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## With Estate Puts, Beauty Is in the Eye of the Beholder

Andrew Kalotay, PhD



Over the last several years, an increasing number of creditworthy corporations have expanded their investor base by tapping into the retail market to raise capital. The list of active retail issuers includes Fannie Mae, Freddie Mac, Caterpillar, United Parcel Service, Tennessee Valley Authority, IBM, GE Capital, General Mills, and Boeing Capital. The retail brokerage Edward Jones and Chicago-based Incapital dominate the distribution.

Retail bonds are tailored to individual investors in several ways. The bonds pay more frequently than do institutional offerings — monthly or quarterly rather than semiannually. In addition, they often have a bundled “estate put,” or “survivor’s option.”

### What Is an Estate Put?

An estate put is a private market variation on the flower bonds issued by the U.S. Treasury in decades past. This option gives the estate of a deceased holder the right to put the bonds back to the issuing corporation at face value. In a rising interest rate environment, where lower-yielding bonds trade below par, the idea of one’s heirs receiving 100 cents on the dollar can be attractive to older investors. There are some restrictions in terms of how many bonds the issuer will take back in a given year (say, one percent or two percent of the original issue amount), as well as a maximum per estate (e.g., US\$200,000).

The proliferation of retail issues offers the wealth manager a viable alternative to bond funds (mutual funds or ETFs), which are convenient but do not offer protection to the estate in terms of price risk. Bond funds are basically “Peter Pan” portfolios that never mature, and so their value at the time of an investor’s demise is hard to predict. The estate put in retail bonds reduces that uncertainty.

Retail bonds are callable and do mature, and thus investors face reinvestment risk. But they can “ladder” their investments by buying several maturities. If any part of their holdings is called or matures in a low-rate environment, the remaining investments continue to pay an above-market yield. This idea is not new, of course, but the current volume of retail issues makes it more feasible.

### How to Value an Estate Put?

The interesting question is how an investor should value a bond with an estate put, which also has a conventional call option. Obviously, both interest rate risk and mortality come into play. On the one hand, if rates decline, the bond will be called by the issuer. On the other hand, if rates rise and the market price of the bond declines *below par*, the estate put can have significant worth to investors who are advanced in years or in frail health.

Valuing a bond with a conventional call option is well established; you can use Bloomberg’s OAS1 page, for instance. But the presence of an estate put, which is a *contingent* option, considerably increases the complexity because its value depends on the investor’s mortality distribution *and* on interest rates.<sup>1</sup> A shorter life expectancy increases the chance that the put option can be exercised and thus enhances its value. But the call option, which can take the bond away before

maturity if rates decline, works against it.

Consider a 75-year-old male whose remaining life expectancy is a little more than 10 years.<sup>2</sup> He obviously wants cash flow but is also very concerned about preserving his capital. Let's say he invests in Freddie Notes that have a 5.40 percent coupon and an estate put. They are callable at par on or after 15 February 2015 and mature on 15 February 2026.

Without the estate put, the current fair value of this bond would be 97.3. The estate put is worth 3.1, and so the current value of the bond for this particular investor is 100.5. What happens if interest rates change?

If rates decline, the upside is limited because the bonds will be called at par at the first opportunity. But what if rates rise? The price will decline, but the estate put provides some protection.

For example, if rates increase by 100 bps, the bond would be worth 89.5 without the estate put, a decline of 7.8 points from 97.3. But the value of the put increases from 3.1 to 6.6, and so the bond would be worth 96.1 to our investor. Thus, the loss of market value (from 100.5) is only 4.1 rather than 7.8.

If rates rise 200 bps, the numbers are even more dramatic. Without the estate put, the value of the bond would drop to 81.6. But the estate put provides a cushion — its value rises to 9.4 points, making the bond worth 91 points to the investor. Rates may rise because of changes in the general level of interest rates or because of deteriorating credit. Loss of credit quality is not a significant issue because the bond can be put back at par should the investor die — unless the issuer defaults.

#### **Last Words**

Unlike an institutional investor, a retail buyer tends to hold the bond to maturity. Thus, a retail buyer is more concerned about interest rates going down than going up — if rates decline, the bonds are called away and the proceeds have to be reinvested at lower yields, resulting in a loss of income. If rates rise, the retail buyer takes comfort in the steady, predictable cash flow. And in the back of his mind, he knows that when his time is up, his heirs will get the full face value of the bonds. This feature's value can now be rigorously quantified by wealth managers on behalf of individual clients.

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[1.](#) The Estate Put Analyzer™ (patent pending) from Andrew Kalotay Associates values the estate put and identifies a suitable retail bond that maximizes value to the client on the basis of the client's mortality distribution.

[2.](#) See, for example, the [actuarial table](#).