Understanding Bond Pricing
By better understanding bonds, you can more confidently use them to strengthen your portfolio.
Develop an Ongoing Strategy with Fidelity

- Education on securities
- Resources to help inform and assist you in managing your assets
- Insights for helping you make more prudent and informed decisions
Common Questions

1. How many of you currently have bonds in your portfolio?

2. Ever wonder why it’s harder to get a bond quote than a stock quote?

3. How many of you have a grasp on what you’re being charged per bond trade?
Today’s Agenda

Comprehending the Bond Market

Assessing Pricing for Individual Bonds

Understanding Trading Costs
Understanding the Bond Market

Makeup

Size

Volume
The Makeup of the Bond Market Varies from the Stock Market

<table>
<thead>
<tr>
<th>STOCK MARKET</th>
<th>BOND MARKET</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Makeup</strong></td>
<td>Debt securities issued by corporations, governments,</td>
</tr>
<tr>
<td></td>
<td>government agencies, municipalities</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>Relatively small and large debt instruments</td>
</tr>
<tr>
<td><strong>Trading marketplace</strong></td>
<td>Fragmented, bonds are traded “over the counter.”</td>
</tr>
<tr>
<td><strong>Pricing transparency</strong></td>
<td>Larger issuance = more transparent/liquid</td>
</tr>
<tr>
<td></td>
<td>Smaller issuance = opaque pricing/less liquid</td>
</tr>
</tbody>
</table>

- **Makeup**: Equity shares of publicly owned companies vs. Debt securities issued by corporations, governments, government agencies, municipalities.
- **Size**: Limited to size of shares offered by companies vs. Relatively small and large debt instruments.
- **Trading marketplace**: Centralized (Ex. NYSE or NASDAQ) vs. Fragmented, bonds are traded “over the counter.”
- **Pricing transparency**: Generally transparent and liquid vs. Larger issuance = more transparent/liquid, Smaller issuance = opaque pricing/less liquid.
In general, the bond market is volatile, bond prices rise when interest rates fall and vice versa. This effect is usually pronounced for long-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>BOND</th>
<th>STOCK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Size¹</td>
<td>$42 Trillion</td>
<td>$36 Trillion</td>
</tr>
<tr>
<td>Daily Trading Volumes²</td>
<td>$852 Billion</td>
<td>$409 Billion</td>
</tr>
<tr>
<td>Number of Securities³</td>
<td>1,150,000</td>
<td>5,334</td>
</tr>
<tr>
<td>Ford (example) Outstanding⁴</td>
<td>$79 Billion</td>
<td>$34 Billion</td>
</tr>
<tr>
<td>Ford (example) Number of Issues⁴</td>
<td>311</td>
<td>1</td>
</tr>
</tbody>
</table>

Volume: US Bond Markets

DAILY TRADING VOLUME ($BN) AND CUSIPS OUTSTANDING

Source: FINRA, SIFMA, Dec 2018
The bond market can be difficult to navigate because of its fragmented nature, its size, and its inconsistent trading.
Assessing Pricing for Individual Bonds
### Valuation Pricing: Monthly Statement
Bond Pricing Valuation

