for implementing monetary policy.

A. Monetary Transfers

As I mentioned at the outset of today's lecture, some economists advocate that a substantial increase in monetary base would have a noticeable impact on money supply. The essential premise behind this way of thinking is that the main constraint on the expansion of money supply, not to mention aggregate demand, is the amount of liquidity among economic entities. To put it another way, macroeconomics textbooks say that a central bank conducts monetary policy by deciding about how much liquidity to supply to the economy. If this is so, we may say that additional provision of monetary base by open market operations, such as buying short-term government securities, leads to an increase in money supply and stimulates the economy.

However, from a theoretical viewpoint, when short-term interest rates are zero, such open market operations cannot affect portfolio equilibrium and give any stimulus to aggregate demand, because monetary base and short-term government securities are perfect substitutes. The theory has been confirmed by experience over the past two years in Japan.

Against this background, monetary transfers have recently come under the spotlight among economists (see Goodfriend (2000), Bryant (2000) and Clouse et al (2000)). It should be noted that this policy option does not merely mean "the supply of liquidity." Therefore, it is no exaggeration to say that this proposal takes a central bank into another world. You may be bewildered about this recommendation. Let me give you an example. Textbooks often illustrate "helicopter drop of money" by a central bank's underwriting of government bonds to compensate for a tax cut.

Also there might be cases where the BOJ would provide subsidies to market participants by purchasing assets at above market prices. A basic principle of market transactions is a subjectively equivalent exchange of benefits for both parties involved. Open market operations are not an exception to this principle. A central bank can gain benefits from it. These benefits are not monetary profits, but rather the smooth provision of ample funds to the financial system. It might be possible, therefore, for the BOJ to provide monetary base by purchasing assets at prices that left reasonable profits to market participants. In other words, the BOJ might be willing to pay disadvantageous prices in order to secure the compensatory benefits of a smooth provision of funds. Given that this is the case, should the BOJ attempt to supply more monetary base than is needed to meet financial institutions' demands for reserves, it would have to purchase assets at more favorable prices to them. It

would be better to say that market participants would substantially benefits by increasing not only liquidity but also their wealth.

In addition, if the BOJ expanded the range of assets it would purchase to include domestic private assets and foreign assets, it would mean that credit risks and market risks would be transferred from financial institutions to the BOJ. Should the prices of such assets then decline significantly, the BOJ would naturally suffer a capital loss. Therefore, this operation has an important characteristic in common with monetary transfers.

Fiscal Policy

There are several points of debate about the suggested policy. The point I would like to stress first is that the effect of the above-mentioned operations, if any, would mainly come from the fiscal stimulus.

Let me take a tax cut financed by the BOJ's purchase of additional government securities as a typical example. This policy measure would stimulate the economy, which could end deflation and generate inflation. After deflationary expectations have been eliminated, inflationary expectations may not stay at a moderate rate. The BOJ will be required to prevent the inflation rate from overshooting and maintain inflation within a range of price stability by absorbing funds from the markets through outright sales of bills issued by the BOJ and/or government securities, because the Bank of Japan Law gives the BOJ a clear mandate to maintain price stability, thereby contributing to the sound development of the national economy. When the BOJ reverses open market operations as mentioned above, the BOJ would incur capital losses. The important point to note is that such a policy would impose an additional fiscal burden in the end instead of increasing private sector wealth. Unless an increased budget deficits could be financed by future revenue increase permitted by high economic growth or reductions in fiscal expenditures, the sustainability of government liabilities might be in doubt, increasing a risk that confidence in banknotes might also be lost.

In this regard, some advocates of more aggressive monetary easing argue that, given the size of the current fiscal deficits, it is not fiscal policy but monetary policy that has to play the leading role in stimulating the economy. It should be noted that some policy options strongly urged by these advocates have the same characteristics as "helicopter drop of money." Such arguments imply that the BOJ is expected to activate economic activities through the channel of fiscal policy. It is no exaggeration to say that such arguments lack consistency.

