

# **The Risk Premium Warning on Japanese Government Bonds**

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The international credit standing of Japanese government bonds (JGBs) has wavered even though they remain the most trusted class of financial assets inside Japan. Few Japanese have noticed that interest rates on local-currency JGBs are now higher than those on yen-denominated bonds issued by the governments of other countries, such as Spain and Italy. The reason may be because yields on JGBs are currently at such historic lows. But the fact remains that capital markets are already demanding a risk premium on Japanese government debt.

The phenomenon of diminished international confidence in the creditworthiness of JGBs has been observed in the past. For example, in the period after 1932, when Japan started issuing JGBs in large quantities and the Bank of Japan (BoJ) began underwriting this process, yields on sterling-denominated JGBs soared above the yields on comparable gilts issued by the British government. These market warnings went unheeded, and the country pursued a “Financial Fortress Japan” seclusion policy that focused on isolating the country from overseas financial markets to keep interest rates low and thereby enable the continued issuance of a high volume of JGBs.

Today, the ratio of outstanding government debt to GDP has reached a level comparable to that recorded in the latter stages of WWII in Japan and the United States. The pace of the rise in outstanding debt, however, exceeds that recorded during the Takahashi regime in Japan (1932–36) as well as during the New Deal in the United States—both periods of unrestrained classical Keynesian fiscal expansion.

Under the policy of quantitative monetary easing that the BoJ has been implementing since March 2001, the influence of zero interest rates has been gradually extending to the market for long-term government bonds, paradoxically restricting the inflation expectations that should naturally be incorporated into long-term interest rates. For this reason, there is concern that the markets may demand an even greater JGB risk premium if such non-orthodox methods as JGB underwriting by the BoJ under an inflation targeting policy—as many currently advocate—are pursued.

One suggested solution is the adoption of a non-Ricardian fiscal policy, which would couple higher spending to stimulate the economy with promises not to raise taxes in the future. Yet, the high level of existing debt and the rapid aging of Japan's population both suggest that such a policy has a low probability of success. Conversely, the dangers of possible non-Keynesian effects (suppression of economic growth due to higher long-term interest rates) cannot be ignored if investors start to demand a higher JGB risk premium than currently exists.

# I The Creditworthiness of JGBs

## 1 Credit Rating Lower Than Even Botswana

Since the end of 2001, one after another Western credit rating agencies have downgraded Japanese government bonds (JGBs). By the middle of 2002, JGBs were rated lower than the government bonds of all major developed nations. Furthermore, they now rate Japan lower than countries such as Taiwan, Korea, Slovenia, Hungary, Estonia and Chile, although the various rating agencies differ slightly in their rankings. Actually, Japan's credit rating has even been downgraded below that of the African nation of Botswana.

Credit ratings are influential sources of information for investment decisions. They help investors gauge the ability of debtors to repay and provide a valuable service to those investors lacking the required analytical expertise. Credit ratings aid investors in assessing the possibility of default or bankruptcy, and markets reflect the information in credit ratings by differences in interest rates on corporate and municipal bonds.

Credit ratings thus play a significant role in bridging the information gap between debtors and investors. But in the case of government bonds, which represent the national debt borne by a nation's taxpayers, is there really any information asymmetry between investors and debtors?

Japan continues to issue government bonds at a rate virtually unprecedented among developed nations. This raises the question of whether massive spending cut-backs and tax increases will be instituted at some later date to restore the nation's fiscal health. In the final analysis this will be a political decision that must be approved by the Japanese people. In the case of JGBs, therefore, it is difficult to conceive of a wide gap in information between debtors (the Japanese government) and investors (the Japanese people). Certainly the Western credit-rating agencies do not have any better information on future policy decisions than Japanese taxpaying investors do. Moreover, since instances of a sovereign default (defined as an arbitrary alteration in the payment terms for principal or interest) by an advanced nation have been rare, the agencies do not have sufficient data to carry out the statistical and probability analyses that they typically use to assign ratings. Given that governments possess the power to tax and to issue their own domestic currency, a sovereign default on bonds denominated in that currency is almost impossible to imagine.

The Japanese government and investors have directed a stream of criticism at the rating agencies for their successive downgrading of yen-denominated JGBs, while keeping the rating on foreign-currency denomi-

nated JGBs stable. The extreme unlikelihood of default also dictates that the downgrades should not significantly raise interest rates on JGBs. The fact is that interest rates on 10-year JGBs have fallen consistently ever since the downgrades began in the latter part of 2001. Indeed, we have to look as far back as the Republic of Genoa at the beginning of the 17th century to find a comparable period of sustained low interest rates on government debt. Most investors currently expect the pattern of mild deflation and low growth to continue in Japan, with hardly any forecasters predicting a resurgence of inflation. With a JGB default practically inconceivable in the eyes of investors, interest rates remain low.

Another important consideration is that JGBs are the most trusted financial instrument within Japan. They constitute the only financial asset for which both interest payments and redemption terms are precisely defined. As a result, interest rates on bank deposits, corporate bonds, and other assets exceed the rate on government bonds by a margin corresponding to their perceived default risk. This prominent benchmarking role explains why JGBs are often characterized as the "lodestar" of Japan's financial markets.<sup>1</sup>

Yet we must still pay serious attention to the sharp fall in international creditworthiness of JGBs when they command such a high degree of investor trust in Japan. In fact, international markets put a risk premium on JGBs even before the first sovereign rating downgrades were posted. The US rating agency Moody's Investors Service downgraded JGBs one notch from the highest rating Aaa to Aa1 on November 17, 1998, a day after the Japanese government announced a package of economic stimulus measures totaling ¥24 trillion. But international securities markets actually started demanding a risk premium on Japanese sovereign debt in the aftermath of Russia's August 17, 1998 announcement of a moratorium on its external debt payments. The Russian default was a loud wake-up call to investors around the world and resulted in the general application of a credit-risk premium to sovereign debt. Once forecasters began to speculate on the chances of other governments failing to pay interest or redeem principal on the bonds they had issued, investors began to demand higher interest rates commensurate with the perceived credit risk—in other words, a credit-risk premium.

Following the Russian default, the interest-rate spread between sovereign debt issued by the so-called emerging economies (developing nations forecast to generate relatively high rates of growth) and US Treasury bonds of equivalent maturity widened considerably. A similar yield gap opened up between the government bonds of Germany and Italy, whose large fiscal deficits were then a source of considerable investor apprehension. The spread between US Treasury bonds and dollar-denominated government-backed bonds issued by public-sector institutions in Japan such as the Development

Bank of Japan—securities whose principal and interest payments are guaranteed by the Japanese government—also widened. Furthermore, interest rates on JGBs started to surpass those on yen-denominated fixed-income securities issued by the World Bank, which had previously traded at higher rates of interest than did JGBs.<sup>2</sup>

## 2 Interest Rates Surpassing Those of Italy

The credit-risk premiums that expanded shortly after the Russian debt crisis later dwindled, except for those on JGBs and Japanese government-backed bonds. The yield spread on Italian government bonds, for instance, fell from 0.5 percent over German government bonds shortly after the Russian default to 0.3 percent (roughly the current level) as the Italian government made steady progress in cleaning up its public finances ahead of the start of the European monetary union in 1999.

In contrast, the yield spread between US Treasury bonds and dollar-denominated Japanese government-backed bonds still persists today. In addition, yields on JGBs have risen above those on yen-denominated government bonds with identical maturities issued by the Spanish and Italian governments. As of mid-October 2002, the spread between JGBs maturing in March 2010 and yen-denominated Italian government bonds with a similar redemption date was approximately 0.15 percent (see Figure 1). Thus, while interest rates on JGBs have been falling since the time the downgrades began, the spread between yen-denominated JGBs and comparable yen-denominated issues by other governments has not changed.

