# The Introduction of Strips in Japan

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Strips are zero-coupon bonds created by separating the principal and interest portions of coupon bonds—a process called "coupon stripping." Their introduction in Japan is the result of the Securities Settlement System Reform Law, enacted on 5 June 2002, and the first strips to be traded in Japan were based on the 0.9% No. 245 government bond (auctioned on 9 January 2003, issued on 30 January 2003 and due to be redeemed on 20 December 2012). This report looks at the introduction of strips in Japan and assesses their prospects.

## 1. The Introduction of Strips

Strips (or STRIPS) stands for "Separate Trading of Registered Interest and Principal of Securities," a process whereby the principal and interest portions of fixed-rate bonds are separated and traded as discrete zero-coupon bonds.

The first STRIPS program was initiated by the US Treasury in 1985, and since then similar programs have been initiated in a number of other industrialized countries, including France (in 1991), the United Kingdom and Germany (both in 1997). As a result, strips are now an integral part of the government bond markets of these countries.

The introduction of strips has meant that zero-coupon bonds with a range of maturities are now traded on secondary bond markets. As a result, investors with long-term liabilities (such as insurance companies and pension funds) now enjoy greater flexibility when investing in government bonds. (For example, they have more scope to tailor their investments to their own cash flow needs by investing in zero-coupon bonds, which are free of reinvestment risk.) In turn, this should attract more investors to the government bond market, thereby ensuring a better take-up of government bond issues and lower issue costs for the governments concerned.

Similarly, it has been pointed out that an increase in the number of zero-coupon bond issues will increase the number of directly observable spot interest rates, thereby improving the accuracy with which other financial products can be priced and the efficiency of the market.

While it would be possible for governments to try to anticipate investor demand by issuing zero-coupon bonds with a wide range of maturities by themselves, it would seem more sensible for them to issue coupon bonds and to leave it to the securities industry to judge investor needs and to adjust the supply of zero-coupon government bonds accordingly by means of coupon stripping.

## 2. Strips in Japan

In view of this, it was felt that there was a growing need for such instruments in Japan in order to cope with the large issuance of government bonds there, and discussions were held—mainly by the members of the Meeting on the Japanese Government Bond Market, which acts as a forum for market participants and experts (e.g., to discuss ways of improving the take-up of new issues).

The enactment on 5 June 2002 of the Securities Settlement System Reform Law,[1] which enabled corporate, government and municipal bonds to be dematerialized, also lifted the barrier to the introduction of strips in Japan. The Law's main provisions are as follows.

### 1) Eligibility

The Minister of Finance is responsible for deciding which government bonds are eligible for coupon stripping.[2] With the introduction of a new system of book-entry transfer on 27 January 2003, however, all new fixed-rate government bonds (whatever their maturity) will be eligible.[3] This means that, for example, 15-year government bonds (which pay a floating rather than a fixed rate of interest), inflation-indexed government bonds and all government bonds issued before the new system came into effect are not eligible.

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1 For further details of the new book-entry transfer system, see Akiko Nomura, "A Review of the Newly Enacted Securities Settlement System Reform Law," Capital Research Journal, Summer 2002.

2 Corporate Bond Settlement Law, Article 90.1.

3 Ministry of Finance Ordinance No. 66, Article 2.1-2.

### 2) Applying to strip coupons or reconstitute coupon bonds

As, for example, in the United States, eligible bonds may not only be stripped of their coupons: it is also possible to reconstitute bonds from principal strips and interest strips.[4] In either case, however, the following applies:

(1) Only institutions that have already bid successfully for new issues of government debt (i.e., members of the Meeting on the Japanese Government Bond Market) are allowed to apply to the settlement entity to either strip bonds of their coupons or reconstitute bonds from principal strips and interest strips (see Figure 1).[5]
(2) Coupons may be stripped only if all the coupons of a bond are stripped.
(3) Coupon stripping and the reconstitution of bonds from principal strips and interest strips are permitted only if the strips and reconstituted bonds are subsequently transferred.
(4) Principal strips and interest strips that are transferred must be in denominations of not less than ¥50,000, while principal strips and interest strips that are used to reconstitute coupon bonds must each be in denominations that are multiples of ¥50,000.
(5) Only government bonds that have not been owned by taxed investors between their most recent coupon payment date and the date of application (i.e., tax-exempt securities) are eligible for coupon stripping.