A Central Bank in a Democracy

Next, it seems reasonable to pay attention to the closely-related and important question of what is meant by central bank autonomy in a democratic society. It is generally considered appropriate that, in a democratic society, the legislature sets the goal of monetary policy and directs the central bank to pursue that goal. That is to say, the BOJ, like central banks in other major countries, is allowed to have operational independence from the government. In my opinion, if the BOJ were to carry out "helicopter drop of money" on its own, it would be regarded as exceeding its authority. We should recall that Bernanke's (2002) discussion of "helicopter drop of money" is predicated on the central bank not being allowed to embark on such a policy on its own.

Impacts on Expectations

Third, these arguments bring us to the question of how such a policy affects expectations of inflation. The role of expectations cannot be overemphasized in economic theory. According to the permanent income hypothesis, forward-looking consumers will decide their consumption not only on their current income but also on the income they expect to receive in the future. Similarly, rational expectations assume that firms would decide fixed investment based not only on current profits but also on the expected cash flows in the future. To put it another way, it is essential that macroeconomic policy can stand up to the forward-looking thinking that underlies the formation of expectations in the private sector.

Therefore, in the situation where the public thought that the BOJ would be unwilling to transfer money aggressively for fear of capital losses, monetary transfers would lack credibility and their effect would be weakened due to fear of tax increases in the future. Regarding Japan's fiscal position, the OECD forecasts that in calendar year 2003 the ratio of outstanding volume of government debt to nominal GDP in Japan will increase to over 150 percent, the highest among the OECD countries, with the deficit amounting to around 8 percent of GDP. Nonetheless, if the BOJ were to embark on monetary transfers, both the government and the BOJ would have to be prepared for possible capital losses. To put it another way, it is entirely fair to say that, without increasing expectations of growth, even monetary transfers would not be able to have any significant effect on the economy.

What is worse, monetary transfer would increase uncertainty about the outlook for inflation. In other words, it would cause a greater variance of inflationary expectations, which in turn would cause long-term interest rates to go up. If long-term interest rates rose further in response to the growing uncertainty about the outlook for inflation, it would damp down business investment. It is also important to bear in mind that current prices of

financial assets could adjust immediately to the expectation that monetary transfers will raise future inflation, that is to say, current inflation expectations. As I mentioned earlier, business investment has not responded fully to the increase in free cash flow in the past several years in Japan, because of much uncertainty about expected cash flows in the future. This is partly a result of developments in overseas economies. Progress in dealing with NPLs and its effects on corporate finance are also uncertain. Should monetary transfers increase uncertainty, we would not expect economic activity to be stimulated.

B. Inflation Targeting

With that understood, we are now in a better position to touch on inflation targeting. Opinions vary as to inflation targeting, which has recently received much more attention. The point I would like to emphasize is that I agree that inflation targeting has various advantages such as assurance of the independence of monetary policy's operational objectives, and transparency of policy management. Better communication between a central bank and the public would reduce uncertainty about the outlook for inflation decreases and keep risk premiums required for long-term interest rates in check.

However, even if a central bank has not introduced inflation targeting, it does not necessarily neglect the importance of appropriately conveying its intention regarding monetary policy to the public (Fujiki et al (2001)). For example, the BOJ does not adopt the framework of inflation targeting, but the BOJ has struggled to establish a stable relationship with market participants and the public by enhancing the transparency of its policymaking process. In other words, the important point to note is not whether inflation targeting should be formally adopted or not, but what is a desirable policy framework for the BOJ's monetary policy. In fact, the BOJ has committed itself to continuing the current procedures for money market operations until the CPI inflation rate is stable at or above zero percent. Although it might be not so widely understood, the current monetary policy framework is based on the same premise as adopting inflation targeting.

On the other hand, I entirely disagree with an argument that, only if inflation targeting were to be adopted now in Japan, the expected rate of inflation would rise. This proposal is very simplistic. Although I do never deny the importance of announcement, the expected rate of inflation can only be influenced if the public are convinced that the BOJ has necessary policy measures in order to live up to its promises. In short, words should correspond with actions. As I have discussed earlier, the past two years' experience since March 2001 in Japan indicates that the introduction of quantitative monetary easing measures, abundant provision of monetary base, and a sharp increase in the outright purchase of long-term government bonds have not been successful in increasing inflationary expectations.

