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# Premium bonds may offer better relative value

*Investors often favor par bonds over premium bonds, believing that a lower dollar price will translate into higher returns. While par bonds may have a lower dollar price, premium bonds may offer a higher actual rate of return in various market scenarios. The two types of bonds are priced and perform differently, as we discuss in this paper.*

### WHY PREMIUM BONDS?

*Premium bonds may offer investors a variety of benefits, including:*

- Additional cash flow benefits
- Less sensitivity to changes in interest rates
- Prospects for more stable performance in down markets

## PREMIUM BONDS OFFER CASH FLOW BENEFITS

Premium bonds offer additional cash flow benefits, which cause these bonds to be more expensive than similar-maturity par bonds. But retail investors' preference for par-like structures can make premium bonds less expensive than other bonds.

For example, consider a representative utility revenue bond that began trading in May 2018, looking at the relative value of the par and premium bonds:

### Representative utility revenue bonds

| | Coupon (%) | Yield (%) | Spread (basis points) | Duration (years) | Yield/ duration (%) |
|---|---|---|---|---|---|
| **Par bond** | 3.375 | 3.64 | 71 | 14.15 | 0.26 |
| **Premium bond** | 4.000 | 3.53 | 60 | 8.15 | 0.43 |

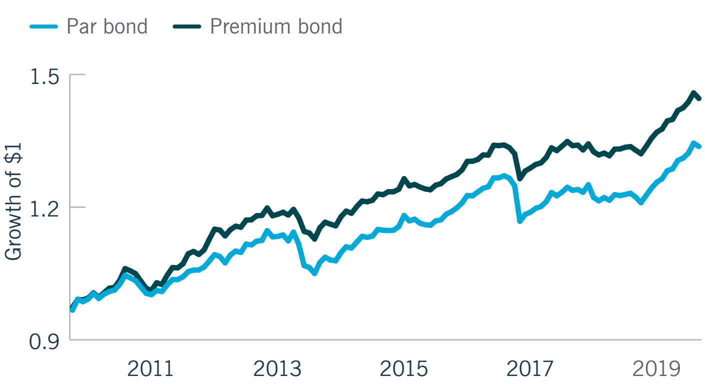
Data source: Bloomberg, L.P., and EMMA as of the issuance date.

Because of the coupon structure, the par bond had a duration of 14.15 at the time issuance, compared to the premium bond with a duration of 8.15. For 6 more years of duration, the lower coupon bond offered just 11 basis points of additional yield. Interestingly, the deal came to market with more than $8 million par value in the par bond structure and just over $4 million par value in the premium coupon structure. This demonstrates the higher demand for a structure that investors believe is cheaper. But, on a relative value basis, par bonds may not compensate for the additional interest rate risk.

## PREMIUM BONDS ARE LESS SENSITIVE TO CHANGES IN INTEREST RATES

All bond prices fall when interest rates rise. However, premium bonds return cash flow faster, so their prices tend to adjust more slowly as interest rates change. The longer an investor holds premium bonds, the longer the interest can compound, making it a more important part of the total return. Additionally, premium bonds have historically weathered downturns better than par bonds as can be seen by looking at the downturn periods expressed in the accompanying chart.

### Premium bonds outperformed par bonds




Data source: Standard & Poor's, 30 Oct 2009 to 30 Sep 2019. Bonds represented by Standard & Poor's Municipal Bond Index. **Past performance is no guarantee of future results.** Indexes are not available for direct investment.

While the bonds performed similarly during periods of positive returns, the par bonds underperformed during periods of negative returns (see, for example, the downturns in 2013 and 2017 in the accompanying chart). The par bonds experienced steeper negative returns due to their longer duration and lower reinvestment.

Institutional investors may favor premium bond structures for the same reason that retail investors might favor dividend paying stocks or real estate investors may favor Class A buildings. In each instance, the extra cash outlay upfront has the potential to provide the investor with additional cash flow, via dividends or higher rents. This cash flow can help cushion the value of the investment from adverse future events.

With higher coupon premium bonds, higher initial outlay may lead to more cash flow quicker, as well as better protection against a future rise in rates. If it is necessary to sell the bonds in the future, the marketplace would likely favor the above-market coupon against the competition of newer bonds of the same maturity with higher yields.

