

GUEST COLUMN EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT RATCHET BONDS...

By **ANDREW KALOTAY***

The Tennessee Valley Authority's recently issued \$575 million 30-year 6¾% putable automatic rate-reset securities (PARRS) represent a revolutionary step in the structuring of bond instruments. For both borrowers and investors, PARRS capture virtually all the advantages of conventional callable bonds, while eliminating the well-recognized disadvantages.

Before jumping into details, here's a thumbnail on the pros and cons of conventional callable bonds. In order to compensate a lender for the issuer's right to refund a bond—should interest rates decline—a callable bond coupon is higher than that of a bullet bond. The particular increment depends on the shape of the yield curve and the volatility of interest rates. For example today, with one of flattest curves in memory and roughly 12% interest rate volatility, the increment on a 30-year agency bond callable at a premium after five years would be roughly 55 basis points; a par call would command 80 basis points.

If interest rates decline, the borrower will call and reissue the bonds, to reduce interest expense. Assuming that the refunding issue is itself callable, the process can repeat itself several times over the course of the 30 years.

But there are major disadvantages to callable bonds, not the least of which is the considerable managerial attention that they require. The drawbacks include:

- The timing decision, which entails a complex calculation of the interest rate saving for the issuer versus the forfeited after-tax option value associated with exercising the call.
- The considerable transaction costs, primarily in the reissuance.
- The premium over book value that non-utilities must recognize as a current expense (utilities are normally allowed to amortize the value over the life of the instrument). For example, a \$100 million issue called at 105 gives rise to a \$5 million hit to earnings. That's why some calls, which may appear to be slam dunks, sometimes go unexercised for several months or years.

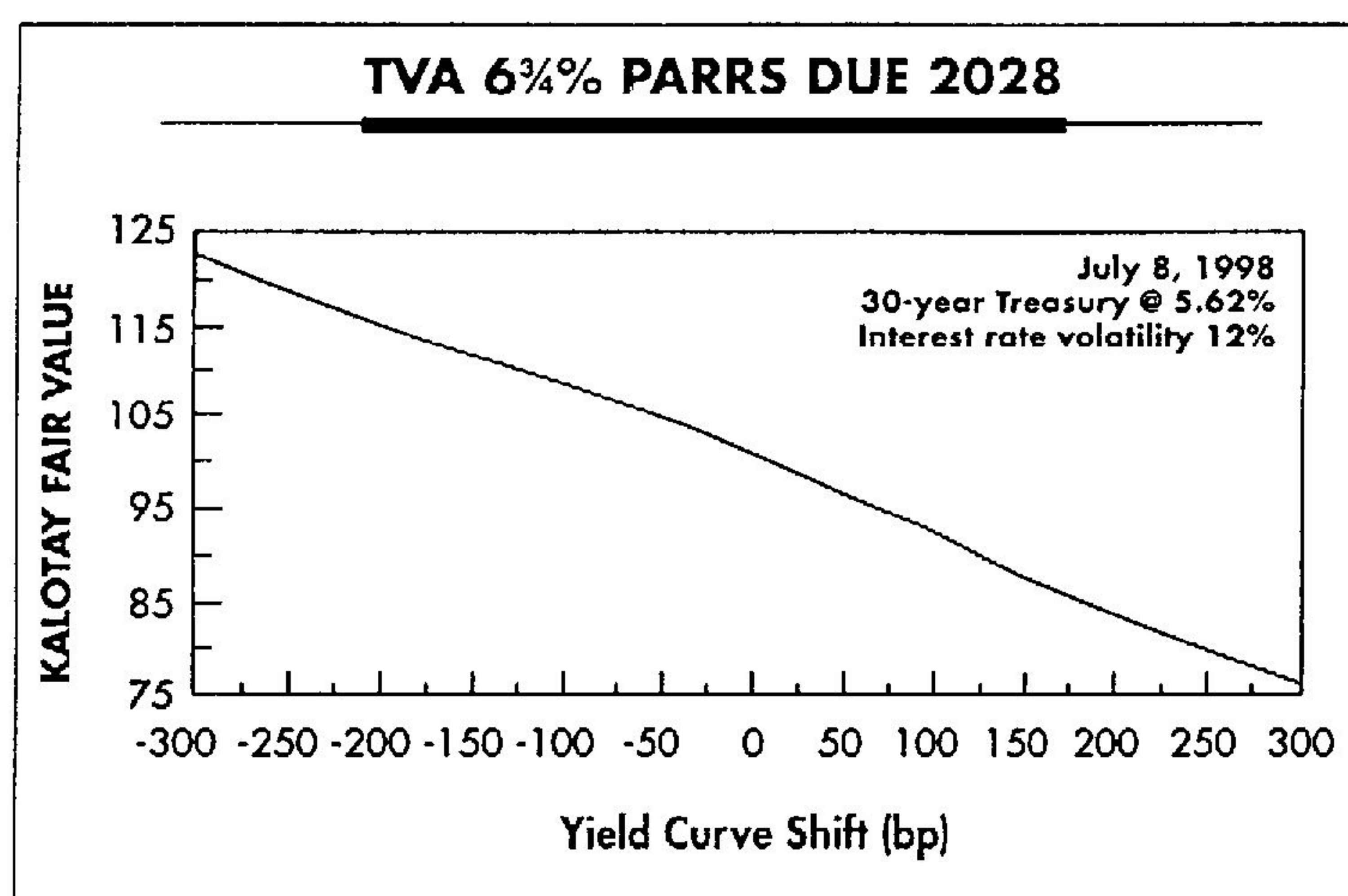
The TVA 6¾% bonds are designed to be surrogates for conventional callables, but without the disadvantages above. Beginning in year five, the 6¾% coupon may be reset annually.

The new coupon will be set to 94 basis points over the prevailing 30-year constant maturity Treasury yield, provided that the new coupon is lower than the current coupon. Otherwise the coupon remains unchanged. As a result, interest expense has the potential of declining if Treasury rates come down, but it will never increase. This approximates the cash flow pattern of successively calling and refunding bonds.

Investors should also prefer the TVA 6¾s to conventional long-term callable bonds. Upfront, they provide a healthy yield

premium to bullets—roughly 60 basis points. Of course, the coupon will be decreased automatically if interest rates have declined on the reset date, but no additional transaction costs will be incurred for 30 years. Also the 94 basis point spread will remain unchanged as the bond rolls down the curve, making the new coupon a competitive rate at the time of a reset.

The graph displays the price response of the TVA



bonds to parallel shifts of the Treasury yield curve. When rates rise, the TVA bonds behave like long-term bullets. When rates decline, they appreciate less than long-term bullets, but perform better than conventional 30-year non-call five bonds.

The TVA bonds also offer a contingent put-at-par feature, which can be exercised by the holders only when the coupon is lowered. But that happens only when rates are at a cyclical low. And in that case, the bonds will be selling at a premium to par, provided the TVA's credit spread relative to Treasuries remains unchanged. This contingent put feature provides investors with protection against deteriorating credit, but not against increasing interest rates, which is the norm for the put feature. While the contingent put was critical to the marketability of the TVA bonds, it is not an essential feature of ratchet bonds. The principal mission of ratchet bonds is to replace conventional callable bonds—thereby increasing marketing efficiency through reduced transaction costs and effective exercise of options.

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