### 3) Keeping a record of principal strips and interest strips

The Corporate Bond Settlement Law defines principal strips as bonds which have not only been stripped of their coupons but whose name and identification number were also recorded in the book before they were stripped.[6] Interest strips, on the other hand, are merely required to be recorded as such. The name of the bond from which they were stripped does not have to be recorded—only their payment date. In other words, while principal strips retain the identity of the original coupon bond, interest strips do not. This means that, while only original principal strips may be used for the principal portion of a reconstituted bond, any interest strips may be used.

Finally, the fact that "under current Japanese tax law individual investors cannot be exempted from withholding tax on financial products"[7] means that they cannot invest in either principal strips or interest strips and that these may only be transferred to either the government or corporations.

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4 Corporate Bond Settlement Law, Article 94.
5 Corporate Bond Settlement Law, Articles 93.3 and 94.3, and Ministry of Finance Ordinance No. 66, Article 2, etc.
6 Corporate Bond Settlement Law, Article 91.3.
7 Minutes of the 18th Meeting on the Japanese Government Bond Market (held on 25 June 2002).

## 4) Tax system

One of the biggest obstacles to the introduction of strips in Japan was the tax system. Under the Japanese Income Tax Act before it was amended, the amount received when interest strips matured was treated as interest income, and interest strips could be subject to withholding tax, depending on the tax status of the holder of the matching principal strips.[8]

Following the enactment of the Securities Settlement System Reform Law, however, the Income Tax Act was amended and the amount received when interest strips mature was no longer treated as interest income as defined by Article 23 of the Act.

Strips are subject to corporate income tax as follows: 1) capital gains or losses on the transfer of strips are posted to the profit and loss account; 2) valuation gains or losses on strips held for trading purposes are posted to the profit and loss account each fiscal year on a lower-of-cost-or-market basis; 3) an equal proportion of the difference between the book value and the redemption value of strips held for other than trading purposes is posted to the profit and loss account each fiscal year until maturity on an amortization cost basis.[9]

**Figure 1 Selection Criteria for Membership of the Meeting on the Japanese Government Bond Market (since October 2002)**

Total issuance from April to September 2002

| | | |
|---|---|---|
| Super-long-term bonds | 30-yr bonds / 20-yr bonds / 15-yr floaters | At least 1% of amount successfully bid for |
| Long-term bonds | 10-yr bonds | At least 1% of amount successfully bid for |
| Medium-term bonds | 5-yr bonds / 2-yr bonds / 3-yr zeros | At least 1% of amount successfully bid for |
| Short-term bonds | Finance bills / Treasury bills | At least 0.5% of amount successfully bid for |

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Companies that meet all these conditions

Source: Ministry of Finance.

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8 Article 14 of the Income Tax Act stipulates that, in the case of a bearer bond, if anyone other than the owner of the principal receives an interest payment, the owner of the principal shall be deemed to have received that payment and shall be subject to the rules of the Act.

9 Corporation Tax Law Implementation Ordinance, Article 139.2.

### 5) Other provisions

With the introduction of the new system of book-entry transfer, all new government coupon bonds will now be amalgamated on the 20th of the month (including weekends and public holidays) in which they mature or in which their final interest payment is made, while coupon payments and redemptions of 30-year government bonds will now be made (as is already the case with 10-year and 20-year bonds) in months that are divisible by 3.

## 3. Prospects

The first strips to be traded in Japan were based on the No. 245 government bond auctioned on 9 January 2003. With the likelihood of solid demand from institutional investors with long-term liabilities (e.g., insurance companies) and interest in the fact that strips trade below par (at a time when low interest rates mean that most Japanese government bonds are trading above par), the introduction of strips to the Japanese government bond market is a significant event.

However, the fact that Japanese interest rates are at all-time lows and that there is a shortage of eligible bonds means that it is likely to be a while before an active strips market develops and investors begin to enjoy all the benefits of participating in such a market.

### 1) Low interest rates

The fact that interest rates are so low in Japan makes it more difficult for a strips market to develop. This is probably because the yield on strips produced from such bonds will also be low and less likely to attract investor interest than when interest rates (and therefore yields on strips) are high.