Thus, the argument for inflation targeting will likely be premised, whether explicitly or implicitly, on the BOJ's "untraditional" policy measures which have important characteristics in common with monetary transfers. In fact, some economists strongly advocate that the BOJ has to be prepared to take any policy actions including monetary transfers in order to significantly increase inflationary expectations. Central to the argument for inflation targeting is the problem of an appropriate policy measure.

In addition, we often see an argument that, should inflationary expectations seem likely to overshoot the range within which price stability can be maintained, it would be a matter of course for the BOJ to resolutely absorb liquidity. They vigorously point out that, with its operational independence under the Bank of Japan Law, the BOJ should pursue the primary objective of monetary policy, maintaining price stability, without worrying about the possibility of capital losses.

On the surface, this proposal seems to be a sound argument. It reminds me of Krugman's (1998) proposal. Krugman has suggested: "The way to make monetary policy effective, then is for the central bank to *credibly promise to be irresponsible*--to make a persuasive case that it *will* permit inflation to occur, thereby producing the negative real interest rates the economy needs."

However, it seems to me that the idea of achieving both credibility and irresponsibility is similar to that of a "gentle tyrant," that is to say, a contradiction in terms. If monetary transfers were employed, whether inflation targeting were adopted or not, the public might foresee the possibility that maintaining price stability, the primary objective of monetary policy, has to be downgraded in priority for a while. I hardly imagine that, when the BOJ, by introducing inflation targeting combined with monetary transfers, has succeeded in bringing CPI inflation rates within a targeted range --1 to 3 percent, for instance--, it would significantly reduce the provision of liquidity in financial markets and decrease the outright purchase of long-term government bonds. It is like applying the brake after putting your feet down on the accelerator. In this argument, regarding the limitations of inflation targeting in Japan today, Rogoff (2002) explains, "Given Japan's liquidity trap, and the need to rely on increases in base money to restore inflation, there is a definite risk that the inflation rate will overshoot any target, at least for a short while. Achieving, say, a 2 percent inflation target in a situation with ingrained deflation is like, in golf, trying to hit the ball out of a sand trap directly on to the green and in to the hole in one shot." Based on this, Rogoff advocates that the BOJ should do whatever is necessary to defeat deflation in irresponsible disregard of price stability for a while. I do not share this policy recommendation because such a policy has disadvantages in common with monetary transfers as noted earlier, but it seems reasonable to suppose that "an irresponsible central bank" can win little credibility in respect of its ability to

achieve a certain rate of inflation.

5. Conclusion

The BOJ has penetrated deep into uncharted territory over the past two years by adopting "quantitative monetary easing." Nonetheless, it is a matter for regret that moderate deflation has continued since 1998. Under such circumstances, various policy options have been proposed home and abroad. In a choice among policy options, we should always weigh probable benefits against potential risks. You have to be well equipped to carry out your own assessments of economic policies, and guard against the simplistic argument that, if the BOJ embarked on a large-scale expansion of monetary base by fair means or foul, it would be able to put a stop to deflation in the near future. If the Japanese economy should face an emergency situation, say, 1930s-style depression, I would not reject the possibility of a last-resort operation. The question is whether it is the perfect time to test it now when the CPI inflation rate has been slightly negative. As already noted, financial stability is the major determinant of the availability of funds to households and firms. Monetary policy still has an important role in preventing financial markets from being disrupted. Moreover, keeping interest rates at extremely low levels has allowed firms to restructure their balance sheets. Against this background, most firms have abundant cash and liquid assets to fund investment internally. It seems reasonable to suppose that firms are well prepared to expand their business activities. If the main constraint on the expansion of investment is the high level of uncertainty rather than liquidity, as uncertainty diminishes, investment should increase. Under such a situation, macroeconomic policy should place its emphasis on facilitating better use of capital by improving balance sheets and profitability of both financial institutions and firms. Opening up new business opportunities by promoting deregulation is also necessary. Such a wide range of structural reforms will likely increase expectations of economic growth among economic agents. It will be followed by an increase in inflationary expectations.

