Stripping facilities

Mark Deacon examines the development of the gilt strips market.

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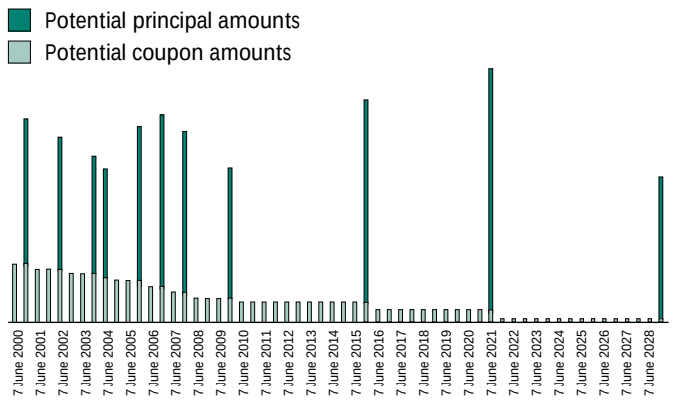
STRIPPING IS THE PROCESS of separating a coupon-bearing bond into its individual cashflows, which can then be separately held and traded in their own right as (zero-coupon) bonds. Official strip facilities have been available in the United States for some Treasury securities since 1985, and official strips markets have also been established in other countries such as Germany and Spain.

Although anyone can trade or hold strips, only a gilt-edged market-maker (GEMM), UK Debt Management Office (DMO), or the Bank of England can strip a strippable gilt. As with conventional gilts, GEMMs are obliged to make a market in strips. Gilt strips are registered securities and, as an obligation of the UK government, have the same credit risk as ordinary gilts.

By the end of December 1999 the number of strippable bonds was 11, totalling £116bn and representing over one-third of the total amount of gilts outstanding. The 11 strippable issues have aligned coupon payment dates on 7 June and 7 December. This means that investors in gilt strips have a choice of two dates each year on which to receive cashflows. Coupons from different strippable bonds that are paid on the same day are interchangeable (or 'fungible') when traded as strips, thereby enhancing the liquidity of the market. However, in response to market feedback, the Bank of England decided not to permit fungibility of coupon and principal strips. Figure 1 below illustrates the maximum potential size of each coupon and principal strip in December 1999.

Despite the large pool of bonds eligible for stripping, the market in gilt strips has grown slowly. By the end of 1999 just £2.8bn (or 2.4%) of strippable gilts were held in stripped form and weekly turnover in gilt strips averaged around £70m, compared with around £15,305m in non-strips. Factors that have contributed to this slow development have been the need for pension fund trustees to give the appropriate authority to fund managers to invest in strips, and the continuing inversion of the yield curve over most of 1998–99 making strips appear more expensive relative to conventional gilts. The turbulence in financial markets during 1998 also discouraged strips activity as investors sought the liquidity of the underlying gilt market. Retail demand for strips has been hampered by the necessary tax treatment, which stipulates that the securities are taxed each year on their capital gain or loss, even though no income payment has been made.

Figure 1 **Potential strip cashflows at end December 1999**



Features and uses of strips

As zero-coupon instruments, strips can be considered financial building blocks which can be used to create a variety of synthetic assets whose cashflows cannot be produced with a combination of conventional gilts, eg annuities or risk-free savings products for definite future needs (eg tuition fees).

Strips may be attractive to investors because of the lack of reinvestment risk, making them useful in helping to immunise a portfolio against interest rate risk. Other important attributes are that they typically have higher duration than coupon-bearing bonds and are also much more convex than similar maturity coupon bonds. These features mean that they allow active fund managers to take greater exposure to price movements and that in some circumstances strips may outperform coupon-bearing bonds of the same maturity.

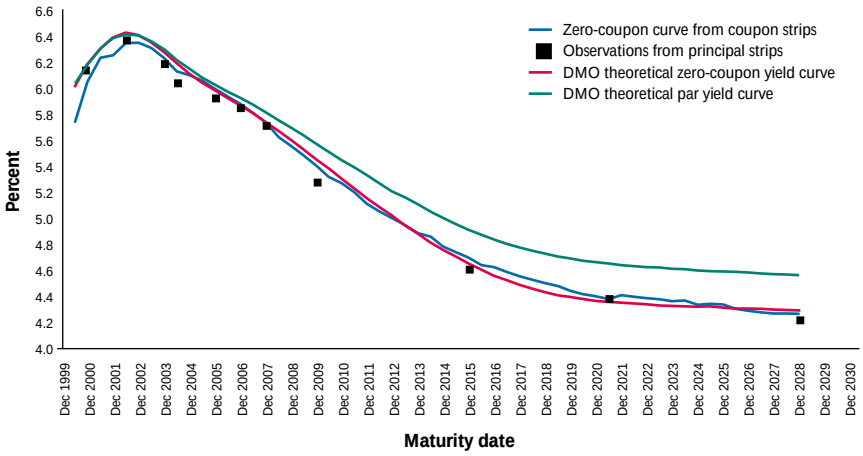
Assessing relative value between gilts and gilt strips