<table>
<thead>
<tr>
<th>Description</th>
<th>Maturity</th>
<th>Market Value</th>
<th>Quantity</th>
<th>Price Per Unit</th>
<th>End. Market Value</th>
<th>Accrued Int. (A)</th>
<th>Total Cost Basis</th>
<th>Unrealized Gain/Loss</th>
<th>Est. Annual Income (EAI)</th>
<th>Coupon Rate</th>
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<tbody>
<tr>
<td><strong>Corporate Bonds</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SAFEWay INC Note Call</td>
<td>08/15/19</td>
<td>$2,000.00</td>
<td>2,000.00</td>
<td>$90.00</td>
<td>$1,080.00</td>
<td>$2,016.26</td>
<td></td>
<td>-30.26</td>
<td>$100.00</td>
<td>5.00%</td>
</tr>
<tr>
<td>Make Whole</td>
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<tr>
<td>Fixed Coupon Moody's B3</td>
<td></td>
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<tr>
<td>S&amp;P BBB Semiannually Make Whole Call CUSIP: 76514R9S</td>
<td>08/15/20</td>
<td>2,059.85</td>
<td>2,000.00</td>
<td>104.01</td>
<td>2,049.20</td>
<td>2,059.39</td>
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<td>-19.19</td>
<td>123.00</td>
<td>6.150</td>
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<td>Alea Inc Note Call</td>
<td>08/15/20</td>
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<td></td>
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<td>Make Whole</td>
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<td>Fixed Coupon Moody's Ba2</td>
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<td>S&amp;P BBB+ Semiannually Make Whole Call CUSIP: 013617AU5</td>
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<td><strong>Municipal Bonds</strong></td>
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<tr>
<td>New Jersey St Transn Tr</td>
<td>12/15/25</td>
<td>$3,811.00</td>
<td>5,000.00</td>
<td>$77.45</td>
<td>$3,872.70</td>
<td>$3,807.92</td>
<td></td>
<td>$64.78</td>
<td>-</td>
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<td>Zero Coupon Moody's Be1</td>
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<tr>
<td>S&amp;P BBB+ Make Whole Call CUSIP: 646198WE7</td>
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<tr>
<td>Zero Coupon Bonds</td>
<td>07/31/26</td>
<td>5,644.10</td>
<td>5,000.00</td>
<td>114.95</td>
<td>5,702.70</td>
<td>5,671.84</td>
<td></td>
<td>30.86</td>
<td>250.00</td>
<td>5.00%</td>
</tr>
<tr>
<td>Rhode Is Comm Corp</td>
<td></td>
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<tr>
<td>Zero Coupon Bonds</td>
<td>07/31/26</td>
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</tbody>
</table>

For illustrative purposes only Source: Fidelity.com Screen-print taken on 1/30/2019
Valuation Pricing: Nightly Valuation

For illustrative purposes only Source: Fidelity.com Screen-print taken on 12/22/2016
Valuation Pricing: Bond Details

NEW YORK N Y GO BDS SER.SER E
05.00000% 08/01/2018

Details
- CUSIP: 64966L7L9
- Pay Frequency: SEMI-ANNUALLY
- Coupon: 5.000
- Maturity Date: 08/01/2018
- Insurer: N/A
- Obligor: --
- Material Events: YES
- EMMA: YES
- Bond Type: Municipal
- Interest Accrual Date: 12/04/2007

Ratings
- Moody's Rating: N/A
- S&P Rating: N/A

Basic Analytics
- Price (Bid): N/A
- Price (Ask): N/A
- Depth of Book: --
- Ask Yield to Worst: N/A
- Ask Yield to Maturity: N/A
- Yield to Sink: --
- Current Yield: --
- Third Party Price: 102.406

Complex Analytics
- Duration to Worst: Option Adjusted Duration
- Option Adjusted Spread: Option Adjusted Convexity
- Convexity to Worst: Option Adjusted Convexity

Redemptive Features
- Call Protection: View Schedule NO

For illustrative purposes only Source: Fidelity.com Screen-print taken on 12/22/2016
Valuation Pricing: Fixed Income Analytics

Summary Calculations

- Total Market Value: $1,094,137.24
- Average Maturity: 6.71 years
- Annual Interest: $38,903.00
- Total Par Value: $1,027,000.00
- Average Estimated Yield: 2.41801%
- Average Coupon Rate: 3.81899%
- Average Price: $106.53

Cash Distribution (Estimated Interest & Principal)

Duration (years)
- 0 - 6: 59.97%
- 7 - 13: 21.55%
- 14 - 19: 11.66%
- Unknown: 7.21%

Credit Rating (Moody’s)
- AAA: 26.84%
- AA1: 2.43%
- AA2: 4.65%
- AA3: 6.20%
- A1: 11.04%
- A2: 3.87%
- BAA1: 1.00%
- BAA2: 1.30%
- NR: 2.59%

For illustrative purposes only Source: Fidelity.com
Historical Pricing: Trading Liquidity