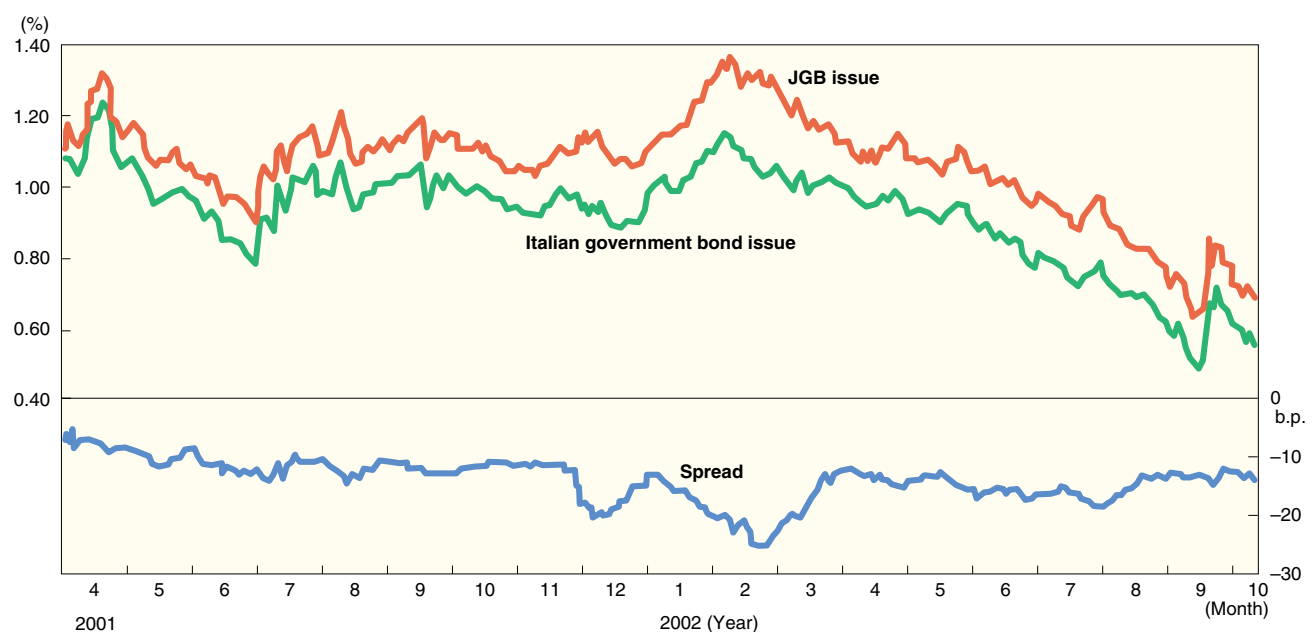
The implication is that if Japan's fiscal deficits were similar in size to those of Italy and if these deficits were expected to shrink in the future in the same way that Italy's fiscal health is projected to improve, then the Japanese government would be able to issue 10-year JGBs at coupons nearly 0.2 percent lower than currently.

Since long-term JGB yields are widely used as an interest-rate benchmark for the entire range of other, less creditworthy fixed-income securities such as corporate bonds and bank debentures, this premium has repercussions on all other Japanese financial assets. Furthermore, the effect on debt servicing costs cannot be ignored, as the Japanese government is set to issue not only new JGBs totaling ¥30 trillion, but also refinancing bonds totaling approximately ¥70 trillion during the current 2002–03 fiscal year (ending March 2003).

A few observers argue that there is no reason not to cut taxes and boost spending on public projects further since interest rates are still unusually low. Japan appears to be in fine shape because the nation has recurring savings surpluses, from individual Japanese who have built up their personal financial assets to an astonishing ¥1,400 trillion, and the largest net external assets in the world.

Yet we should bear in mind that—apart from foreign currency reserves—all of these surplus assets are owned by private individuals and firms. The government cannot mobilize these assets for economic policy in this age when capital can move freely across borders, as it might do in extraordinary times through such measures as the mandatory purchase of war bonds. Japan's stock

**Figure 1. Interest Rates on Comparable JGB and Yen-Denominated Italian Government Debt Issues**



Notes: (1) The Italian government bond issue offers a coupon of 1.8 percent with a redemption date of February 2010, whereas the JGB issue offers a coupon of 1.7 percent with a redemption date of March 2010; (2) the interest-rate spread is measured in basis points (1 bp = 0.01%).

Source: Bloomberg L.P.

of savings assets comprises private property and is thus not a source of capital for redeeming JGBs. We must never lose sight of the distinction between the funds people use to buy bonds and the funds the government uses to redeem them.

Japan's economy has already slumped into a state far worse than that of any country with a high credit rating. The government has repeatedly pushed through large pump-priming packages to try to stimulate the economy, to the point where total central and local government debt is projected to exceed 143 percent of GDP by the end of 2002. In comparison, Italy's outstanding government debt peaked at 124 percent of GDP in 1994 and its debt-to-GDP ratio is projected to have fallen to 106 percent by the end of 2002. The difference between the two countries is striking.

At the same time, the total tax burden as a percentage of national income is much lower in Japan than in major Western nations. In fact, Japan's tax burden lies midway between the figures for Argentina and Russia, two countries that have already defaulted. Despite this, the Japanese government is contemplating introducing advanced tax reductions starting in fiscal 2003–04. Besides the government's official debt obligations in the form of JGBs, it also has a wide range of other liabilities. It guarantees the postal savings system, provides the deposit insurance cap on bank deposits, offers credit guarantees to many small and medium-sized enterprises, and carries huge off-balance sheet liabilities in the form of future payouts of public pensions. The fact that the government bears ultimate liability for all of these debts but does not receive any guarantor's fee in return is naturally harming Japan's creditworthiness.

Finally, with the progressive aging of Japan's population, it is questionable whether future governments could generate the political resolve required to restore the public finances to health—by squeezing all the loan guarantees and raising taxes as well as cutting public spending. In view of these considerations, the downgrades by the credit-rating agencies take on greater credibility.

## II Risk Premiums on JGBs in the Prewar Period

The issue of risk premiums on JGBs did not surface just recently. Around the end of 1931, during the tenure of finance minister Korekiyo Takahashi, overseas investors demanded a huge risk premium over equivalent gilt yields on sterling-denominated JGBs and continued to do so until the end of World War II. Yields on sterling-denominated JGBs issued by the Japanese government soared from 6.7 percent, with a 2.24-percent spread over gilts, in 1930 to 11.77 percent with an 8.01-percent spread in 1932, and reached 12.21 percent with a spread of 8.93 percent in 1937 (see Figure 2). With the

outbreak of WWII in 1939, the yield on sterling-denominated JGBs soared to 28.67 percent, producing a spread over gilts of approximately 25 percent. The Japanese government did not heed these market signals and continued to issue increasing quantities of JGBs right through to the end of hostilities in 1945.

Japan's experience in the pre-war international bond markets may hold some lessons to apply to its situation today. Let us examine Japan's situation prior to World War II, particularly the Takahashi regime, the BoJ underwriting system, and other policy measures that were applied to promote JGB issues to understand why international confidence in JGBs suffered so markedly during this period.

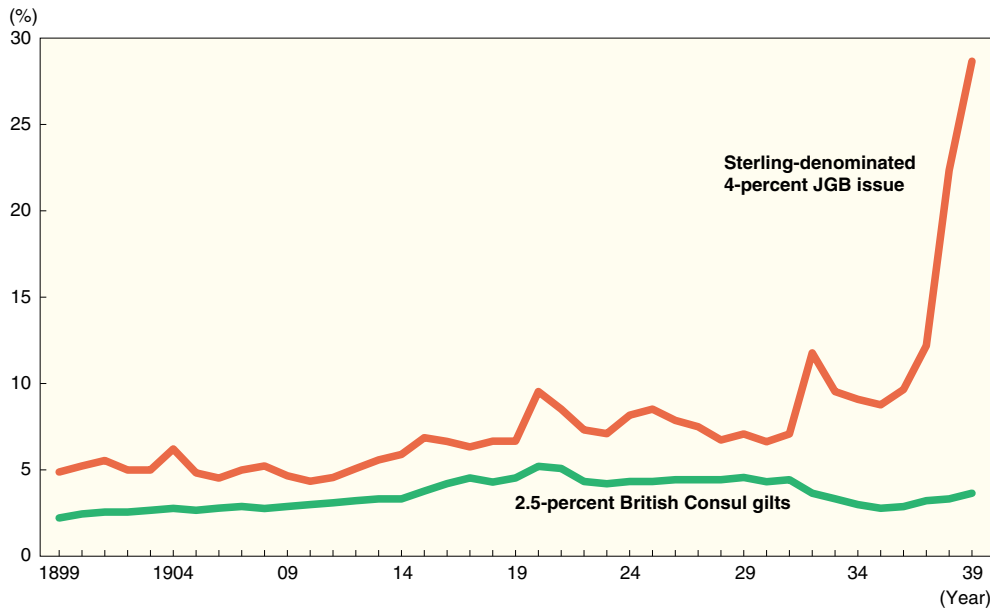
### 1 Aggressive Fiscal and Monetary Policy Under Takahashi

After the unusually good economic conditions that prevailed throughout the First World War, Japan experienced a prolonged and severe economic depression. The economy fell into recession with a stock market plunge in March 1920, and the Great Kanto Earthquake of 1923 hammered the final nails into the coffin. While government-supplied relief financing maintained excess production capacity, such measures deprived the economy of the automatic stabilizers needed for recovery. In addition, the excess imports continued unabated because post-war price declines were much less marked in Japan than in the leading Western nations.

Finance Minister Jun'nosuke Inoue imposed a period of economic austerity from July 1929. His policy mix included a return to the gold standard, which was designed to force a fall in the domestic price level and thereby promote industrial rationalization while helping to make Japanese companies more internationally competitive. The ban on gold-currency exchanges at the previous level of parity was lifted in January 1930. As a result, the government balanced its budget for the first time in 35 years (for the fiscal year ended March 1931).

But the Wall Street crash on October 24, 1929 (Black Thursday), which sparked off the Great Depression, thwarted these efforts by Japan to export its way out of economic trouble. The recession deepened considerably as the global economy contracted. The Manchurian Incident of September 1931 and Britain's abandonment of the gold standard prompted a spate of dollar buying in the markets. By the end of 1931, Japan's gold and foreign currency reserves were sharply depleted. Japan's two-pronged attempt to stabilize its international relations by fiscal austerity under finance minister Inoue and peaceful diplomacy under foreign minister Shidehara ended with the collapse of the cabinet.

