Fixed Income Fundamentals

Ascent Investment Partners

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Why Invest in Premium Bonds?

This paper is not meant to be a detailed discussion of the tax treatment of bond investments and is not intended as tax advice to any person. Prospective purchasers of bonds should consult their own tax advisors concerning the application of federal and state tax laws to their particular situation.

With interest rates near historic lows, many of the bonds issued in the past by companies and municipalities now have coupon rates that are higher than the current market yields for comparable-maturity new issue bonds. Since the price of a bond represents the present value of its principal at maturity plus the present value of all of the coupon payments received over the life of the bond, the vast majority of bonds trading in the secondary market have prices that are above par (because the coupon payments are higher than what is available on newly issued bonds from the same or comparable issuers).

There can be a number of significant advantages to purchasing high premium bonds. These benefits, discussed in more detail below, can include:

- *Higher cash flows that are generated by the higher coupons*. Because premium bonds carry higher coupons than par bonds, the interest paid by these bonds can be substantially greater than par bonds.
- *Less volatility in changing interest rate environments.* Premium bond prices react less to changes in interest rates than prices of par or discount bonds.

Investors may be reluctant to buy premium bonds, especially bonds priced at very high premiums, because they view this as "paying $110 for a bond that is only worth $100 when it matures." In fact, premium bond investors do not "lose" any value of their investment. Instead of getting the full purchase price of the bond back at maturity, as is the case with a par bond, premium bond buyers are repaid a portion of the premium in each semi-annual interest payment, in the form of the higher coupon payment they receive. The premium price is paying up front for the entire stream of higher coupon payments over the life of the bond.

The nature of this payment is reflected in the tax treatment of premium bonds. Buyers of premium bonds are required to amortize the premium over the life of the bond (or the holding period, if sold prior to maturity). Amortizing the premium reduces the investors' cost basis each year for tax purposes, reflecting the fact that some of the value of the bond was returned to the bondholder as "pre-paid principal" through the higher coupon payment. The cost basis of a premium bond should decline over time such that at maturity the cost basis of the bond should reflect the maturity value of par. If bondholders didn't amortize the premium, the difference between the purchase price and the maturity value would appear to be a capital loss at sale or maturity, when they have actually already received that money back, just in the form of semi-annual payments.

For buyers of taxable bonds, it is important that premiums be amortized each year for tax purposes. Owners of taxable bonds may be able to offset some of their taxable earned interest with the amortized premium. For buyers of tax-exempt municipal bonds, it is not really necessary to calculate the adjusted cost basis annually as there is no offset available on the tax-exempt interest. The cost basis only becomes important if a premium bond is sold prior to maturity, at which time the adjusted cost basis must be determined to see if there is any capital gain or loss on the bond. Independent of the amortization of the premium, changes in interest rates will change bond prices over time, and to the extent that the market price for a bond is higher or lower than the adjusted cost basis, the investor may have an unrealized (or realized, if the bond is sold), gain or loss on the bond.

Benefits of Buying Premium Bonds

In order to understand the differences between premium and par (or close-to-par) bonds, we can use a real world example from the municipal bond market – the recent sale of limited tax general obligation bonds by Brunswick County, North Carolina. The County sold $31.01 million of Aa3/AA-/AA- rated bonds on March 13, 2012. Yields on the issue ranged from 0.27% for bonds maturing in 2013 to 3.47% for the 2028 maturity. The issue included a number of "split maturities," in which the issuer structures some bonds of a given maturity with one coupon and others of the same maturity with a different coupon. We will examine the 2018 maturity which was sold as: 2% bonds priced at a small premium of $102.16 to yield a yield to maturity of 1.62% ; and 4% bonds priced at a premium of $113.55 to yield an identical yield to maturity of 1.62%.

Issuers will include split maturities in their bond issues to attract different types of investors. Generally retail and individual investors, or trust companies, are more interested in bonds priced at or near par. Institutions like insurance companies and mutual funds, in contrast, are more willing to buy bonds priced at premiums and may actually demand premium bonds in order to get certain higher-than-market coupons or for interest rate protection.

Because many investors are reluctant to pay high premium prices for bonds, there may be relatively less demand for high premium bonds than for par bonds of similar credit quality and maturity. This can create the opportunity to capture a slightly higher yield on a high premium bond than on a comparable par bond, especially for smaller issues.