NEW YORK N Y GO BDS SER.F-1
05.00000% 03/01/2025

Basic Analytics
- Price (Bid): 113.954
- Price (Ask): 113.954
- Depth of Book: --
- Ask Yield to Worst: 0.981%
- Ask Yield to Maturity: 2.286%
- Yield to Sink: --
- Current Yield: 4.367%
- Third Party Price: 113.572
- Spread to Treasuries: 0.525
- Treasury Benchmark: 6 YR (2.25% 03/31/2025)

Complex Analytics
- Duration to Worst: 3.208

Official Municipal Documents

Recent Trades
- Price: 113.411
- Quantity: 90
- Date/Time: 08/20/2019 13:37:58
- Buy/Sell: DD

For illustrative purposes only Source: Fidelity.com Screen-print taken on 08/21/2019
Live Pricing: Fidelity Bond Aggregation

~50K
Unique Bonds Offered

~75K
Total Offerings
Live Pricing: Live Listing of Bonds Available

For illustrative purposes only Source: Fidelity.com
## Live Pricing: Treasuries and Corporate Live Bid and Offer Prices

### UNITED STATES TREAS NTES NOTE 1.82500% 05/15/2026

<table>
<thead>
<tr>
<th>Description</th>
<th>Coupon</th>
<th>Maturity Date</th>
<th>Moody's</th>
<th>S&amp;P</th>
<th>Bid Yield</th>
<th>Bid Price</th>
<th>Ask Price</th>
<th>Yield Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITED STATES TREAS NTES NOTE</td>
<td>1.825</td>
<td>05/15/2026</td>
<td>AAA</td>
<td>--</td>
<td>1.688</td>
<td>99.421</td>
<td>99.469</td>
<td>0.005%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.000(1)</td>
<td>1.000(1)</td>
<td></td>
</tr>
</tbody>
</table>

### WELLS FARGO COM MTN BE 4.10000% 06/03/2026 FR

<table>
<thead>
<tr>
<th>Description</th>
<th>Coupon</th>
<th>Maturity Date</th>
<th>Moody's</th>
<th>S&amp;P</th>
<th>Bid Yield</th>
<th>Bid Price</th>
<th>Ask Price</th>
<th>Yield Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>WELLS FARGO COM MTN BE 4.10000%</td>
<td>4.100</td>
<td>06/03/2026</td>
<td>A3</td>
<td>A-</td>
<td>3.308</td>
<td>105.904</td>
<td>105.999</td>
<td>0.011%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75(10)</td>
<td>105.900</td>
<td></td>
</tr>
</tbody>
</table>

For illustrative purposes only Source: Fidelity.com
### Live Pricing: Municipal Bond Offerings