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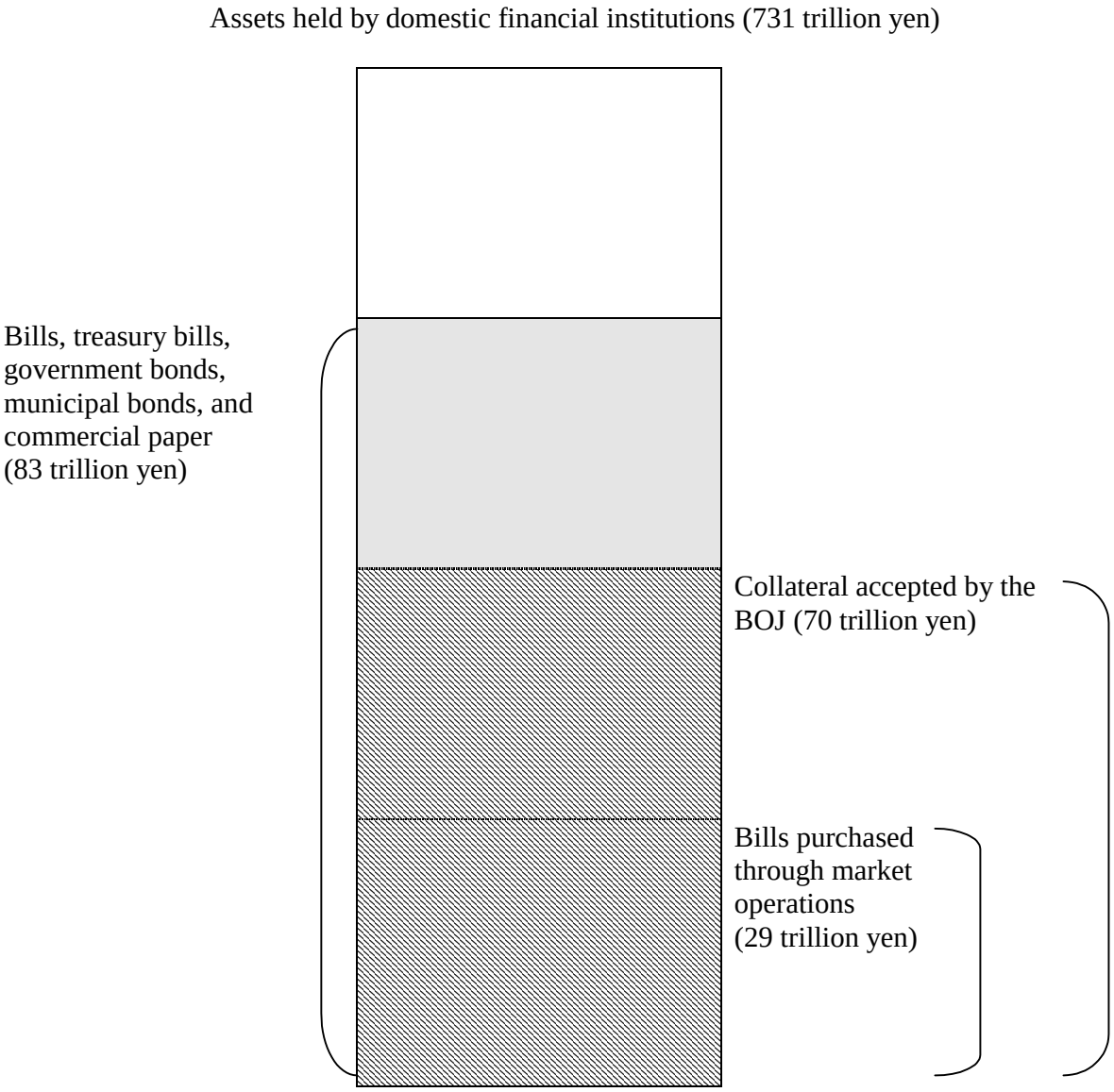
(Figure 1)