Cash Flows from Premium Bonds

Premium bonds are priced at a premium because they pay greater coupon payments than par bonds. Generally, investors will realize greater net cash flows from premium bonds than from comparable par bonds even after adjusting for the premium. In the example of Brunswick County, NC, we assume that $10,000 of par value was purchased in each of the 2018 maturity bonds. The basic calculation to determine the income over the life of the bond is to multiply the coupon by the par amount, multiplied by the number of years to maturity. In the example below, the 4% bond yields a greater net cash flow over the life of the bond.

Brunswick County, NC 4% due 4/1/2018 (CUSIP# 117073AF3)

Price: $113.55	
Income: 4.00% x 10,000 x 6 years =	$2,400.00
Less Principal re-paid	(1,355.00)
Net received at maturity	$1,045.00

Brunswick County, NC 2% due 4/1/2018 (CUSIP# 117073AS5)

Price: $102.16	
Income: 2.00% x 10,000 x 6 years =	$1,200.00
Less Principal re-paid	(216.00)
Net received at maturity	$ 984.00

A key benefit of premium bonds is the opportunity this increased cash flow provides to earn additional yield over the life of the bond if interest rates rise. The illustration above assumes that interest rates stay the same over the six year life of the bonds. However, in an environment in which interest rates rise during the holding period, the outperformance of the premium bond would be even greater. This is due to the opportunity to reinvest the higher coupon payments received from the premium bond at higher yields over the life of the bond. Because more of the cash flow (principal and interest) from a premium bond is received during the period the bond is owned, there is more time to earn interest on coupon payments reinvested as rates are rising.

Less Volatility to Changes in Interest Rates

Premium bonds can be used by investors to help manage interest rate risk in their portfolios, because premium bonds are less sensitive to changes in interest rates than par or discount bonds. In the current environment of near-historic low interest rates, there is more potential for a sharp rise in interest rates than for a substantial additional decline in rates over an intermediate to long-term holding period. Rising rates will cause the price of fixed-income investments to fall, but premium bonds can help soften the blow.

Using our Brunswick County bonds as an example, we can examine the expected performance of a near-par versus a high premium bond. The table below shows the impact on yield, price and total return at a point six months from now of the following changes in the yield curve: yields in all maturities decline by 100 basis points (100 bps, or 1%); a decline of 50 bps (-0.50%); no change; yields increase 50bps; and yields increase 100 bps.

Performance of High Premium vs. Low Premium Bonds *(Prices and Yields Projected at 10/1/12)*

Brunswick County, NC 4% due 4/1/18			
Change in rates (bps)	**YTM**	**Price**	**Total Return**
-100	0.62	118.24	11.78
-50	1.12	115.31	6.63
0	1.62	112.47	1.62
50	2.12	109.71	-3.25
100	2.62	107.02	-7.97

Brunswick County, NC 2% due 4/1/18			
Change in rates (bps)	**YTM**	**Price**	**Total Return**
-100	0.62	107.45	12.30
-50	1.12	104.68	6.88
0	1.62	101.99	1.62
50	2.12	99.38	-3.49
100	2.62	96.844	-8.45

Sources: Bloomberg; Ascent Investment Partners' estimates and calculations.

This table shows the impacts out six months from now should yields rise or fall. If an investor expects the market to rally (yield to decline), then the 2% bond would provide a greater upside potential in the event of falling rates by offering a total return potential of 52 bps more than the 4% bond should rates decline by 100 bps. However, if the investor is more concerned about rates rising, the premium bond offers the greater protection. If market rates rise by 50bps, the 4% bond would outperform the lower coupon bond by 24 bps. Should rates rise by 100bps, the outperformance of the 4% bond would be 48bps.

The premium bond's outperformance is due to the ability to reinvest greater cash flows at higher yields. As discussed in the section above, in a rising rate environment, premium bonds allow an investor to put more of funds back to work at higher rates. Yield to maturity (YTM in the table above) assumes that coupon payments are reinvested at the same yield that the bond paid at the time of purchase. If rates rise, the actual yield earned on the bond and subsequent reinvestment of interest payments would be higher on a premium bond because there is a larger cash flow to reinvest at those higher rates. This is why the table shows that, if rates rise, the premium bond total return is greater than the par bond – it is due to this ability to earn more yield from reinvesting at higher rates.

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