For illustrative purposes only Source: Fidelity.com

<table>
<thead>
<tr>
<th>State</th>
<th>Description</th>
<th>Coupon</th>
<th>Maturity Date</th>
<th>Moody's</th>
<th>S&amp;P</th>
<th>Rating</th>
<th>Underlying Rating</th>
<th>Bid</th>
<th>Ask</th>
<th>Price (Yield to Maturity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IL</td>
<td>KENDALL KANE &amp; WILL CNTY ILL CMNTY UNITS 008000000 02/11/2027</td>
<td>6.0000</td>
<td>02/01/2027</td>
<td>AA2</td>
<td>NR</td>
<td>AA2</td>
<td>--</td>
<td>--</td>
<td>No Bid</td>
<td>71.956 (5(5)</td>
</tr>
<tr>
<td>NJ</td>
<td>NEW JERSEY ST HIGHERED ASSISTANCE Auth 05 10.000% 12/01/2021 USD STU SAN JUAN REV BDS STS OF NEW</td>
<td>5.1000</td>
<td>12/01/2026</td>
<td>AA2</td>
<td>AA</td>
<td>--</td>
<td>--</td>
<td>No Bid</td>
<td>106.893 (45(10)</td>
<td>2.990 --</td>
</tr>
<tr>
<td>IL</td>
<td>COOK CNTY ILL CMNTY COLLEGE DIST NO 06 05 20600% 12/01/2021 USD TD TAX GO BDS CTY COLLEGE OF CHICAGO</td>
<td>5.2500</td>
<td>12/01/2026</td>
<td>--</td>
<td>AA</td>
<td>AA</td>
<td>--</td>
<td>No Bid</td>
<td>116.347 (46(5)</td>
<td>2.897 --</td>
</tr>
<tr>
<td>IL</td>
<td>COOK CNTY ILL CMNTY COLLEGE DIST NO 06 05 20600% 12/01/2021 USD TD TAX GO BDS CTY COLLEGE OF CHICAGO</td>
<td>5.2500</td>
<td>12/01/2025</td>
<td>--</td>
<td>AA</td>
<td>AA</td>
<td>--</td>
<td>No Bid</td>
<td>117.132 (16(10)</td>
<td>2.760 --</td>
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<tr>
<td>IL</td>
<td>PINGREE GROVE ILL SPL SVC AREA NO 2 03 50600% 02/01/2026 FPL TAX REF BDS CAMBRIDGE LAKES PROJ</td>
<td>3.5000</td>
<td>03/01/2026</td>
<td>--</td>
<td>AA</td>
<td>AA</td>
<td>--</td>
<td>No Bid</td>
<td>106.578 (16(10)</td>
<td>2.649 --</td>
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<tr>
<td>IL</td>
<td>WILL CNTY ILL CMNTY UNI SCH DIST NO 60 000000% 11/01/2026 5% SVY GO SCH BD S RER 2007 B</td>
<td>6.0000</td>
<td>11/01/2026</td>
<td>AA2</td>
<td>AA</td>
<td>AA2</td>
<td>AA-</td>
<td>No Bid</td>
<td>76.166 (76(25)</td>
<td>2.646 --</td>
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<tr>
<td>IL</td>
<td>UNIVERSITY ILL UNIV REVS AUX FAC S 03 02500% 04/01/2027 PREV BDS SER 2011</td>
<td>3.2500</td>
<td>04/01/2027</td>
<td>AA3</td>
<td>AA</td>
<td>AA3</td>
<td>--</td>
<td>No Bid</td>
<td>105.191 (15(3)</td>
<td>2.570 --</td>
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<tr>
<td>IL</td>
<td>WILCO AREA CAREER CTR ILL DEBT CTOR 02 37500% 12/01/2025 SER 2019</td>
<td>2.3750</td>
<td>12/01/2025</td>
<td>--</td>
<td>AA-</td>
<td>--</td>
<td>--</td>
<td>No Bid</td>
<td>98.058 (140(5)</td>
<td>2.535 --</td>
</tr>
<tr>
<td>IL</td>
<td>WILL CNTY ILL CMNTY UNI SCH DIST NO 60 000000% 11/01/2025 5% SVY GO SCH BD S RER 2005</td>
<td>6.0000</td>
<td>11/01/2025</td>
<td>AA2</td>
<td>AA</td>
<td>AA2</td>
<td>AA-</td>
<td>No Bid</td>
<td>76.203 (56(10)</td>
<td>2.591 --</td>
</tr>
<tr>
<td>CA</td>
<td>SALINAS CALIF UNI HIGH SCH DIST GO BD S00 006000% 10/01/2026 700062 ELECTION SER 2003 A</td>
<td>6.0000</td>
<td>10/01/2026</td>
<td>AA2</td>
<td>AA</td>
<td>AA2</td>
<td>A+</td>
<td>No Bid</td>
<td>77.624 (56(5)</td>
<td>2.475 --</td>
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</tbody>
</table>
### Live Pricing: Depth of Book

#### Description of the Table:
- **Bids**
  - **Sell**
    - **Action**: Sell, Sell, Sell, Sell, Sell
    - **Yield**: 3.390, 3.402, 3.405, 3.407, 3.447
    - **Quantity (Min)**: 75(10), 250(10), 324(1), 65(25), 100(1)
    - **Price**: 105.904
- **Asks**
  - **Ask**
    - **Yield**: 3.367
    - **Attributes**: IE CP SFP

#### Additional Information:
- **11 dealers offering**
  - Different quantities and prices
- **6 dealers bidding**
  - Different quantities and prices

---

For illustrative purposes only
Source: Fidelity.com
Live Depth of Book and Historical Recent Trades for Corporate Bonds