A new cabinet was formed in December 1931 under Prime Minister Tsuyoshi Inukai of the Seiyu-kai. Inukai called former prime minister Takahashi Korekiyo out of retirement to take over the treasury portfolio. Takahashi's

**Figure 2. Yields on Sterling-Denominated JGBs and British Government Gilts**

Note: Sterling-denominated 4-percent JGBs were issued in 1899 with a redemption date of 1953.

Sources: Sidney Homer and Richard Sylla, *A History of Interest Rates*, Rutgers University Press, 1988; *JGB Statistics*, editions for 1906–8; *Ministry of Finance Statistical Yearbook*, Nos. 38–67.

tenure, which lasted until he was assassinated in 1936, was characterized by an aggressive fiscal and monetary policy regime.

In 1932 the government adopted a new policy combination as a short term expedient to (1) provide an easy means of financing rising government expenditures; (2) increase the money supply following its shrinkage under the gold standard; and (3) reduce the level of interest rates. In June the government issued Japan's first-ever deficit bonds and from November the BoJ began underwriting JGB issues. This policy combination was hailed as a stroke of genius that managed to kill three birds with one stone.

Basically, the BoJ underwrote JGBs at low rates of interest and the funds raised were used to finance government expenditures. Since the net effect was monetary easing, the BoJ was able to sell the bonds, realizing both of the government's goals—a massive issuance of JGBs and low interest rates.

To ensure that this system worked smoothly and to allow the BoJ to issue bank notes without being hampered by the level of gold reserves, the government shifted to a managed currency system by amending the statutes governing note issuance by the BoJ. In addition, to be able to maintain the low interest-rate regime within Japan, Takahashi acted to prevent capital outflows. The capital controls imposed in July 1932 banned investment in foreign securities, and the Foreign Exchange Control Law of March 1933 gave the authorities complete control over the currency and the power to stop capital from entering or leaving Japan.

These policies produced results quickly. Fiscal expenditures recorded double-digit annual growth rates

between April 1932 and March 1935. The outstanding JGB balance increased from ¥6 billion at the end of March 1932 to ¥10.6 billion five years later. The money supply steadily grew at an annual rate of 5 percent to 10 percent during this period.

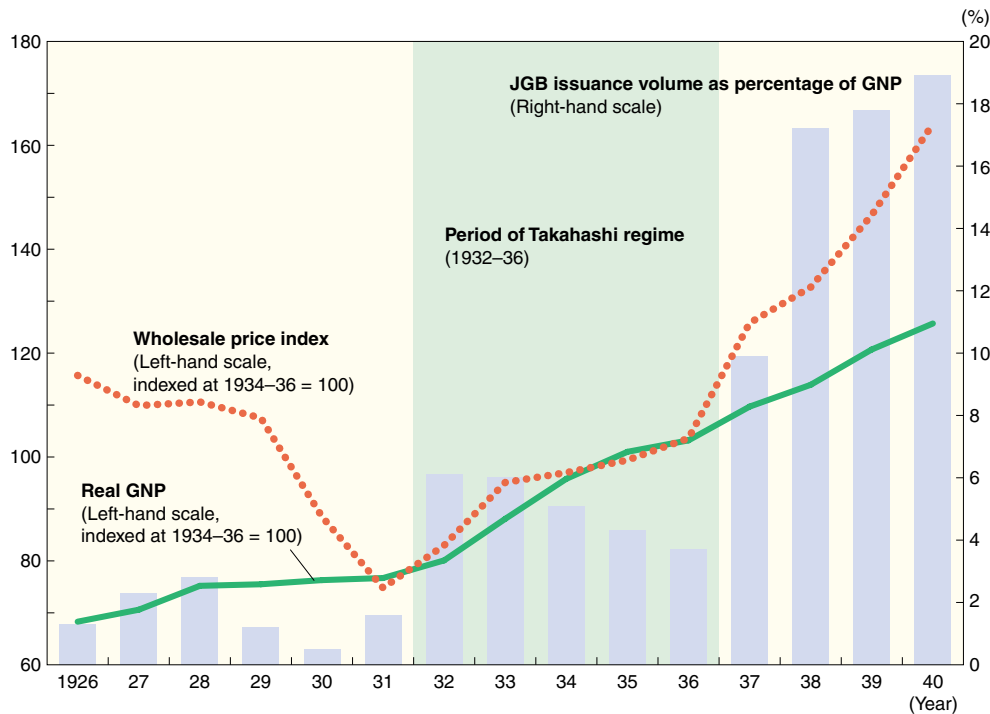
The economy also recovered. Buoyed by a surge in exports, industrial production recorded an average annual growth of over 10 percent for the period 1932–36 and wholesale prices rose by an average of 6.7 percent per year. The improvement in the economy was in part due to the policies of previous administrations. The Banking Law of 1927 precipitated the consolidation of banks and the austerity measures promoted corporate restructuring and accelerated the write-off of bad debts.

## 2 A Temporary Solution Becomes an Entrenched Policy

By 1935, the government faced a policy crossroads: should it continue deficit financing? Takahashi viewed the BoJ underwriting of JGB issues as a temporary expedient and pushed for reducing JGB issues. The issuance of JGBs as a proportion of GNP actually peaked in 1932 and declined steadily thereafter until 1936 (Figure 3). Partly as a result of strong economic growth, the resale of JGBs into the market started to decline from mid-1935.

In an interview published in the *Tokyo Asahi Shimbun* on July 26, 1935, Takahashi argued that the time had come to reduce JGB issuance. He compiled the next year's national budget on the basis of "reducing government borrowing by the amount of the increase in

Figure 3. Pre-WWII JGB Issuance



Note: GNP = Gross National Product.

Sources: *Principal Japanese Economic Statistics*, Bank of Japan; Kazushi Okawa et al., *Long-Term Economic Statistics & National Income*, Toyo Keizai Inc., 1974.

current national income.” This was a clear attempt to restrict the expansion in military spending.

Naturally, Takahashi’s desire to reduce the debt burden was strongly opposed by the military, which was on its way to an invasion of the Asian mainland. Takahashi was assassinated by disaffected army officers during the military coup of February 26, 1936. With his death the issuance of JGBs underwritten by BoJ became entrenched as government policy until the end of World War II.

Takahashi’s successors at the Finance Ministry (Baba and Yuki) continued BoJ underwriting to fund ongoing increases in JGB issuance and the government was forced to maintain its policies to keep interest rates low despite an economic recovery. They resisted any move to tighten the monetary regime even when inflationary expectations emerged and JGBs started to crowd out private capital.

In 1937 the BoJ’s JGB underwriting scheme became a formal, legally sanctioned system. The Temporary Fund Adjustment Act was passed to squeeze private-sector demand for capital in order to allow for absorption of the huge issues of JGBs required to fund the war with China. Fiscal discipline loosened dramatically and military expenditure rose inexorably.

From 1937 to 1940 the Japanese government issued JGBs worth 10 percent to 20 percent of GNP. Every money supply indicator flashed red, pointing inevitably towards high inflation. The BoJ’s policy of JGB underwriting had transmogrified from a temporary expedient

into an unchecked means of issuing vast quantities of government bonds to fund unchecked spending.

### 3 Internationally Isolated JGB Market

During Takahashi’s tenure, the government implemented other measures besides BoJ underwriting of JGB issues to isolate the JGB market from foreign financial markets so it could proceed to issue huge volumes of bonds at home. The Inukai cabinet’s first acts were to reintroduce the ban on gold exports and to suspend the convertibility of bank bills with gold. These moves officially sanctioned yen devaluation, and within a year of the reintroduction of the ban on gold exports the yen had fallen by approximately 60 percent to around ¥100/\$20. The official discount rate was lowered from 5.84 percent (equivalent to a daily interest of 1.6 *sen*, or ¥0.016) in March 1932 to 4.38 percent (a daily interest of 1.2 *sen*) in August 1932. The government also raised the ceiling on BoJ currency issuance by a significant margin in June 1932.

The yen continued to depreciate as monetary policy became increasingly easy. Legislation passed in July 1932 that limited purchases of foreign securities, overseas real estate, and other non-Japanese assets was specifically intended to prevent currency devaluation from stimulating outflows of domestic capital, which would obstruct further declines in domestic interest rates.

In addition, the government implemented measures to ensure that the domestic financial environment could

soak up colossal quantities of government bonds. In April 1932, the BoJ stopped charging interest-rate premiums on JGB collateral loans of less than 30 days' duration. The premium had been calculated at the rate of one *rin* (¥0.001) per day (or 0.365% annualized) above the official discount rate (which applied to commercial bills and promissory notes). Applying the same rate to all loans irrespective of size was a way of limiting the interest-rate risk associated with owning JGBs and protecting commercial banks from price fluctuations in their government bond portfolios.