The introduction of the gilt strips market means that it is now possible to observe traded zero-coupon rates directly in the market rather than having to obtain theoretical zero-coupon rates from a yield curve model applied to conventional bond data. Figure 2 compares the theoretical zero-coupon curve at end 1999 with the corresponding zero-coupon curve obtained from coupon strip yields, plus the par yield curve from conventional bonds, as well as yields on principal strips. Principal strips typically trade at a price premium (lower yield) to the corresponding coupon strips because they are necessary for reconstitution and are generally larger so more liquid.

In the situation where the yield curve is upward sloping, the strips curve will always lie above the par yield curve for coupon-bearing gilts, as the value of a zero-coupon gilt is only determined by the discount rate applicable to the maturity payment, while the

coupon-bearing gilt valuation is affected by the regular coupon payments, each of which is discounted at a lower rate than the maturity payment (given the upward sloping curve). Conversely, in a downward sloping yield curve environment, the strips curve will always lie below the par yield curve. Superficially, this makes strips look less attractive than coupon gilts. However, when assessing whether strips genuinely provide value relative to gilts, it is not enough to simply compare the yield on a strip with that on a strippable coupon gilt of the same maturity. This takes no account of the differences in duration between the two instruments.

Figure 2 **UK yield curves at end December 1999**



Comparing the yields on coupon gilts with the yields on strips of the same duration provides a much better indication of relative value between the sectors. In a downward sloping yield curve environment, since the yield on a strip will be higher than that on a bond of the same duration, one trading strategy would be to sell the bond and buy the strip. Table 1 illustrates the yield pick-up achievable by executing a trade of this form using data from end December 1999. In each case, the strip purchased is that of closest duration to the bond sold. Clearly, by using a combination of strips rather than a single strip, it would be possible to get a precise duration match.

Another measure of relative value between bonds and strips is obtained by comparing the value of a coupon gilt with the combined value of all the strips that make up that bond. This will indicate whether the arbitrage condition between bonds and strips holds (ie that the price of the bond should be the sum of the prices of the bond's components) and hence will highlight if there are any pricing discrepancies between the sectors and, in particular, whether there is an incentive to strip or reconstitute the gilt. For example, data for end 1999 suggest that the price of 6% 2028 was about 60p lower than the total of the component strip prices (equivalent to about three basis points in yield terms). Ordinarily, you would expect this difference to be much smaller, suggesting that the size of the spread here probably reflects a reduction in liquidity and quality of price data over the Christmas vacation period rather than a genuine arbitrage opportunity.

Future developments

At present, all strippable gilts are fixed-coupon conventional bonds. One possible development of the gilt strips market that the DMO keeps under review would be to permit index-linked gilts to be stripped. With no reinvestment risk, index-linked strips would provide investors with an instrument that offers a guaranteed real return and so should be attractive to investors that desire real value certainty. Although many government bond markets have the market infrastructure in place that enables participants to strip conventional bonds, only Canada, New Zealand, and the US currently permit the stripping of indexed bonds. Despite the potential attractions of index-linked strips there has been little or no stripping in these markets. In the UK, index-linked gilts are not currently seen as potentially attractive for stripping purposes because of the diverse coupon dates. This would limit coupon strip fungibility, and would be likely to result in illiquid securities.

Liquidity in the conventional strip market is aided by the DMO's current policy of making all new issues of conventional gilts strippable. Additional measures introduced recently to bolster the size of benchmark gilts should also help to build up liquidity in strippable gilts and hence the strips market. These include the reintroduction of conversions in 1998 and the launch of the first switch auction in October 1999. Looking forward, with the likely reduction in the need to raise revenue through gilt sales, switch auctions are likely to become increasingly important in maintaining liquidity in the market. Another development that the DMO has discussed with market practitioners, and which it keeps under review, is the introduction of a second set of strip cashflow dates. This would increase investor choice regarding when they wish to receive cashflows but could detract somewhat from liquidity in coupons, since it would almost certainly lead to a reduction in the quantity of bonds issued with the original strip cashflow dates. ❑

Table 1

Sell			Buy			Yield
Bond	Mod durn	Yield	Strip	Mod durn	Yield	Pick-up (bps)
8% 2015	9.90	4.98	Dec 2009 principal	9.67	5.28	30
8% 2021	11.96	4.78	Jun 2012 coupon	12.12	5.05	27
6% 2028	15.03	4.59	Jun 2015 coupon	15.07	4.73	14