For illustrative purposes only Source: Fidelity.com

**Recent Trades**
- Investor Bought earlier at 112.52
- Investor Sold earlier at 112.20

**Best Offer: 112.388**
**Best Bid: 111.902**
**Yield Spread: 0.108**
Live Depth of Book and Historical Recent Trades for Municipal Bonds

For illustrative purposes only Source: Fidelity.com

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity</th>
<th>Yield</th>
<th>Date/Time</th>
<th>Buy/Sell</th>
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<tbody>
<tr>
<td>122.005</td>
<td>15</td>
<td>2.440</td>
<td>03/24/2016 10:55:21</td>
<td>Customer Sell</td>
</tr>
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<td>122.005</td>
<td>15</td>
<td>2.440</td>
<td>03/24/2016 10:55:21</td>
<td>Dealer to Dealer</td>
</tr>
<tr>
<td>120.785</td>
<td>25</td>
<td>2.650</td>
<td>10/19/2015 11:59:18</td>
<td>Customer Buy</td>
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<tr>
<td>120.785</td>
<td>25</td>
<td>2.650</td>
<td>10/19/2015 11:59:16</td>
<td>Dealer to Dealer</td>
</tr>
<tr>
<td>120.789</td>
<td>10</td>
<td>2.650</td>
<td>10/16/2015 14:14:14</td>
<td>Customer Buy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity</th>
<th>Yield</th>
<th>Date/Time</th>
<th>Buy/Sell</th>
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</thead>
<tbody>
<tr>
<td>120.789</td>
<td>10</td>
<td>2.650</td>
<td>10/15/2015 14:14:13</td>
<td>Dealer to Dealer</td>
</tr>
</tbody>
</table>

Best Offer: 124.083
No Bids

Trades often months apart
Pricing increased over time, in line with general Muni market
Live Pricing: Request for Bid Quote

- Price discovery for securities without an “active” bid quote available on Fid.com
- Allows multiple dealers to competitively bid on the position

For illustrative purposes only Source: Fidelity.com
Live Pricing: Bid Wanted Dashboard

**Bond & CD Bid Quote Status**

**Select an Account**

Select one...

**View by Account**

**Orders** | **Online Message Center**

**AS OF 02:59 PM ET 07/15/2019**

<table>
<thead>
<tr>
<th>Request Date/Time</th>
<th>Issue Description</th>
<th>CUSIP</th>
<th>Quantity</th>
<th>Best Bid</th>
<th>Bid Valid Until</th>
<th>Bid Status</th>
<th>Action</th>
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<tbody>
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<td>07/15/19 1:34 PM ET</td>
<td>CALIFORNIA ST GO VAR...</td>
<td>13063CW97</td>
<td>5</td>
<td>--</td>
<td>N/A</td>
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<tr>
<td>07/15/19 2:18 PM ET</td>
<td>FIRST NATL BK LONG ...</td>
<td>329864AB8</td>
<td>1</td>
<td>98.012</td>
<td>04:15:00 PM ET</td>
<td>Responded</td>
<td>Place Order</td>
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<tr>
<td>07/15/19 1:36 PM ET</td>
<td>BMW BK NORTH AMER ...</td>
<td>05580ARZ9</td>
<td>7</td>
<td>99.532</td>
<td>02:06:00 PM ET</td>
<td>Expired</td>
<td></td>
</tr>
<tr>
<td>07/05/19 1:49 PM ET</td>
<td>SAN BENITO CITY ...</td>
<td>794532BC2</td>
<td>5</td>
<td>107.54</td>
<td>04:45:00 PM ET</td>
<td>Expired</td>
<td></td>
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<tr>
<td>06/25/19 1:57 PM ET</td>
<td>SAN BENITO CITY ...</td>
<td>794532BC2</td>
<td>5</td>
<td>107.38</td>
<td>04:45:00 PM ET</td>
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<td>06/18/19 10:07 AM ET</td>
<td>SAN BENITO CITY ...</td>
<td>794532BC2</td>
<td>5</td>
<td>107.61</td>
<td>03:04:00 PM ET</td>
<td>Expired</td>
<td></td>
</tr>
</tbody>
</table>