Collateral Accepted by the BOJ

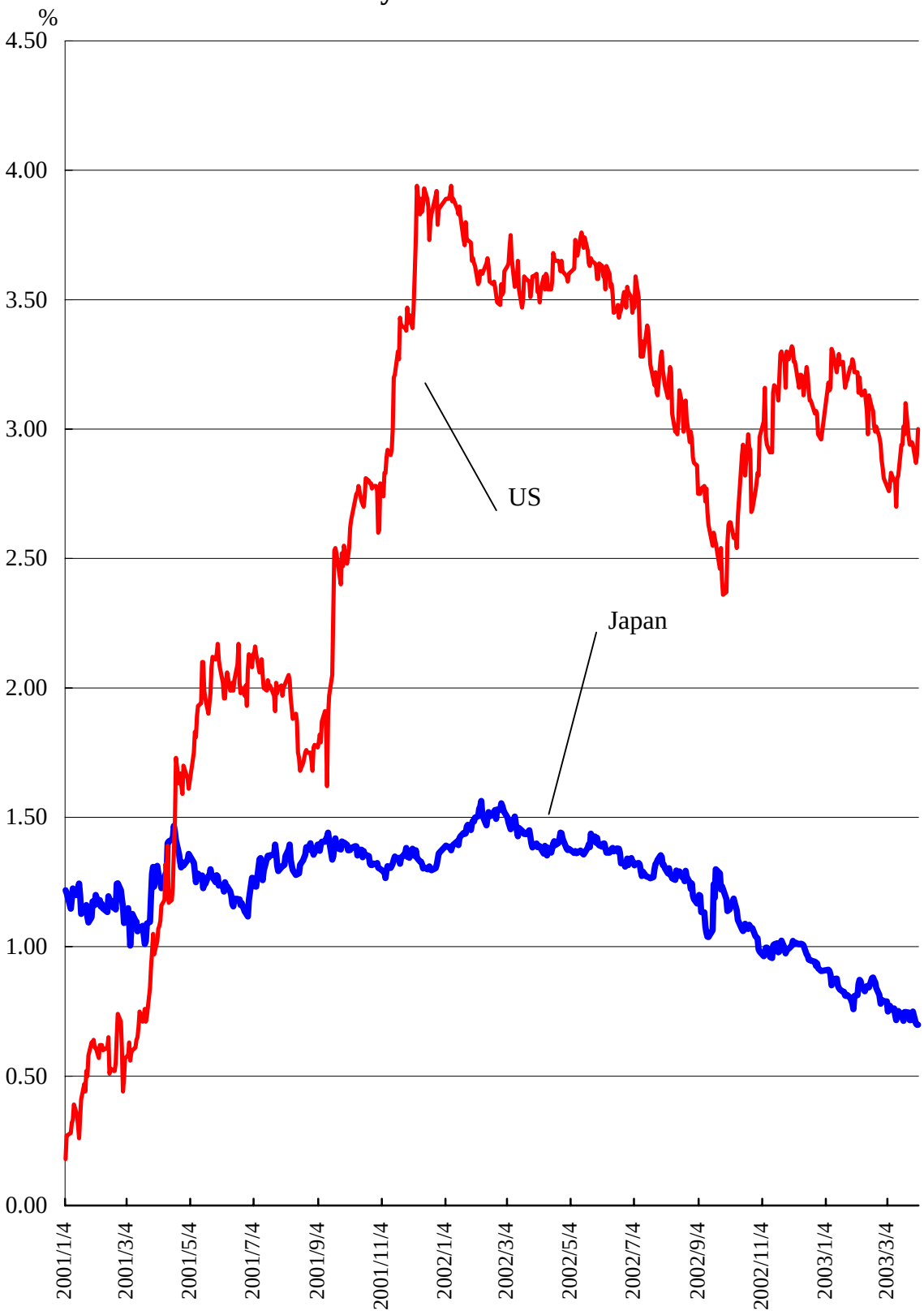


(Notes)

1. As of the end of December 2002
2. Collateral accepted by the BOJ includes corporate bonds, loans on deeds to the Deposit Insurance Corporation with government guarantee, and loans on deeds to the Government's Special Account for the Allotment of Local Allocation Tax and Local Transfer Tax

