Fixed income dealer revenues still struggling

Change in revenue from the previous year

- Government bond (31)
  - Increased: 29%
  - No change: 35%
  - Decreased: 35%

- Corporate bonds (38)
  - Increased: 21%
  - No change: 26%
  - Decreased: 53%

- Municipal bonds (36)
  - Increased: 14%
  - No change: 25%
  - Decreased: 61%

- Asset-backed securities (15)
  - Increased: 13%
  - No change: 47%
  - Decreased: 40%

- Non-agency mortgage-backed securities (22)
  - Increased: 9%
  - No change: 27%
  - Decreased: 64%

- Agency mortgage-backed securities (25)
  - Increased: 4%
  - No change: 32%
  - Decreased: 64%
Middle-market dealers have found their place

US market share is growing in relation to bulge bracket firms

Source: Greenwich Associates 2018
Note: Bulge Bracket includes Bank of America Merrill Lynch, Barclays, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, JPMorgan, Morgan Stanley and UBS.
Electronic Trading Progress is Undeniable

Percentage of corporate bond investors trading electronically

- 2005: 37%
- 2018: 91%

Source: VS. 2005-2018
Trading is easier, but it's still hard

Percentage of investors who feel trading corporate bonds orders is hard, by size

- Below $1m: 11% (2016), 8% (2017), 8% (2018)
- $1-5m: 24% (2016), 10% (2017), 8% (2018)
- $5-15m: 59% (2016), 27% (2017), 36% (2018)
- Above $15m: 85% (2016), 83% (2017), 82% (2018)
Dealer views of e-trading have finally shifted

Percentage of corporate bond dealers who see electronic trading as a threat

- 2015: 46%
- 2018: 14%
Where is technology really making a difference for fixed income dealers?
Gaining access to data is getting easier; using it effectively remains difficult

**NEW FIXED-INCOME DATA SOURCES**

<table>
<thead>
<tr>
<th>How Well Firm is Handling New Fixed-Income Data</th>
<th>Best Aspects of New Data Sources</th>
<th>Worst Aspects of New Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle market: 64%</td>
<td>Simplified price discovery: 63%</td>
<td>Difficult to integrate into existing systems: 66%</td>
</tr>
<tr>
<td>Bulge bracket: 27%</td>
<td>Good proxy for liquidity: 31%</td>
<td>Not aggregated/Need too many different products to achieve objectives: 43%</td>
</tr>
<tr>
<td></td>
<td>Better position marking: 27%</td>
<td>Too many new data sources: 29%</td>
</tr>
<tr>
<td></td>
<td>Better TCA: 17%</td>
<td>They do not perform as advertised: 14%</td>
</tr>
</tbody>
</table>

Note: Based on 35 respondents for middle market and 11 for bulge bracket. Source: Greenwich Associates 2018 U.S. Fixed-Income Sales Trading Study
Client Intelligence

More quantifiable, actionable results will drive further appeal
Auto-Quoting
Algorithmic trading does not require high speed, order book driven markets

10,000
Average number of quotes handled daily by corporate bond dealer trading desk
Questions?

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