For illustrative purposes only Source: Fidelity.com

- Easily see the Best Bid: 98.012
- Clearly identify the exact time a bid response will be returned
- Ability to Place Order directly from Dashboard
Live Pricing: The Yield Curve
## Live Pricing: The Yield Table

Quick and easy scan of 120 comparative yield data-points

Derived every 15 minutes from live bond inventory

Immediate, one-click, access to search results for that category

---

For illustrative purposes only. Source: Fidelity.com
### Live Pricing: Using the Fidelity.Com Bond Yield Table

<table>
<thead>
<tr>
<th>View by:</th>
<th>Highest Yield</th>
<th>Median Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Understanding This Table</strong></td>
<td><strong>3mo</strong></td>
<td><strong>1yr</strong></td>
</tr>
<tr>
<td><strong>CDs (New Issues)</strong></td>
<td>2.25%</td>
<td>2.40%</td>
</tr>
<tr>
<td><strong>BONDS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Treasury</td>
<td>2.39%</td>
<td>2.50%</td>
</tr>
<tr>
<td>U.S. Treasury Zeros</td>
<td>2.37%</td>
<td>2.51%</td>
</tr>
<tr>
<td>Agency/GSE</td>
<td>2.39%</td>
<td>2.53%</td>
</tr>
<tr>
<td>Corporate (Aaa/AAA)</td>
<td>2.18%</td>
<td>2.70%</td>
</tr>
<tr>
<td>Corporate (Aa/AA)</td>
<td>2.42%</td>
<td>2.59%</td>
</tr>
<tr>
<td>Corporate (A/A)</td>
<td>2.75%</td>
<td>2.75%</td>
</tr>
<tr>
<td>Corporate (Baa/BBB)</td>
<td>3.09%</td>
<td>3.10%</td>
</tr>
<tr>
<td>Municipal (Aaa/AAA)</td>
<td>1.64%</td>
<td>1.77%</td>
</tr>
<tr>
<td>Municipal (Aa/AA)</td>
<td>1.84%</td>
<td>1.86%</td>
</tr>
<tr>
<td>Municipal (A/A)</td>
<td>1.84%</td>
<td>1.98%</td>
</tr>
<tr>
<td>Taxable Municipal*</td>
<td>2.65%</td>
<td>2.65%</td>
</tr>
</tbody>
</table>

*Click on a yield to see offerings*

For illustrative purposes only. Source: Fidelity.com
Understanding Trading Costs

- Transparency
- Mark-up Fee Comparison
- Impact
Cost Transparency


1. OFFERINGS SEEN BY TRADERS
   - Inventory (and prices) from dealers
   - Inventory (and prices) from dealers
   - Inventory (and prices) from dealers
   - Disclosed Mark-up ($1/Bond)

2. PRICES SEEN BY CUSTOMERS IN OFFERINGS
   - Inventory (and prices) from dealers

3. PRICES SEEN BY CUSTOMERS IN TRADE TICKET
   - Inventory (and prices) from dealers

B: Markup Broker Process: “Undisclosed Pricing”

1. OFFERINGS SEEN BY TRADERS
   - Inventory (and prices) from dealers
   - Undisclosed Mark-up ($?/Bond)
   - Undisclosed Mark-up ($?/Bond)

2. PRICES SEEN BY CUSTOMERS IN OFFERINGS
   - Inventory (and prices) from dealers

3. PRICES SEEN BY CUSTOMERS IN TRADE TICKET
   - Inventory (and prices) from dealers

$1 Bond

$? Bond
Mark-up Fee Comparisons

For illustrative purposes only
Source: Fidelity.com

Another broker’s $21.07 per bond Mark-up
(107.5036 – 105.3966)

Fidelity’s $1 per bond Mark-up
(104.109 – 104.009)
**Confirms now display Mark-up/down**

<table>
<thead>
<tr>
<th>REFERENCE NO.</th>
<th>TYPE</th>
<th>REG REP.</th>
<th>TRADE DATE</th>
<th>SETTLEMENT DATE</th>
<th>CUSIP NO.</th>
<th>ORDER NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**You Bought**: 100,000 at 98.5660