Next, a law promulgated in July 1932 set new rules on the valuation of JGBs, exempting them from the provisions of the Commercial Code that required booking financial assets at current value. Instead, JGBs could be listed at book price equivalents to standard issuance prices stipulated by the Minister of Finance. This saved financial institutions from having to post losses on their JGB portfolios, even when the market value fell.

The moves to promote the take-up of JGBs succeeded in holding down interest rates on government bonds. At the start of the Takahashi regime in December 1931, the price of 5-percent A-series public bonds with a face value of ¥100 (a benchmark JGB issue) stood at ¥86.15. (The price had fallen from a high of ¥98.35 in July 1931 because of the outflow of capital outflow in anticipation of the re-imposition of the ban on gold exports, the increased issuance of JGBs, and reduced injections into the consolidation fund for JGB redemption.) After the reductions in the official discount rate and the measures to promote JGB take-up introduced during 1932, the benchmark issue regained the ¥90 level and peaked at ¥99.20 in November 1932.

At the same time the BoJ started underwriting JGBs in November 1932, the coupon on fresh JGB issues was lowered from 5 percent to 4.5 percent. The lower interest rates on JGBs produced a virtuous cycle for the government, helping to reduce interest rates on savings, which in turn helped to push JGB rates down even further. In August 1933, when the price of 4.5-percent JGBs rose above ¥100, the coupon on new JGB issues was promptly lowered to 4 percent.

#### 4 BoJ's Collateral Lending Program for JGBs

The domestic market continued to absorb JGB issues steadily until 1935, when the first signs of a change in the established pattern emerged. The BoJ had always been able to resell in the commercial market close to 100 percent of the JGBs it underwrote, but in 1935 the resale ratio suddenly dropped to 77.2 percent. According to BoJ historical archives (100 Years of Bank of Japan History, Vol. 4, Bank of Japan Centennial History Editorial Committee, 1984) the resale ratio fell to 58.0 percent in the later half of 1935 and dropped to 43.9 percent in the first six months of 1936.

By 1935 the economy was well above its 1932 bottom and expanding at a brisk pace, boosted by higher military spending and farming subsidies, monetary relaxation, and an export boom sparked by the depreciation of the yen. Bank lending began growing again, and this gradually began to cool the demand for JGBs.

In late 1935, with the banking sector increasingly keen to dispose of its JGB holdings, the BoJ decided to expand a scheme that allowed certain banks to procure cheap short-term capital by borrowing from the BoJ against JGBs. In December the BoJ allowed all banks to participate in a JGB purchase scheme with buy-back clauses on the bonds.

Despite the cooling demand for JGBs, the government faced rising fiscal pressure. After the 1936 coup d'état and Takahashi's demise, government expenditures rose inexorably, fueled by the ongoing colonization of Manchuria, programs to boost national defense, higher subsidies to support local farming, fishing and mining communities, and a major effort at tax reform.

The BoJ was pressed to undertake more measures to keep interest rates low and to ensure the continued absorption of JGBs. In April 1936, it lowered the official discount rate again (to a daily rate of 9 *rin*) and commercial banks subsequently lowered their interest rates on deposits.

In May, the government conducted a JGB rate-swap, exchanging old interest-bearing 5-percent bonds for new JGBs with a 3.5-percent coupon. The market's reaction to a BoJ issue in March explains how this refinancing was engineered. The 4-percent bonds the BoJ issued in March 1936 carried a price (¥99.25) that was above the discount issue price that had often been used in the past (¥98.5). Moreover they had a maturity of only 20 years, meaning the redemption period was 5–7 years shorter than in previous issues. The market interpreted these changes as a signal that a bond refinancing at a lower interest rate was imminent. The resulting rise in JGB prices helped the BoJ realize more from the sale of these 4-percent JGBs. In this environment, the new 3.5-percent coupon JGBs were issued in May at a yield of 3.707 percent (a 10.1 *rin* daily rate).

Finally, on July 15, 1937—immediately following the outbreak of war with China—the BoJ reset the interest rate on the JGB collateral lending program, which had been set at a daily rate of 1 *rin* above the official discount rate. The BoJ now made the rate on the lending program the same as the discount rate of 3.29 percent (a daily rate of 9 *rin*). Now, rather than selling JGBs to raise funds, banks could borrow from the BoJ against their JGB holdings and still be assured of a minimum daily yield spread of 1 *rin*. By effectively eliminating the incentive for banks to dispose of their JGB portfolios, the BoJ's move stabilized the market interest rates on JGBs. After this, it was able to maintain a consistently high market resale ratio for its JGB issuance.

The BoJ's elimination of the interest rate premium on the collateral loan program successfully addressed the immediate JGB take-up problem. At the same time, though, it created the conditions for a new problem to emerge. The subsequent significant expansion in the JGB collateral lending scheme would sow the structural seeds for the acceleration of inflation in the future.

## 5 Fiscal Discipline Underpins Sustained Foreign Debt Issuance

At the time of the Russo-Japanese War (1904–05), Japan was a debtor nation, depending heavily on the issuance of foreign debt as policies to beef up the military and promote colonization swelled public spending. Spending on domestic infrastructure such as railroads and telephone networks also consumed large amounts of capital.

Despite arguably winning the war militarily, Japan did not gain any financial compensation in the ensuing peace treaty, and the enormous outstanding foreign debt it ran up to finance the war combined with a persistent trade deficit to weaken its sovereign credit standing. The government recognized that maintaining both foreign reserves and the creditworthiness of government bonds was vital to its continued ability to raise capital in foreign markets. Consequently, it established a debt consolidation fund in 1906 to ensure the prompt repayment of foreign bonds. It also began to impose fiscal austerity measures, starting with the budget of 1908–09.

Apparently foreign investors did not see these moves as sufficient, because foreign markets still priced Japanese debt below that of recently defeated Russia.<sup>3</sup> The low bond prices even prompted the government to delay enacting the 1908 austerity budget. After the formation of a new cabinet in July 1908, the government set JGB redemptions at a guaranteed minimum of ¥50 million (fixed provision) per year. These new policies worked to restore the credit standing of Japanese government debt. Between 1911 and 1916, Japan reduced the level of government bonds outstanding (see Figure 5) and achieved the requisite fiscal discipline to continue raising capital in foreign markets.

While it was necessary for the Japanese government to show fiscal discipline to continue raising capital in foreign markets, foreign pressure in the form of the risk premium, in turn, might have prompted the government to keep public finances on a sustainable footing. Foreign investors at the time were especially prone to demand a risk premium on JGBs if foreign reserves became depleted, if the fiscal deficit widened, or if there was any increase in international tension. For example, sterling-denominated JGBs issued in 1899 (with a coupon of 4 percent and a redemption date of 1953) were trading at an average annual yield of 6.33 percent in 1904. When the war with Russia broke out, the spread between

the yield on these JGBs and 3-percent Consul Gilts issued by the British Treasury widened to nearly 3.5 percent. The spread narrowed after the establishment of the debt consolidation fund for accelerated redemption of JGBs and other developments in Japan.

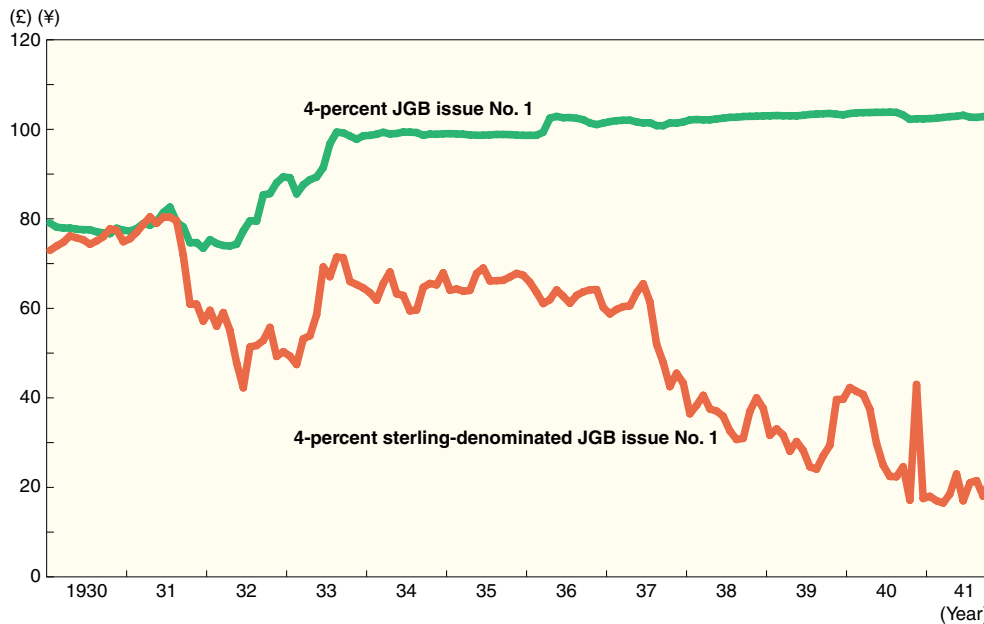
The widening of the yield spread between sterling-denominated JGBs and gilts in 1920 and 1921 is commonly attributed to moves to increase military spending and to stop making provisions for the JGB consolidation fund under the constitutionalist-leaning Seiyu-kai cabinet formed in July 1920. The spread between sterling-denominated JGBs and British gilts started to narrow again after the Kenseito (Constitutional Government Party) regained power in June 1922 and restored payments into the JGB consolidation fund. However, yield spreads widened anew following the earthquake that flattened Tokyo and Yokohama on September 1, 1923.

