Exploring Automated Trading Performance in Sovereign and Credit Markets

Bloomberg

Contents

Introduction

Trade automation is widely recognized for its benefits, which include reducing trader's workload, speeding up time to market, and streamlining routing, dealer selection, and execution. However, its impact on trade performance is often underexplored. In March 2024, Bloomberg published research showing that Bloomberg Rule Builder (RBLD) clients saw better trade performance in listed equity markets[1]. RBLD is a systematic tool that automates orders using customized order validation, dealer selection, and execution rules.

In summary, the research found that RBLD clients outperformed manual traders by up to 38% in US markets and 68% in European markets, which is largely attributed to RBLD's systematic trading approach. In this report, we apply a similar study to the Fixed Income markets.

Fixed Income markets have undergone significant transformation in recent years. Treasury market volumes reached a record $884 billion in June 2024[2], according to Bloomberg Intelligence. Electronic trading has grown significantly, with electronically traded orders rising from 20% to 30% for Investment-Grade bonds and from 34% to 46% for High-Yield bonds between 2021 and 2024[3]. Likewise, automated trading doubled, whilst the average order size has decreased[4]. Trade costs have improved since 2022 due to strong issuances, high secondary market volumes, and resilient economies[5]. These evolving trends in the Fixed Income markets underscore the value of RBLD as a component in navigating these dynamic shifts.

Despite the persistence of manual routing and execution as a prevalent trading workflow, the adoption of trade automation is accelerating rapidly. When selecting dealers to request quotes from, traders typically consider a range of factors, including preferred dealers, axes, historical performance, and the availability of streamed or firm pricing. However, not all orders are the same. For standardized instruments like US Treasuries, some orders offer little opportunity for execution alpha but still require the trader's full attention. In this study, we analyse the performance improvements of orders routed through RBLD compared to manual orders.

This research examines anonymized trade data from Bloomberg's trading systems[6], covering the period from January 1, 2023, to April 30, 2024, studying 5.7 million trades (of which 1.6 million were RBLD trades) from USD, EUR, and GBP sovereign and credit markets. For sovereign markets, the study focused on bonds from the US, Great Britain, France, Germany, and Italy in sizes up to USD 10 million. In credit markets, the study looked at orders with bond ratings greater than BB- and trade sizes of less than USD 1 million. These filters were employed for a controlled comparison of orders, ensuring that they were evaluated on a like-for-like basis. The results show that RBLD consistently outperforms manual trading, executing up to 15% more tickets within the Composite Bloomberg Bond Trader (CBBT)-side and pricing 5% more tickets.

Execution Inside the Benchmark

The Composite Bloomberg Bond Trader (CBBT) provides a real-time composite price based on the latest executable contributions. A client's best execution criteria often include trading within a composite spread (bid-ask spread). Trading better than the mid means executing a trade better than the midpoint price of the spread. Trading better than the side means executing within the spread.

For major European government bonds from Germany, Great Britain, France, and Italy, the use of RBLD resulted in 15.3% more tickets inside the CBBT-mid and 16.4% inside the CBBT-side on average. Even in highly liquid markets, such as US Treasuries, the data showed performance improvements with 4.4% more tickets executed within the CBBT-mid and 6.8% within the CBBT-side (Figure 1).
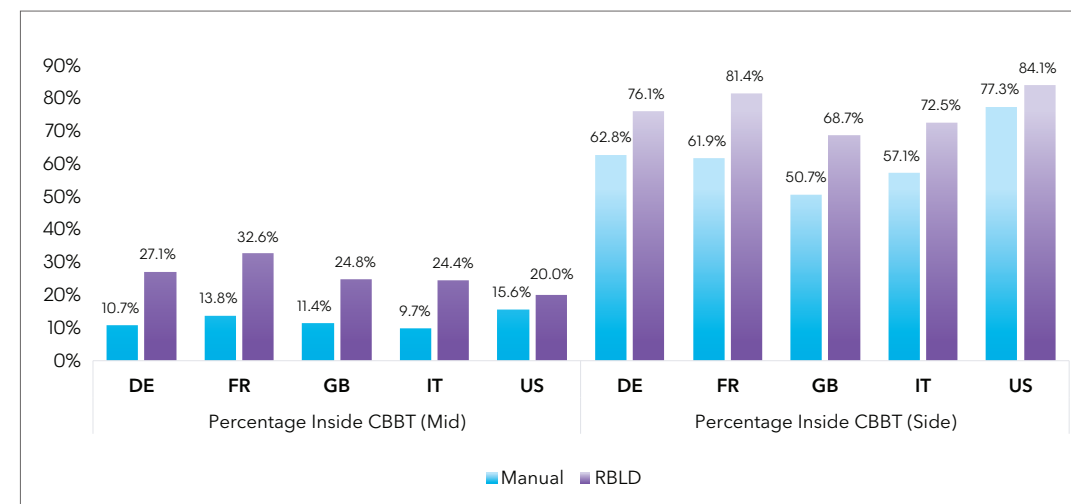