### Duration changes in a rising rate environment

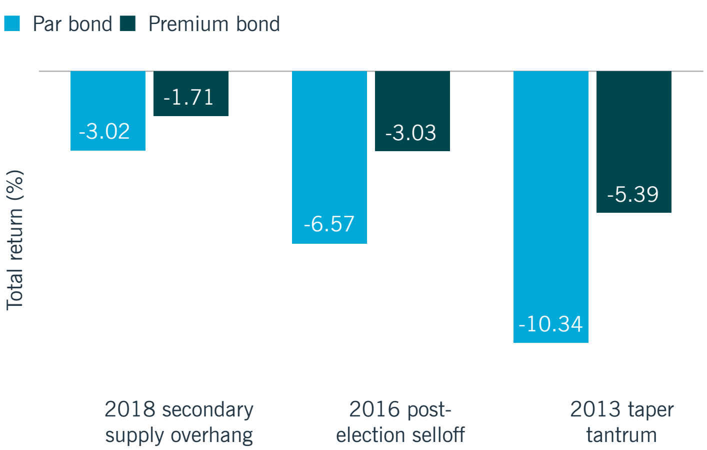
| | Coupon (%) | Yield (%) | Modified duration (years) | +50 bps yield (%) | Modified duration following yield change (years) |
|---|---|---|---|---|---|
| **Par bond** | 3.375 | 3.35 | 8.36 | 3.85 | 14.03 |
| **Premium bond** | 5.000 | 3.35 | 7.73 | 3.85 | 7.66 |

Data source: Bloomberg, L.P., and EMMA as of the issuance date. These hypothetical bonds came with a 2038 maturity date and 2028 call date.

In the example above, the par bond's resulting increase in duration (from 8.36 to 14.03 years) translated to higher volatility for any additional increase in yield. Meanwhile, the premium bond's duration remained stable (7.73 versus 7.66 years) because the bond was shielded by the higher coupon.

This example of duration extension displays the additional risks associated with investing in par bonds. The par bond's price sensitivity to changes in interest rates, as measured by duration, increased at the same time that yields also increased. In addition to an attractive duration profile, the premium bond also allowed for more reinvestment through higher cash flow. During the three most recent periods of extreme interest rate spikes (when the Fed indicated it would slow its asset purchase program in 2013, when bonds prices fell following the 2016 election and when bond supply levels rose in 2018), premium bonds exhibited better relative performance, as seen in the accompanying bar chart. These factors resulted in a more favorable performance for premium bonds in periods of volatility.

## Par bonds underperformed during negative periods




Data source: Bloomberg, L.P. Bonds represented by the Bloomberg Barclays Municipal Bond Index.
**Past performance is no guarantee of future results.** Indexes are not available for direct investment.

## SUMMARY

While par bonds may appear to be a better value, premium bonds have exhibited outperformance relative to par bonds over the long term. And premium bonds may offer better relative performance in down markets.

## For more information, please visit nuveen.com.

### Endnotes

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### Glossary

The **Bloomberg Barclays Municipal Bond Index** covers the USD-denominated long-term tax-exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds and pre-refunded bonds. **Cash flow** – While it appears that the premium bond loses principal, it makes up the loss in extra cash flow. With the same reinvestment rate and purchase yields, the bonds return a similar dollar amount to the investor. **Par Value** is the the face value of a bond or stock as printed on the certificate or charter. Bonds generally have a par value of $1,000. **Premium** is the amount by which a bond's market price exceeds its par value.

### A word on risk

Investing involves risk; principal loss is possible. All investments carry a certain degree of risk and there is no assurance that an investment will provide positive performance over any period of time. Investing in municipal bonds involves risks such as interest rate risk, credit risk and market risk. The value of the portfolio will fluctuate based on the value of the underlying securities. There are special risks associated with investments in high yield bonds, hedging activities and the potential use of leverage. Portfolios that include lower rated municipal bonds, commonly referred to as "high yield" or "junk" bonds, which are considered to be speculative, the credit and investment risk is heightened for the portfolio. Bond insurance guarantees only the payment of principal and interest on the bond when due, and not the value of the bonds themselves, which will fluctuate with the bond market and the financial success of the issuer and the insurer. No representation is made as to an insurer's ability to meet their commitments.

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