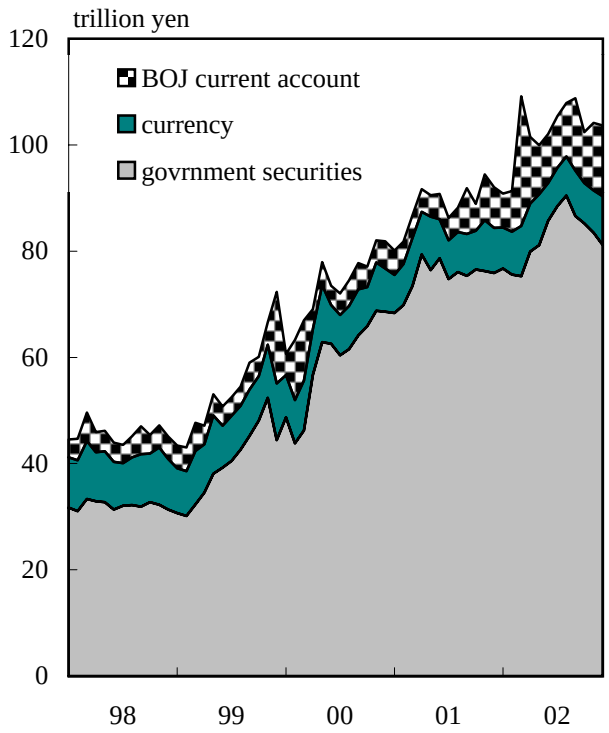
(Figure2)

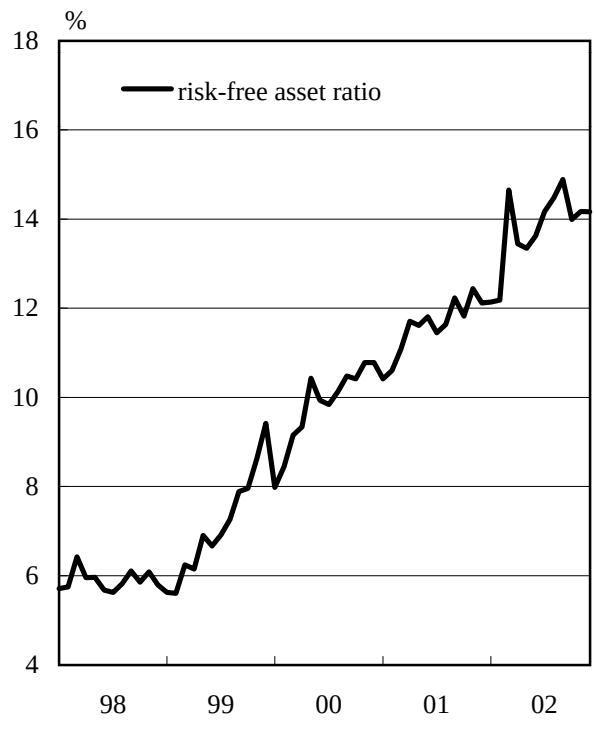
Differential between the Interest Rates on 6-months Government Bills and that on 10-year Government Bonds



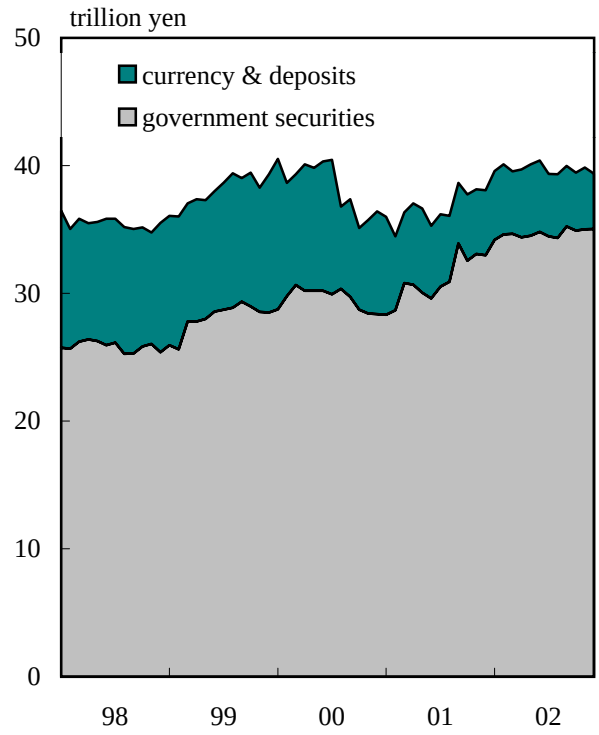
Holdings of Risk-free Asset (1)