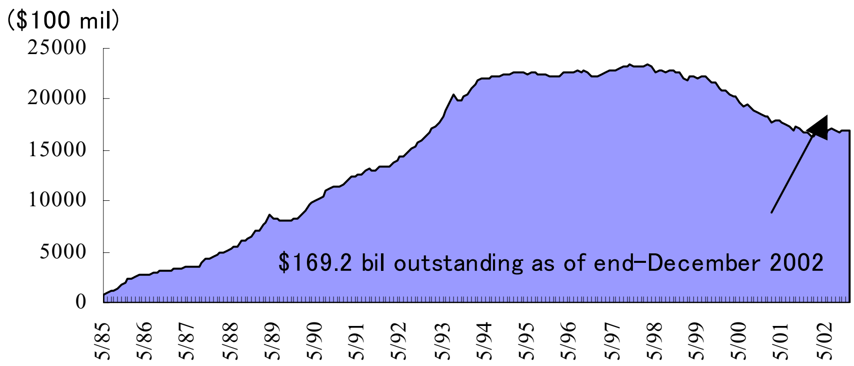
Also, it takes more coupon bonds to produce a given amount of interest strips when those coupons are low than when they are high. The only Japanese bonds that will be eligible for coupon stripping are government coupon bonds issued on or after 27 January 2003: existing bonds (including high-coupon issues) will not be eligible. This means that, if interest rates remain low, there is a risk that the only strippable bonds will be low-coupon issues that may not satisfy investor demand for strips.

Since the initiation of the first STRIPS program in the United States in 1985, the outstanding amount of strips continued to grow until the mid-1990s (see Figure 2).

However, the ratio of strips to strippable bonds has fluctuated, tending to be higher when interest rates are high and lower when they are low (see Figure 3).

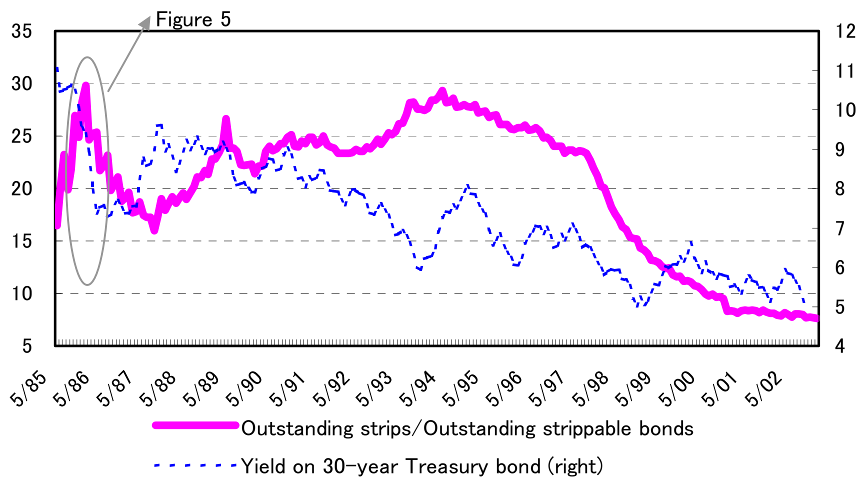
Given the current extremely low level of interest rates in Japan, it may therefore be overoptimistic to expect the strips market to take off.

**Figure 2 Strips Outstanding in the United States (principal only)**




Source: NRI, from US Treasury Department's "Monthly Statements of the Public Debt of the United States."

**Figure 3 Coupon Stripping and Long-Term Interest Rates in the United States**




Source: NRI, from US Treasury Department's "Monthly Statements of the Public Debt of the United States" and "Treasury Bulletin."

## 2) The problem of eligibility

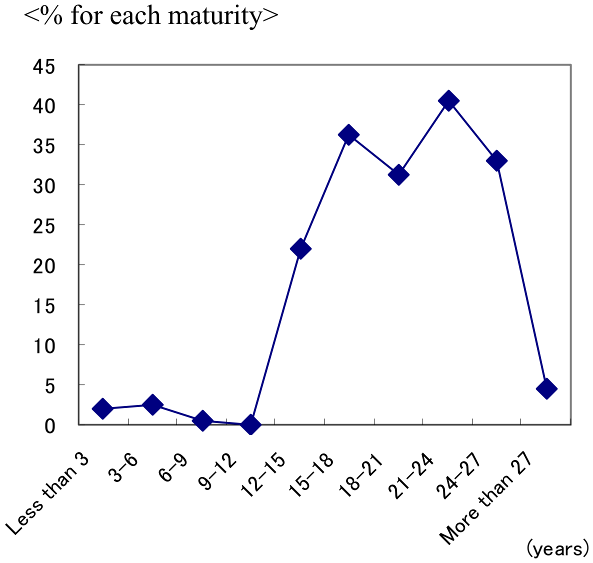
In the United States all Treasury notes and bonds (including inflation-indexed notes and bonds) are eligible for coupon stripping.