## 6 Insulation of Domestic Financial Markets Results in Slack Fiscal Discipline

With these occasional exceptions, the spread between sterling-denominated JGBs and gilts remained in the 2-percent to 3-percent range throughout the early decades of the 20th century—until the Manchurian Incident of September 1931 and the appointment of Takahashi as finance minister two months later. After Japan abandoned the gold standard, instituted capital controls, and prohibited domestic investment in overseas securities, the risk premium demanded by foreign investors on JGBs soared. Political risks multiplied considerably with the beginning of hostilities in China in 1937, and average annual yields on sterling-denominated JGBs shot up from 12.2 percent in 1937, to 22.4 percent in 1938, and to 28.67 percent in 1939.<sup>4</sup>

Figure 4 plots the yield on this sterling-denominated JGB issue against the yield on a domestic JGB issue with the same coupon. The two yields barely differed prior to 1931. This is probably because, while Japan was on the gold standard, international investors were able to arbitrage between domestic and foreign interest rates through international capital transfers, based on their confidence in Japan's stated policy of maintaining the value of the yen. While exports of gold remained banned (1917–29), this feat could be achieved irrespective of fluctuations in the exchange rate between the yen and the pound.

Huge disparities between the prices of the two bonds started to open up after September 1931. For one thing, international tensions began to rise when the Japanese army made sudden moves to annex Manchuria that month. In addition, the capital and foreign exchange controls introduced by Japan in 1932 and 1933 severely disrupted the links between Japanese and international financial markets. They effectively ended the possibility of price arbitrage between these financial instruments by either Japanese or overseas investors.

**Figure 4. Price Comparison of Sterling-Denominated and Local-Currency 4-percent JGBs**

Note: The 4-percent No. 1 local-currency and sterling-denominated JGB issues had respective issue and redemption dates of 1910/1969 and 1899/1953; the graph plots average monthly prices for both issues.

Sources: *JGB Statistics*, editions for 1906–8; *Ministry of Finance Statistical Yearbook*, Nos. 38–66.

As shown in Figure 4, the price of the sterling-denominated JGB issue No. 1, which had a face value of £100, was slightly above £80 around April 1931. The price fell to around £60 after the Manchurian Incident in September 1931 and then plunged further, to a low of £54, when the embargo on gold was re-imposed in December 1931. The price fell as far as £37 at one point in June 1932. It later regained the £60 level in June 1933 and it remained relatively stable until the middle of 1937. After Japan invaded China in July 1937, the price fell sharply to £48, and then leveled off in the £30–39 range. When WWII broke out in September 1939, the price touched lows of around £20. In other words, this JGB issue fell to the status of a junk bond in foreign markets.

The price of the local-currency denominated JGB issue No. 1 with a coupon of 4 percent, traced quite a different course. (The bond was issued in 1910 and had a redemption date of 1969.) The price started to recover after the Takahashi regime began to take effect. Average monthly prices for the issue had already risen to the ¥99 level by August 1933. From April 1936, the issue actually traded above face value. The government maintained the domestic value of the bond by a combination of the policies that we have discussed: underwriting of JGB issues by the BoJ; supplying liquidity to banks that held large JGB portfolios (by relaxing the high interest rates in the JGB collateral lending program); and eliminating the price-related risk (by implementing the system of officially designated book values for JGBs).

As this example illustrates, the prices of JGBs remained quite stable in the Japanese market, which was com-

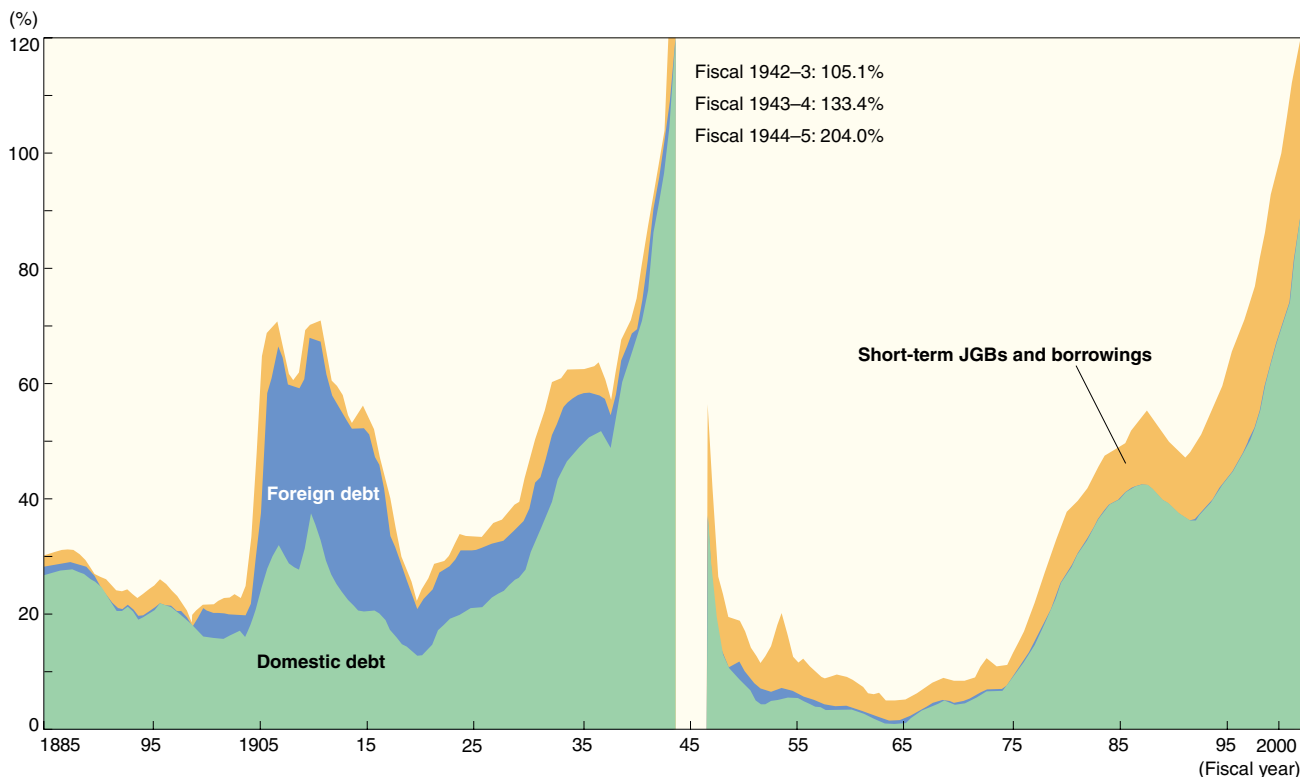
pletely insulated from overseas markets and strictly controlled by the government. The warning signals that were being sent by foreign markets were completely ignored. Unlike the situation at the beginning of the 20th century following the Russo-Japanese War, there was no incentive for the Japanese government to exert fiscal discipline. The loss of fiscal restraint allowed the government to raise whatever capital it required to fund the war effort. This collapse in fiscal discipline became an underlying factor in the escalation of the war and a prime cause of the post-war bout of hyperinflation.

### III JGB Market Discipline Amid Near-Zero Interest Rates

#### 1 An Astonishing Level of Outstanding Debt

Outstanding government debt today constitutes a larger proportion of Japan's GDP than it did during the Takahashi regime of the 1930s. At the end of March 2002, the aggregate value of outstanding JGBs plus special-account borrowings stood at ¥607 trillion, or over 121 percent of GDP. Astonishingly, as shown in Figure 5, this proportion is even higher than it was at the end of December 1941 after the attack on Pearl Harbor (93%) or at the end of 1942 after the Battle of Midway (105%). It is even approaching the 133 percent level reached at the end of 1943 when Japan introduced the conscription of university students in the war effort.

**Figure 5. Japanese National Debt as a Proportion of GNP**



Note: From fiscal 1965 onwards, the ratio to GDP (Gross Domestic Product) is used.  
 Sources: *Principal Japanese Economic Statistics*, Bank of Japan; *Economic Statistical Yearbook*, Bank of Japan; *JGB Statistical Yearbook*, Ministry of Finance.

Moreover, outstanding debt rose steeply in recent years (Figure 5). The debt-to-GDP ratio soared from 47 percent at the end of 1991 to more than 120 percent in the ensuing decade. By way of comparison, in the ten years after 1932 (when the BoJ began underwriting JGB issues) the debt-to-GNP ratio rose from 60 percent to 105 percent. In the next two years the ratio nearly doubled again, reaching 204 percent at the end of 1944. Thus, the current rate of growth in debt accumulation outpaces even that during the Takahashi regime and all but the last few years of the Pacific War.