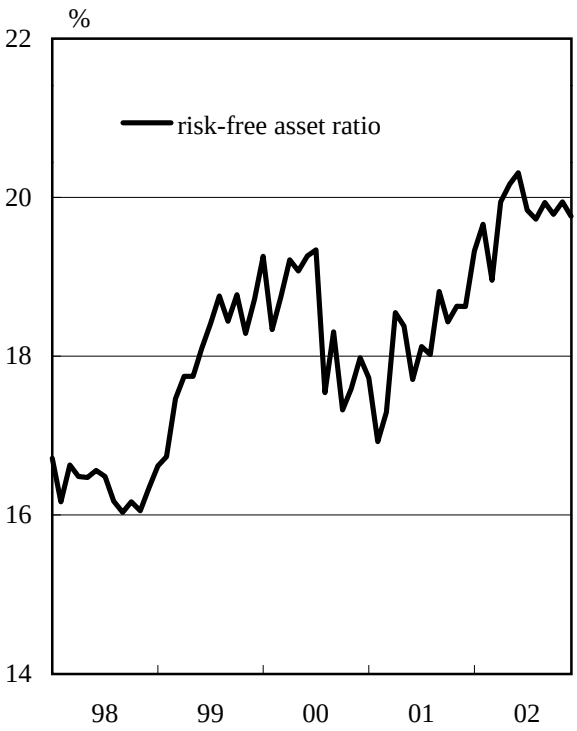
(1) Domestic commercial banks





(2) Insurance companies

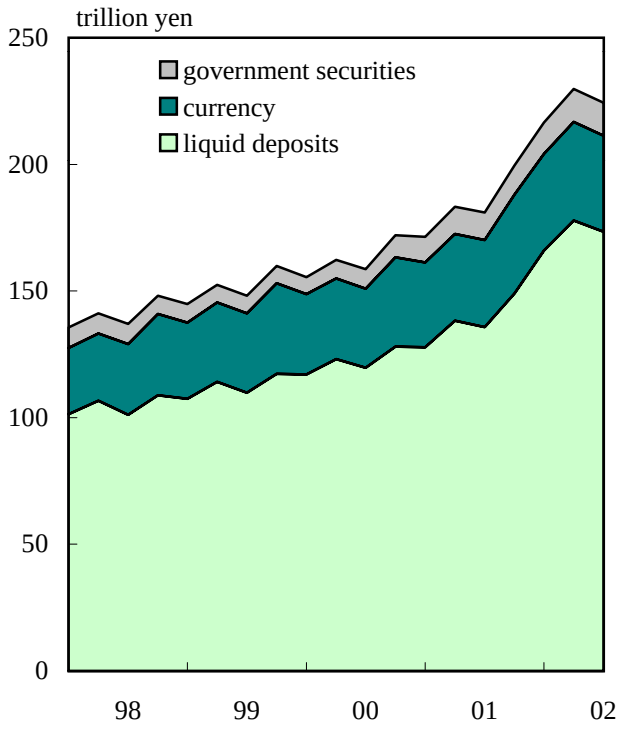


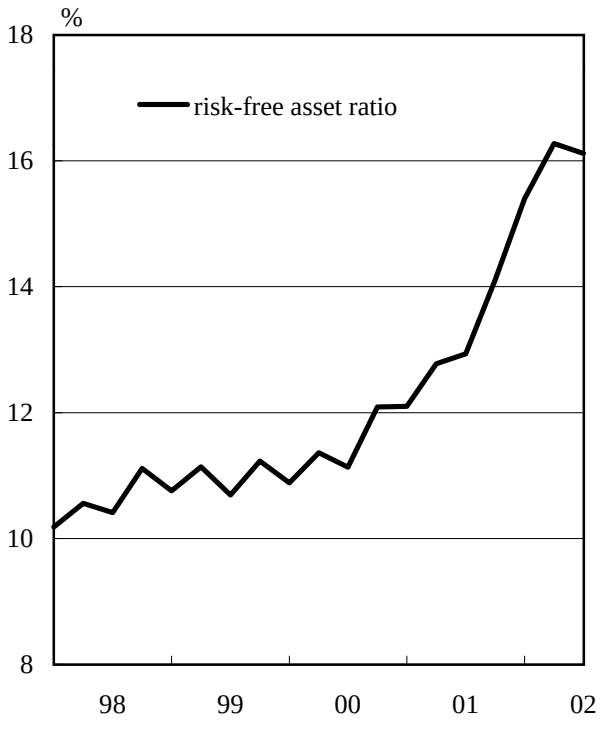


Risk-free asset ratio is defined as ratio of the above-mentioned risk-free assets to total financial assets held by the respective entities.