Figure 1. Percentage of Tickets Executed Inside the CBBT for USTs and Major Sovereigns

These performance improvements are maintained when analysing On-the-Run and Off-the-Run bonds (On-the-Run: 4.2% & 6.9%; Off-the-Run: 1.9% & 4.2%). Increased liquidity found in On-the-Run bonds can explain the performance differences in performance improvements between On-the-Run and Off-the-Run. Liquid orders are usually priced by dealer algorithms, making quick reactions crucial. RBLD can respond faster to market changes, allowing it to execute more trades within CBBT-mid and CBBT-side than manual orders. RBLD continuously monitors price and liquidity changes using Continuous Evaluation rules. When conditions are favourable and meet users' pre-approved rules, RBLD can automatically route an order for execution.

In credit markets, using RBLD resulted in a 0.02% decrease in tickets executed inside the CBBT-mid but a 3.9% increase inside the CBBT-side. The reduction in mid-performance is partly due to dealer relations (Figure 2), as traders are better at sourcing liquidity for difficult orders in opaque markets. While traders can often systemize their trading processes, there are times when manual execution provides better results.
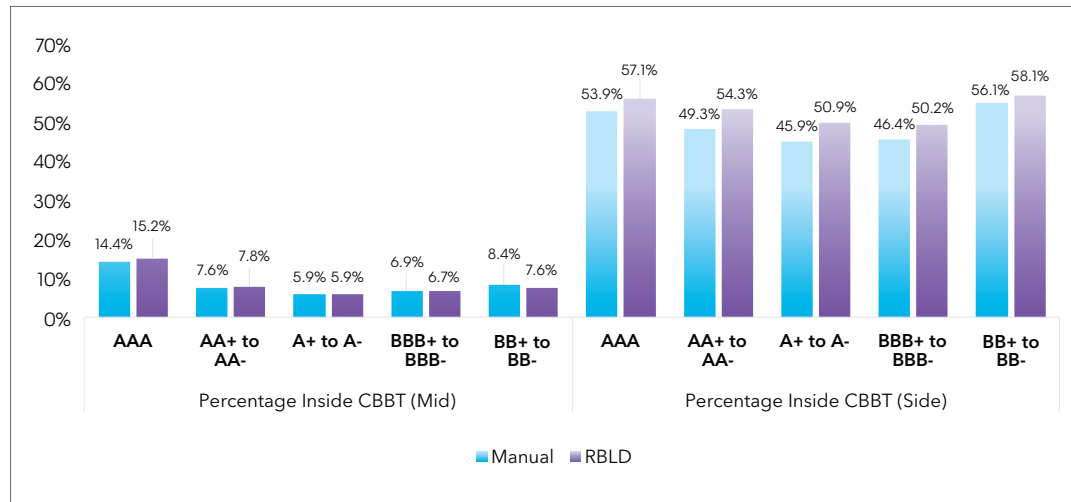
Ticket Slippage

Favourably slipped tickets occur when the quote received from the dealer is better than their streamed price at the time of the RFQ initiation. Adversely slipped tickets occur when the quote received is worse. This indicates the dealer's eagerness to trade. Generally, a traders goal is to achieve best execution through reduced adverse slippage.

In US Treasury markets, RBLD had 4.2% fewer adversely slipped tickets and 5.4% more favourably slipped tickets. Again, On-the-Run bonds performed better (4.7% & 1.5%) than Off-the-Run (4.3% & 4.9%). This trend continued in DE, FR, GB, and IT sovereign bonds, where RBLD saw 1.1% fewer tickets with negative slippage and 0.4% more positively slipped tickets (Figure 3).