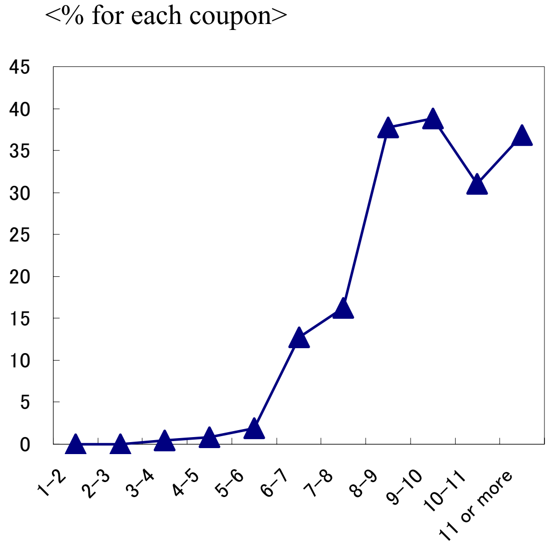
However, this does not mean that all Treasury notes and bonds are subject to coupon stripping to the same extent: some issues lend themselves to stripping more than others. Figure 4, which gives a snapshot of coupon stripping in the United States (from the point of view of both maturity and coupon) as of end-December 2002, indicates a higher proportion of coupon stripping the longer the maturity and the higher the coupon. Similarly, Figure 5 shows the extent to which six Treasury bonds that were eligible for stripping as of May 1985 (just after the initiation of the STRIPS program) were actually stripped of their coupons in the following 12 months to June 1986. It indicates that coupon stripping was commoner with the longer maturities.

It also suggests that, as in the United States, long-term (e.g., 20-year and 30-year) high-coupon bonds, which have a relatively large number of interest payments during their lives, are more likely to have their coupons stripped. The problem, however, is that such bonds are rarer than medium-term (e.g., 5-year or 10-year) bonds (see Figure 6).

Taken together with the fact that bonds issued before 27 January 2003 are not eligible for coupon stripping, this shortage (especially among super-long-term bonds) of strippable bonds may hamper the development of a Japanese strips market.

### Figure 4 Proportion of Coupon Stripping for Different Maturities and Coupons (US)




Source: NRI, from US Treasury Department's "Monthly Statements of the Public Debt of the United States."

### Figure 5 Coupon Stripping Following the Initiation of the STRIPS Program (US)

| Coupon | Redemption | 5/85 | 8/85 | 11/85 | 2/86 | 5/86 (%) |
|---|---|---|---|---|---|---|
| 11.625 | 1994/11/15 | 2.3 | 5.8 | 6.3 | 7.9 | 11.0 |
| 11.25 | 1995/2/15 | 5.5 | 7.3 | 11.8 | 14.9 | 15.1 |
| 11.25 | 1995/5/15 | 1.4 | 11.3 | 23.5 | 26.0 | 28.4 |
| 11.625 | 2004/11/15 | 33.9 | 51.5 | 61.5 | 69.3 | 70.0 |
| 11.75 | 2014/11/15 | 10.8 | 19.2 | 27.9 | 45.1 | 46.0 |
| 11.25 | 2015/2/15 | 29.7 | 36.6 | 54.9 | 64.2 | 64.2 |

Source: NRI, from US Treasury Department's "Monthly Statements of the Public Debt of the United States."

### Figure 6 Japanese Government Bond Issuance Planned for Fiscal 2003

(¥100 mil)

| | 30–yr | 20–yr | (15–yr) | 10–yr | 5–yr | (3–yr) | 2–yr | (FB・TB) | (Inflation–indexed bonds) |
|---|---|---|---|---|---|---|---|---|---|
| FY02 | 9,000 | 42,000 | 59,000 | 216,000 | 246,000 | 4,000 | 211,207 | 310,451 | — |
| FY03 | 16,000 | 48,000 | 55,000 | 228,000 | 228,000 | — | 209,600 | 341,709 | 1,000 |

Notes: 1) Maturities in parentheses are ineligible.
2) The data for fiscal 2002 are after the supplementary budget, while the data for fiscal 2003 are forecast.

Source: Ministry of Finance.

### 3) Issues to be resolved

The introduction of strips in Japan is likely to bring both considerable advantages (such as greater flexibility for investors) and certain disadvantages (such as fewer coupon bonds outstanding, as these are used for coupon stripping, and, as a result, poorer liquidity). This suggests that there is an urgent need to relax the criteria for eligibility—not only in order to help the strips market to develop, but also to ensure that the market in Japanese government coupon bonds continues to function properly. The issue of whether existing government coupon bonds should also be treated as eligible therefore deserves a fresh look.

Similarly, in view of the likely strength of demand for strips, consideration should perhaps be given not only to increasing the issuance of super-long-term bonds, which are in relatively short supply, but also to treating principal strips and interest strips with the same redemption date as originating from the same bond, thereby making it easier to reconstitute coupon bonds.