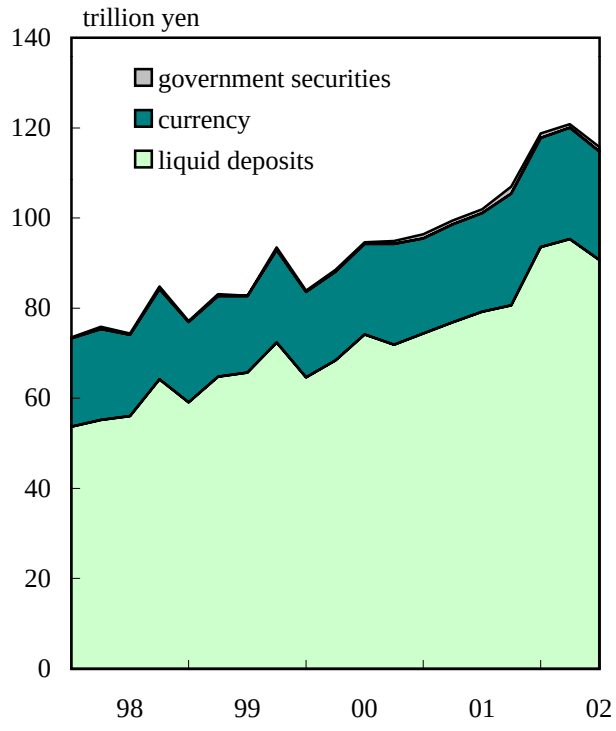
Holdings of Risk-free Asset (2)

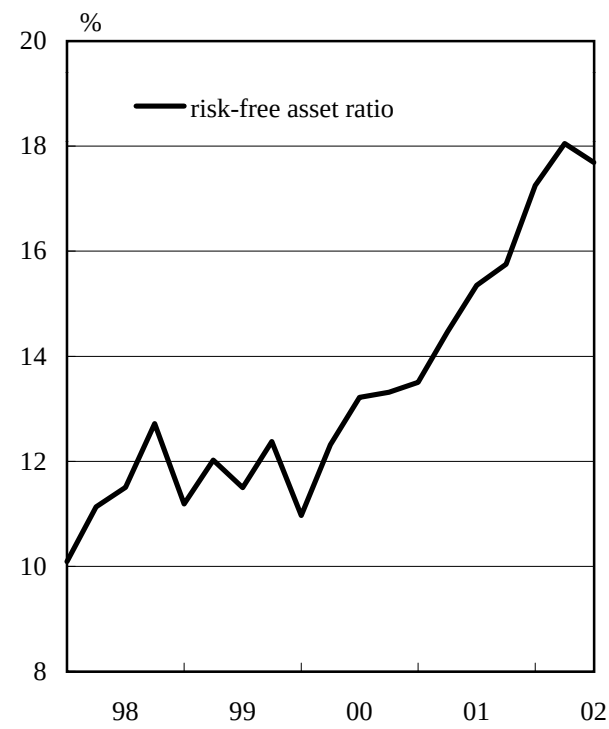
(3) Households





(4) Private non-financial firms





Risk-asset free ratio is defined as ratio of the above-mentioned risk-free assets to total financial assets held by the respective entities.