- **TOYOTA MOTOR CREDIT CORP MNT**
- **WE HAVE ACTED AS PRINCIPAL**
- **COUPON 1.95000% MATURITY DATE 04/17/2023**
- **CURRENT YIELD 1.978%**
- **YIELD TO MATURITY 2.746%**
- **TO VIEW SECURITY DETAILS AND TRADE ACTIVITY, GO TO**: [https://bondfacts.firco.com/8236TDU6](https://bondfacts.firco.com/8236TDU6)
- **EXECUTION TIME 15:47:52**

**MARK-UP/DOWN IS THE DIFFERENCE (DOLLAR AND %) BETWEEN THE PREVAILING MARKET PRICE (PMP) AND TRADE PRICE. N/A REPRESENTS INSTANCES WHERE TRADE PRICE IS BETTER THAN PMP**

**MARK-UP**: $100.00 / 1.0168%

**MOODY'S AA3 - STANDARD & POOR'S AA - INTEREST PAID SEMI-ANNUALLY**

---

<table>
<thead>
<tr>
<th>REFERENCE NO.</th>
<th>TYPE</th>
<th>REG REP.</th>
<th>TRADE DATE</th>
<th>SETTLEMENT DATE</th>
<th>CUSIP NO.</th>
<th>ORDER NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**You Sold**: 105,000 at 114.3990

- **INDIANA Fin Auth Hosp Rev Ref Bds**
- **INDIANA UNIVERSITY HEALTH INC 2014 A**
- **WE HAVE ACTED AS PRINCIPAL**
- **COUPON 5.0000% MATURITY DATE 12/01/2026**
- **CALLABLE ON CALL 12/01/24 @ 100.000**
- **CURRENT YIELD 3.737**
- **YIELD TO MATURITY 3.046%**
- **YIELD TO CALL 2.579% TO 12/01/24 @ 100.000**
- **100,000 REVENUE**
- **SUBJECT TO EXTRAORDINARY CALL CONTINUOUSLY CALLABLE FROM 12/01/24**
- **TO VIEW SECURITY DETAILS AND TRADE ACTIVITY, GO TO**: [https://emma.msrb.org/cusip/45471AN0](https://emma.msrb.org/cusip/45471AN0)
- **EXECUTION TIME 02:42 PM**

**MARK-DOWN**: $105.00 / 0.0874%

**MARKET ENTRY ONLY**

**MOODY'S AA3 - STANDARD & POOR'S AA**

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For illustrative purposes only

Source: Fidelity.com
Compare Fidelity’s $1 per bond mark-up with competitors

Don’t get overcharged for bonds

Do you know how much your broker charges for bond trading? At Fidelity, our bond pricing is clear, transparent, and low. Explore our bonds, or learn more below.

Search for Bonds

Fidelity.com/fixed-income-bonds/bond-pricing

Online:
Fidelity Viewpoint: How much am I paying for my bonds?

<table>
<thead>
<tr>
<th></th>
<th>Morgan Stanley</th>
<th>Wells Fargo</th>
<th>Merrill Lynch</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Corporate bond</td>
<td>$21.08</td>
<td>$20.38</td>
<td>$14.64</td>
</tr>
<tr>
<td>1 Municipal bond</td>
<td>$6.49</td>
<td>$11.84</td>
<td>$12.88</td>
</tr>
<tr>
<td>Example trade of 22 bonds</td>
<td>$140–$460</td>
<td>$260–$445</td>
<td>$280–$320</td>
</tr>
</tbody>
</table>

Minimum markup or markdown of $19.95 applies if traded with a Fidelity representative. For U.S. Treasury purchases traded with a Fidelity representative, a flat charge of $19.95 per trade applies. A $250 maximum applies to all trades, reduced to a $50 maximum for bonds maturing in one year or less. Rates are for U.S. dollar-denominated bonds; additional fees and minimums apply for non-dollar bond trades. Other conditions may apply; see Fidelity.com/commissions for details. Please note that markups and markdowns may affect the total cost of the transaction and the total, or “effective,” yield of your investment. The offering broker, which may be our affiliate, National Financial Services LLC, may separately mark up or mark down the price of the security and may realize a trading profit or loss on the transaction.