The recent growth in outstanding JGBs is also quite remarkable in comparison with the expansion of federal debt that occurred in the United States between the adoption of the New Deal and the end of WWII. The US federal debt burden stood at 34 percent of GDP in 1932 shortly before institution of the New Deal and nine years later, in 1941 when America declared war on Japan, the ratio had risen to only about 40 percent. Then, as the United States was fighting wars in both Europe and the Pacific, it rose more sharply, to 76 percent in 1943 and to 117 percent in 1945.

Thus, not only is the build-up of Japanese government debt since the 1990s greater than during the archetypal Keynesian expansion of the Takahashi regime, but also it exceeds the pace of debt accumulation in America during the New Deal period. In the end, Japan’s massive expansion of public works programs in the 1990s

accompanied by huge pump-priming packages coupled with substantial tax cuts in repeated attempts to revive the economy produced increases in debt issuance on a par with those in the United States and Japan before and during WWII.

Some observers attribute the persistent stagnation of the Japanese economy since the beginning of the 1990s to a failure to adopt an effective, workable macroeconomic policy, which has left the Japanese economy paralyzed. Others accuse policymakers of an ineffective stop-and-go approach in a futile attempt to stimulate economy. In fact, both these criticisms fundamentally miss the point, which is that Japan took very aggressive Keynesian policies during the 1990s.

Furthermore, the situation is set to worsen further. With advanced tax reductions being discussed for fiscal year 2003–04 and the need to increase social security and welfare spending to cope with a rapidly aging population, Japan’s net public debt burden is heading toward levels that no major developed nation has yet experienced.

## 2 Quantitative Easing in a Zero Interest-Rate Environment

Even as Japan’s mountain of outstanding JGBs has grown higher and continues to expand, extremely low interest rates have helped to staunch any urgent debate

over the possible harmful effects of debt accumulation of this magnitude. At the start of the 21st century, long-term interest rates in Japan are much lower than at any time between 1932 and 1945. Indeed, they are singularly low by any historical standards either in Asia or the West.

Unlike the low interest rates of the pre-war Takahashi regime, the current low rates are not the result of policies to control bond prices. The financial market in Japan today is liberalized; capital flows are completely unrestricted inside and outside the country. Long-term interest rates are free to move as a result of arbitrage between currency and other financial markets in Japan and abroad. Therefore, according to the Fisher Equation (nominal interest rates equal real interest rates plus the expected rate of inflation), today's low nominal long-term interest rates must reflect a generally held view of extremely low economic growth in Japan over the long term, coupled with a high probability of extremely low inflation.

From the alternative viewpoint of the term-structure hypothesis of interest-rate pricing (which holds that long-term interest rates are built on expectations of future values of average short-term interest rates), extremely low long-term interest rates point to a general market expectation that short-term interest rates will remain close to zero for a long time to come.

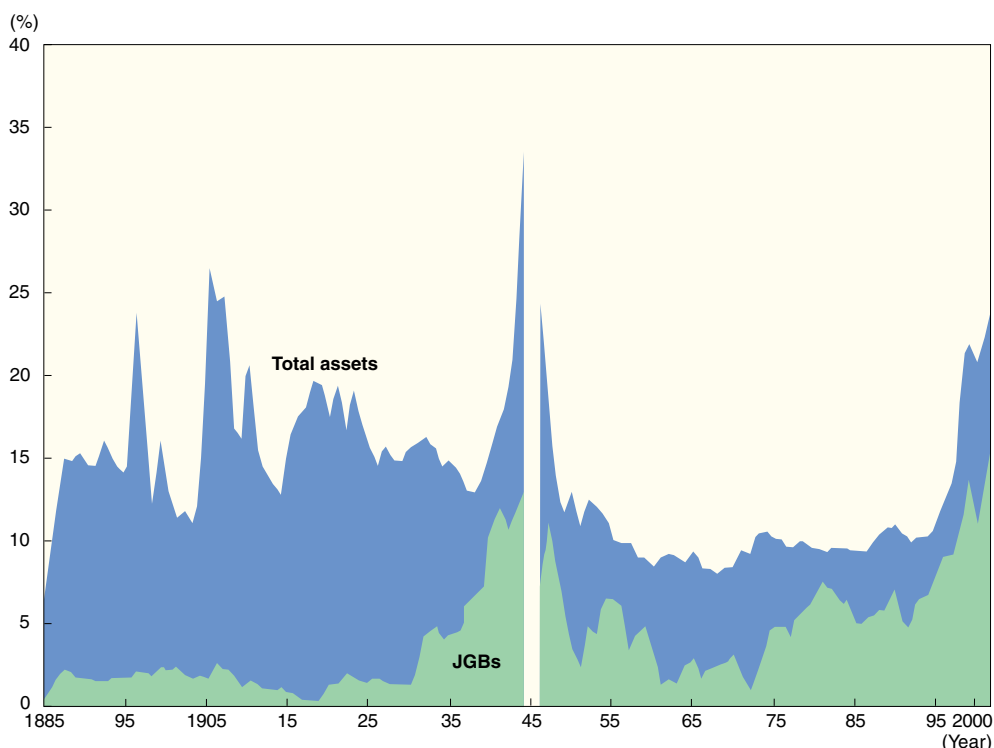
In March 2001 the BoJ initiated quantitative monetary relaxation policies with the stated intention of maintaining this policy stance until the core CPI (the rate of

annual growth in the national consumer price index, excluding fresh food items) is consistently above zero. The fact that the CPI has not yet shown the slightest sign of an upturn has led to forecasts that the BoJ will need to continue this quantitative relaxation policy for a considerable period. As a result, the near-zero rates on overnight call money that the policy has created have slowly started to affect interest rates on JGBs with longer maturities. This has caused the yield curve to flatten progressively.

The BoJ later began to raise the targeted level of current-account reserves from the original figure of ¥5 trillion as of March 2001. The first increase, which the BoJ cited as a move to boost bank liquidity, occurred in September 2001, shortly after the terrorist attacks in New York and Washington. Since then, further increases have been put into effect. Consequently, the level of reserves now exceeds ¥15 trillion, against about ¥4 trillion in required reserves. Combined with the large increase in the outstanding balance of BoJ bank bills, this has resulted in a sharp, sustained growth in the monetary base (which is the sum of current-account reserves and total cash liquidity).

For the BoJ, this policy means that both its assets and its liabilities are rising rapidly. Besides long-term and short-term JGBs, the BoJ is purchasing large quantities of notes and commercial paper. In the late 1990s, BoJ assets (which are equal to its liabilities) as a proportion of GDP climbed rapidly to the highest peacetime level since the BoJ was established (see Figure 6).

Figure 6. Ratio of Bank of Japan Assets to GDP



Sources: *Principal Japanese Economic Statistics*, Bank of Japan; *Financial & Economic Monthly Statistical Report*, Bank of Japan.

### 3 Suppressed Inflationary Expectations

This huge, ongoing expansion of the monetary base has not yet exerted any appreciable effect on the broadly defined money supply, the prices of goods or services, or the nominal GDP. The monetarists' claim that expansion of the monetary base leads to a rise in prices seems no longer to be warranted. The reason is that the velocity of money (GDP divided by the monetary base) has continued to fall since the second half of the 1990s, even as the monetary base has continued to expand.

One reason for the fall in velocity is that the demand for liquidity has risen with the advent of greater uncertainty about the health of the Japanese financial system. A series of events over the past few years—the collapse of several Japanese financial institutions in late 1997, the crisis precipitated by the rescue of Long-Term Capital Management in 1998, the millennium bug issue in 2000, and the terrorist attacks in New York and Washington in 2001—has contributed to the rapid growth in the demand for liquidity. This has caused the correlation between base money and economic activity to break down badly.

The second reason for diminished money circulation is the growth in non-performing loans, which has cancelled out the positive effects of financial deregulation. Despite having already written off bad debts in excess of ¥90 trillion, Japanese banks are still weighed down by huge quantities of non-performing loans. The write-offs have made significant dents in the banks' own capital, impairing their ability to improve their financial health to create fresh credit. The curtailment of this function has thus led to a credit squeeze. At the same time, excess indebtedness has had a detrimental effect on the risk tolerance of borrowers, depressing demand for additional loans. The upshot has been a reduction in both the velocity of money and the credit multiplier (i.e., the broadly defined money supply divided by base money).

An even more significant issue is that the mechanism by which lower interest rates stimulate economic activity has ceased to function in Japan. Normally, growth in the monetary base causes nominal interest rates to fall, which helps to stimulate economic activity. But once interest rates are stuck nominally at zero, this mechanism can no longer work. When interest rates are close to zero, the cost of holding cash is also virtually zero. As interest rates all but disappear in nominal terms, the elasticity of demand for money becomes practically infinite, and the rate of money circulation remains on a downward trend.

An additional problem is that because interest rates are low in absolute terms, banks have difficulty charging a rate of interest on loans that is high enough to cover delinquency losses when borrowers go bankrupt. This is also why the problem of non-performing loans

defies a solution that is based on injecting of public funds into the banking system.