Markup - For secondary market bonds and CD purchases, the difference (dollar and %) between the Prevailing Market Price (PMP) and the trade price. Mark-up is calculated as: Mark-up / Total initial price x 100. The mark-up includes, but may not be limited to, Fidelity’s $1 per bond pricing. Details available on our fee schedule.
In Review

Comprehending the Bond Market

Assessing Pricing for Individual Bonds

Understanding Trading Costs
Fixed Income, Bonds & CDs

Where to start:
Fidelity.com > Research > Fixed Income, Bonds & CDs

NEW Competitive bond pricing study. See how much you can save at Fidelity

Choose from 50,000 new issue and secondary market bonds and CDs, and approximately 75,000 total offerings quotations when including our depth of book. Only $1 per bond mark-up/mark-down for secondary bond trading, $0 for US Treasuries online.

For illustrative purposes only
Source: Fidelity.com
How Fidelity Can Help

Meet with a Fidelity investment professional

- Further understand your current bond holdings
- Explore how you may improve your portfolio with bonds
- See if you’re currently paying additional mark-ups on bond transactions
1. (from pages 33) Fidelity commissioned Corporate Insight to study bond pricing, available online, for self-directed retail investors from five brokers that offer corporate and municipal bonds for comparison to Fidelity's standard online pricing. The study compared online bond prices for more than 40,000 municipal and corporate inventory matches from February 8 through February 14, 2018. It compared municipal and corporate inventories offered online in varying quantities. The study found that, on average, the three financial services firms identified in the chart were asking $14.55 more per bond. Corporate Insight determined the average price differential by calculating the difference between the prices of matching corporate and municipal bond inventory at Fidelity, including Fidelity's $1 per bond mark-up for online trades vs. the prices offered online for the same bonds from the three competitors in the table, then averaging the differences of the financial services firms. An order size of 22 bonds was selected to illustrate the hypothetical trade because this is the average for Fidelity's retail brokerage account holders who purchased individual municipal or corporate bonds for the 12 months ending February 2018.

Minimum markup or markdown of $19.95 applies if traded with a Fidelity representative. For U.S. Treasury purchases traded with a Fidelity representative, a flat charge of $19.95 per trade applies. A $250 maximum applies to all trades, reduced to a $50 maximum for bonds maturing in one year or less. Rates are for U.S. dollar-denominated bonds; additional fees and minimums apply for non-dollar bond trades. Other conditions may apply; see Fidelity.com/commissions for details. Please note that markups and markdowns may affect the total cost of the transaction and the total, or "effective," yield of your investment. The offering broker, which may be our affiliate, National Financial Services LLC, may separately mark up or mark down the price of the security and may realize a trading profit or loss on the transaction.

References to individual securities are for illustrative purposes only, and should not be construed as investment advice.

In general, the bond market is volatile, and fixed income securities carry interest rate risk. (As interest rates rise, bond prices usually fall, and vice versa. This effect is usually more pronounced for longer-term securities). Fixed income securities also carry inflation risk, liquidity risk, call risk and credit and default risks for both issuers and counterparties. Any fixed income security sold or redeemed prior to maturity may be subject to loss.
Disclosures

Interest income earned from tax-exempt municipal securities generally is exempt from federal income tax, and may also be exempt from state and local income taxes if the investor is a resident in the state of issuance. A portion of the income received may be subject to federal and state income taxes, including the federal alternative minimum tax. In addition, investors may be subject to tax on amounts recognized in connection with the sale of municipal bonds, including capital gains and "market discount" taxed at ordinary income rates. "Market discount" arises when a bond is purchased on the secondary market for a price that is less than its stated redemption price by more than a statutory amount. Before making any investment, investors should review the official statement for the relevant offering for additional tax and other considerations.

The tax information contained herein is general in nature, is provided for informational purposes only, and should not be construed as legal or tax advice. Fidelity does not provide legal or tax advice. Fidelity cannot guarantee that such information is accurate, complete, or timely. Laws of a particular state or laws that may be applicable to a particular situation may have an impact on the applicability, accuracy, or completeness of such information. Always consult an attorney or tax professional regarding your specific legal or tax situation.

Past performance is no guarantee of future results.