For these reasons, the quantitative relaxation in a zero interest-rate environment is failing to generate any expectations of inflation. The prospects of an end to the quantitative relaxation program are literally receding into the distance. The money supply grows unceasingly, yet prices and interest rates refuse to budge upward. Under these circumstances, the banks, which have bought prodigious quantities of JGBs and are subjected to enormous interest risks, can only hope that interest rates remain low and stable well into the future.

As long-term interest rates have fallen to their current extremely low levels, the yield curve has become progressively flatter. Contrary to the assumption that projected rates of future inflation really are factored into long-term bond yields, it may be no exaggeration to assert that quantitative easing has had the opposite effect to what was intended: rather than creating inflationary expectations, it has suppressed them while helping to make deflationary expectations more deeply ingrained.

The low interest rates on JGBs thus help to obscure the enormous burden of the national debt on the economy. As noted earlier, the Takahashi regime helped keep JGB prices stable and ensured their smooth take-up by investors, but it also permitted large increases in spending, primarily on the military. Today, with interest rates on 10-year JGBs in the vicinity of 1 percent, the calls for tax cuts and higher public investment to stimulate the economy are loud and deep-rooted.

The market has been demanding a risk premium on JGBs for some time now. For example, interest rates on yen-denominated bonds due in 2010 issued by the Italian government are approximately 0.15 percent lower than local-currency JGBs with a similar coupon and maturity. Japan's historical experience provides an eloquent argument why the government cannot afford to continue to ignore the persistent warnings being sent by the market.

### 4 Three Options for Reducing the National Debt

The Japanese government will soon have to face the choice of which method to use to start chipping away at the colossal amount of outstanding JGBs. History would tell us that there are three ways to tackle the problem: (1) fiscal reconstruction; (2) default; and (3) inflation.

It is obvious, of course, that fiscal reconstruction is the soundest method of the three. The volume of outstanding JGBs was similarly huge in the aftermath of the Russo-Japanese War. The Katsura cabinet solved the problem by introducing a raft of economic austerity measures, including a halt to new JGB issues and the early redemption of outstanding JGBs. As a result, the

ratio of outstanding JGBs to GNP fell from 71 percent in 1910 to 23 percent in 1919.

The United States also worked hard to restore its fiscal health after WWII. Amid mixed price hikes and deflation, the US government focused its fiscal policies on reducing net public debt, in part through reserve ratio operations. As a result, outstanding US government bonds fell from 121 percent of GDP in 1946 to 80 percent in 1951. More recently, the Clinton Administration repeatedly raised taxes while cutting spending. Combined with the positive effects of a prolonged economic expansion, this helped to reduce outstanding federal bonds from 67 percent of GDP in 1993 to 57 percent in 2001.

The second option, default, covers a number of methods ranging from a cancellation of JGBs to imposing taxes on JGB holders. One historical example of a sovereign bond default in the form of a mandatory debt repayment moratorium comes from Italy under Mussolini. In 1926, to prevent a fall in the lira when the country returned to the gold standard, the Italian central bank decided not to underwrite new bond issuance, since that would have stoked inflation. Instead, it unilaterally postponed redemption for all existing government bonds held by investors until after 1937.

Another example of default comes from Japan while it was under the Allied occupation after WWII. In July 1946, the government abrogated all of its wartime guarantees. This large-scale foreclosure did not involve JGBs, but rather payments that had been promised during the war to private companies supplying the war effort and to a variety of other firms linked to the *zaibatsu* conglomerates. Today these payments would be termed off-balance-sheet liabilities. The amount involved was ¥96 billion, which was equal to approximately 70 percent of ¥140.8 billion worth of JGBs outstanding at the end of fiscal 1945.

Naturally, once a government chooses default as option, its credit standing plunges both at home and abroad, and the issuance of new bonds becomes practically impossible. Bondholders also suffer a huge loss, so default could precipitate a financial crisis if Japanese banks were left holding vast quantities of JGBs. Economic chaos would inevitably ensue. As long as the costs of default substantially exceed the costs of raising taxes and cutting spending, or while it remains possible to issue refinancing bonds, the chances of any developed nation choosing default remain extremely slim.

Yet, if a country continues to amass debt recklessly, there may come a point when the balance between the costs of default and the costs of fiscal reconstruction changes. If outstanding JGBs continue to pile up but the prospects of any attempt at fiscal reconstruction remain dim, the market may start to smell the possibility of default—even a partial default. At this point the market would begin to demand a substantial risk premium as compensation for the higher perceived risk.

The third option for debt reduction is inflation. In this case, the question of whether the government explicitly opts for this route is actually irrelevant. There are two historical examples where this route produced bouts of hyperinflation that far exceeded any general inflation forecasts of the time, but nevertheless resulted in remarkable falls in the real value of government debt. One example was Germany after WWI, which at the time faced huge demands for war reparations; the other was Japan after WWII.

## 5 Yearning for Inflation: A Fallacy of the Times

Of the three debt-reduction solutions, inflation would seem to be acceptable at first glance as a promising way of escaping from the enormous amounts of government debt. Inflation is undeniably an enticing option for a heavily indebted nation. No doubt it would also be an attractive escape route for all those over-indebted companies and banks saddled with non-performing loans. But, in fact, as Japan's experience with wartime debt accumulation followed by post-war inflation shows, it would be more accurate to portray this yearning for inflation as a vague angst that combines a sense of its own inevitability with one of impending despair.

So the question at the start of this new century is whether inflation is a realistic possibility in Japan if the BoJ underwrites new bond issues and then also purchases foreign fixed-income securities, real estate, or other assets, besides continuing to purchase JGBs in ever-larger quantities.

Technically, it is possible for the government to create inflation by adopting the methods used by Takahashi in the 1930s—in other words, by imposing capital controls to prevent the stock of national savings from flowing overseas while at the same time keeping interest rates low and allowing the BoJ to underwrite JGB issuance. This would effectively turn JGB ownership into a kind of enforced levy on the populace. Any attempt to impose such a regime in the post-Cold War period of mutual financial interdependence would be a grave fallacy.

In the period between the two world wars, when the Takahashi regime and the New Deal policies were implemented, the leading nations had erected strong protectionist barriers around their economies by means of high tariffs. John Maynard Keynes (1883–1946) penned his classic *General Theory of Employment, Interest and Money* during this period. International capital flows were controlled, and the world was divided into competing economic and trading blocs. Countries tended to place a higher priority on domestic economic equilibrium than on international cooperation.

By contrast, the global economy of the 21st century sees countries operating under conditions of strong mutual interdependence. Nations cannot simply erect barriers to close their financial markets off from the

rest of the world. Interest rates are liberalized and capital flows freely in pursuit of the best returns around the world. Global investors arbitrage numerous investment options in their home markets and abroad and across a range of maturities. They also hold vast quantities of foreign securities. International capital flows are also extremely large. Taking marketable securities alone, the annual flows inside and outside Japan are on a par with the country's GDP. For the United States, these flows are double the nation's GDP. In sum, the scale of financial transactions is unprecedented.<sup>5</sup>

In this world of free-flowing capital, if the BoJ were to undertake JGB underwriting on a large scale or to start purchasing vast quantities of JGBs, the market price of outstanding government bonds would begin to reflect expectations of inflation. At some stage this would inevitably push up interest rates on JGBs. The added liquidity from the BoJ's increased purchases of JGBs would not be able to hold down long-term interest rates for long. Sooner or later, inflation expectations would begin to be reflected in bond yields, in line with the Fisher Equation. Therefore, at some point nominal interest rates would start to rise and rising interest rates would then start to dampen economic activity, helping to prevent any escalation of inflation.

History demonstrates that a large build-up of outstanding government debt does not preordain a subsequent surge in inflation when this kind of market discipline is able to work to keep inflation in check. Inflation did erode substantial amounts of government debt in the period following the Takahashi regime in Japan and in post-WWI Germany. In contrast to Germany, however, inflation did not escalate in England or France after the war, although all three countries ended the war with similar levels of government debt outstanding. The difference was that England and France had economic policies that sought to protect international capital flows and maintain fiscal discipline, and these helped to ensure that inflation did not escalate.

## 6 The Limits of Inflation Targeting

Inflation targeting has been proposed as a way for Japan to escape the deflationary pressures unleashed since the end of the Cold War and in the 1990s, while quickly solving the non-performing loan problem. Rather than simply aiming to create inflation, proponents of inflation targeting advocate establishing precise targets for increases in the CPI coupled with monetary policy to achieve these targets. This approach differs from the quantitative relaxation policy that the BoJ initiated in March 2001 because, for example, it would make explicit when the CPI would turn positive.

Inflation targeting may or may not be feasible in practice. Nevertheless, it is certain that if such a policy did induce a rise in the inflation rate, it would also inevitably result in a concurrent rise in long-term inter-

est rates. Therefore, it is hard to see how the reduction in real interest rates that advocates of inflation targeting expect would occur. The chances for such a reduction or of a real boost in demand are slim.

Given Japan's current fiscal position—with a rapidly growing national debt balance of unprecedented magnitude and a budget deficit of doubtful sustainability—the market response to the BoJ's attempts to implement expansionary monetary policy would cause inflation targeting to backfire. The market would certainly view the BoJ's underwriting of JGB issues while substantially increasing its outright purchases of JGBs as an attempt to erode the public debt by inducing inflation. Investors in JGBs would demand a higher risk premium and consequently long-term interest rates would rise.

With an increase in long-term interest rates, the differential between interest rates in Japan and those in overseas markets would narrow. Consequently, the long-term upward pressure on the yen, which in theory reflects these interest-rate parities, would diminish. Foreign investors who bought JGBs at low interest rates in expectations of an appreciating yen would probably start unwinding their JGB investments. The ¥1,400 trillion in assets held by Japanese individuals would also be drawn increasingly toward overseas investments. Both these developments would push the yen even lower and contribute to further increases in interest rates.

Higher interest rates would tend to depress the levels of plant and equipment and housing investment. Banks with extensive JGB portfolios would end up sitting on massive unrealized losses, which would set off another cycle of capital inadequacy and further the credit crunch, followed by economic stagnation and contraction. In the end, the unintended deflationary consequences of the introduction of an inflation-targeting policy could paradoxically put Japan's economy in even worse shape. Thus, any attempt to eliminate the current JGB debt accumulation through inflation—an approach for which Keynes might have expressed a preference—would seem to have become a relic of economic history.

## 7 Is a Non-Ricardian Fiscal Policy Feasible?

Kazuo Ueda, a member of the BoJ's Monetary Policy Board, has proposed non-Ricardian fiscal policy initiatives as an alternative solution to get Japan out of the current predicament in which the "liquidity trap" is severely limiting the effectiveness of traditional monetary policies.<sup>6</sup>

A "non-Ricardian" fiscal policy would focus on government spending and taxes to create demand like Keynesian policy, but it would commit to no future tax increase. The name comes from the English economist David Ricardo (1772–1823) who advanced the hypothesis that the issuance of government bonds is simply a means to increase the tax burden on future generations.

Ricardo concluded that government debt would become equivalent to the future tax burden because the funds to pay down the debt would be sourced from the assets of the living, leaving fewer assets to bequeath to the next generation. Hence, a non-Ricardian policy is one that does not increase the tax burden on future generations.

According to the BoJ's Ueda: "To avoid a deflationary spiral, it would probably be effective if the government were to pursue a non-Ricardian fiscal policy—that is, an expansionary fiscal policy that simultaneously avoided any substantial increase in the outstanding debt balance without raising future taxes. Tax cuts combined with a commitment not to increase the future tax burden would help to stimulate consumption and thereby raise prices. This in turn would reduce the real value of the government's existing debt. The fiscal structure would thus be stabilized."<sup>7</sup>

The question is whether such a fiscal policy trick is feasible. One problem is that, with the outstanding debt balance already extremely high, higher fiscal spending combined with tax cuts would inevitably increase the budget deficit. A larger deficit, in turn, would generate the fear that various unpalatable outcomes, such as tax increases or a reduction in the social safety net (pensions, health care for the elderly, and so on) would be inevitable. Under such circumstances, tax cuts today could end up producing exactly the opposite effect to the one intended. Ueda acknowledged this possibility when he said: "I am unsure whether such an approach would work flawlessly, and my arguments should therefore not be construed as a recommendation to adopt a non-Ricardian fiscal policy."

## 8 Dangers of Non-Keynesian Effects

While a non-Ricardian-type fiscal policy is just beginning to be debated, policy-makers continue to make unrestrained calls for a looser monetary policy. In short, they call for the BoJ to underwrite more JGB issues—indeed, for any kind of policy that might help revive the economy and that includes issuing more government bonds. The economy now faces the potential danger that additional government spending will have non-Keynesian effects.

When outstanding debt levels are relatively low, aggressive fiscal policies designed to expand the economy can be expected to have their intended Keynesian effects. In these cases people perceive that fiscal reconstruction will happen far enough in the future that most of the present population will have died. The existing population therefore sees no reason to factor future tax increases into its behavior.

Once the outstanding debt balance is large, however, additional expansionary fiscal policy may lead to so-called non-Keynesian effects. With a large volume of government debt outstanding, the issuance of yet more debt is rather like stepping on the gas just as the car is

about to slam into a wall. Psychologically, even the most shortsighted individuals would be prone to panic when they learned that such a collision was imminent. In economic terms, this situation is equivalent to the realization that fiscal reconstruction might happen or become unavoidable within one's own lifetime.

In this way, large-scale pump-priming measures to stimulate the economy when outstanding debt levels are extremely high will generate doubts about the sustainability of the level of government debt. Consumers will finally recognize that the day of reckoning is near and that they are the ones who will have to repay the interest and principal on that debt through higher taxes. They will not be able to transfer this tax burden to a future generation.

If the budget deficit continues to widen even as these expectations develop, consumer spending will end up being constrained as the current value of future disposable income falls. The continued build-up of debt under these conditions will damage the credit standing of the government, which will result in a higher JGB risk premium and a fall in the exchange rate. As this feeds through into higher interest rates, it will have a negative impact on private-sector investment and consumer spending. The net result—no economic expansion from additional government spending—is what is termed a non-Keynesian effect. Such phenomena occurred in Sweden in 1990–93 and in Italy in 1992–95.

Conditions are ripe for such an effect to occur in Japan as well. Since August 1992, the Japanese government has enacted no less than twelve extraordinary public spending packages, worth some ¥140 trillion in total, aimed at stimulating the economy. And since July 1991, monetary policy has become progressively looser, including reductions in interest rates. Yet the economy has not responded to these efforts and appears unable to return to a path of sustainable growth.

Companies and households have had to cope with major structural changes in industry brought by the end of the Cold War and more recently by the global IT revolution. It seems as if the Japanese government has unloaded its entire line of macroeconomic measures over the past decade in attempting to play for time to avoid the pain accompanying this transition.

This macroeconomic medicine has been prescribed mistakenly and repeatedly in large doses over a long period of time. As a result, JGBs now carry a higher risk-premium and the economy is slowly but surely approaching a critical point when playing for time is no longer an option. We can no longer expect stimulative fiscal measures will generate non-Ricardian effects.

Yet, repeatedly adopting a fiscally expansionary policy under these circumstances would simply add to a debt burden that is already unsustainable, thereby increasing the risk of higher interest rates. The credit standing of JGBs would fall, prompting capital flight. Interest rates would start to climb as people reach the conclusion

that there is no possibility that the yen will appreciate. Moreover, such a pattern of events could lead to calls for retaliatory action by those who believe that interest rates should not be on the rise. These voices might advocate stopping yen investors from acquiring US government bonds or other overseas assets, despite Japan's excess savings. Thus, a confluence of narrow-minded nationalism and demands for higher public spending could easily lead the country down the same road of Financial Fortress Japan that it took in the fateful pre-World War II period.

We must view the risk premium that now clearly exists on JGBs as a warning of the potential of realizing this worst-case scenario.

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- (1) Toshiki Tomita, "The Need for Redefining Japan's Government Debt Management Policy" *Knowledge Creation and Integration*, December 2001.
  - (2) Toshiki Tomita, *Who Pays the Burden of Government Debt?* Toyo Keizai Inc., 1999.
  - (3) Masanao Itoh et al. (eds.), *Financial Crisis and Reform*, Nihon Keizai Hyoron-sha, 2000.
  - (4) Maurice Obstfeld of U.C. Berkeley and Alan M. Taylor of U.C. Davis have argued in a recent paper that, prior to 1914, countries which adopted the gold standard that prevailed internationally at the time received a form of "seal of approval" on their government debt, which ensured that yield spreads between their government bonds and UK gilts were extremely narrow. This system broke down in the post-WWI years when the gold

standard was reconstituted, inasmuch the markets no longer accepted a public commitment to the new gold standard as sufficient evidence of sovereign creditworthiness. Accordingly, yield spreads over gilts typically exceeded the levels recorded in the pre-war years. This trend was particularly pronounced with government bonds issued by countries that were neither leading nations nor members of the British Commonwealth. Japan was classified in this group of peripheral nations, which also included Argentina, Mexico, Brazil, and Italy. Maurice Obstfeld and Alan M. Taylor, "Globalization and Capital Markets," NBER Working Paper 8846, February 2002.

- (5) Toshiki Tomita, *Research on Japanese Government Bonds*, Toyo Keizai Inc., 2001.
- (6) Kazuo Ueda, "Monetary Policy and the Liquidity Trap," speech at the Japan Society of Monetary Economics, September 29, 2001.
- (7) Non-Ricardian fiscal policies implemented when an economy is caught in a liquidity trap rest on the following two assumptions: (1) the government will not default; and (2) given this, the fiscal theory of price-setting holds (that is, inflation is not a product of monetary policy, but rather is dictated by fiscal policy, or the increase in the taxpayer liabilities of the government and central bank). This approach thus subscribes to the possibility that monetary policy cannot have any bearing on consumer prices.

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