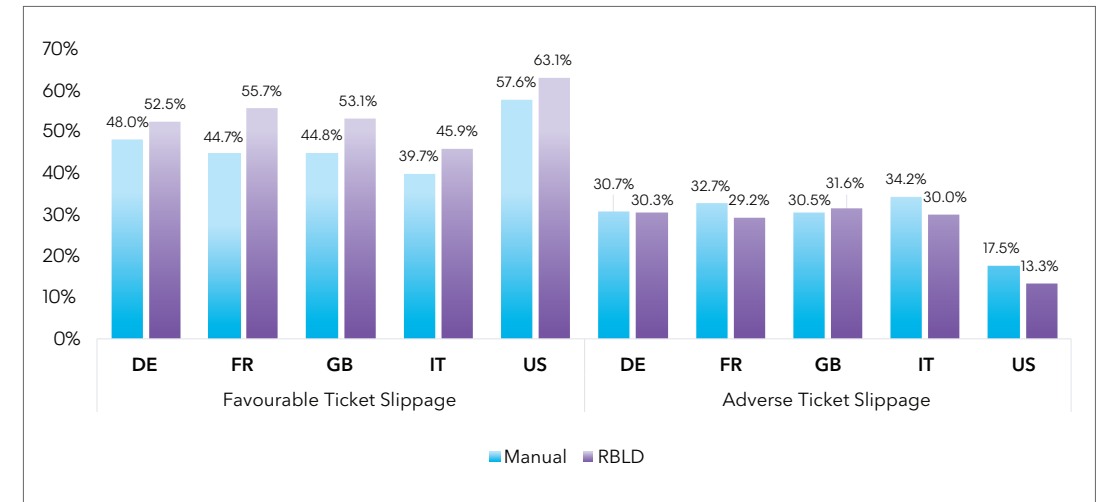Figure 2. Percentage of Tickets Executed Inside the CBBT for Credit Bonds

Figure 3. Percentage of Tickets Favourably and Adversely Slipped for USTs and Major Sovereigns

In credit markets, RBLD tickets saw 1.0% more adverse slippage but also 3.0% more favourable slippage. This shows that using RBLD often resulted in better pricing than initially streamed by the dealer at RFQ initiation (Figure 4). Automation ensures consistent execution and scalability, allowing for efficient handling of multiple RFQs simultaneously and maximizing opportunities for favourable slippage.
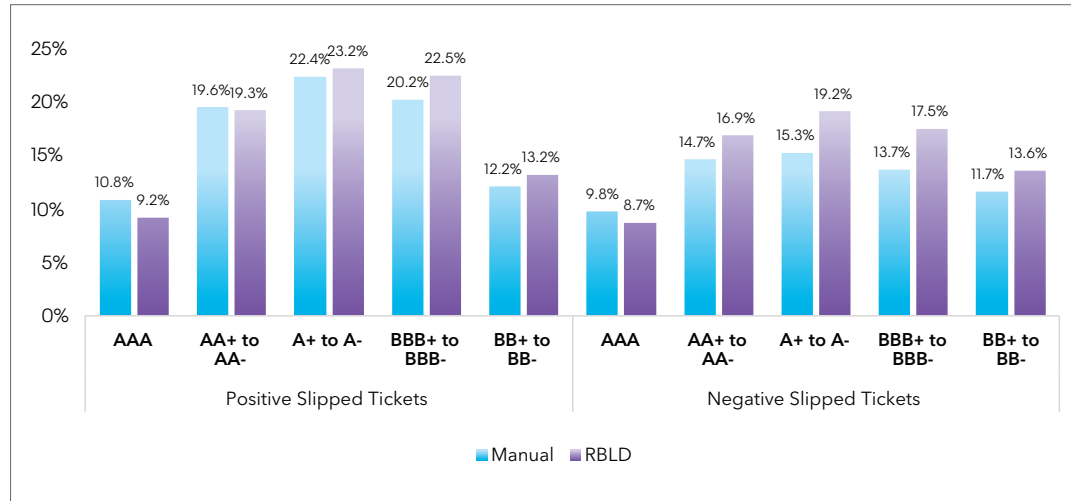
RBLD saw a 1.0% and 4.5% increase in ticket pricing in UST and major sovereign markets. It also abandoned tickets 3.1% and 5.1% more often, indicating a more systematic and decisive approach—executing quotes only if they meet the execution threshold within a set period (Figure 5). Performance differences for On-the-Run and Off-the-Run bonds can be found in the endnotes.[7]
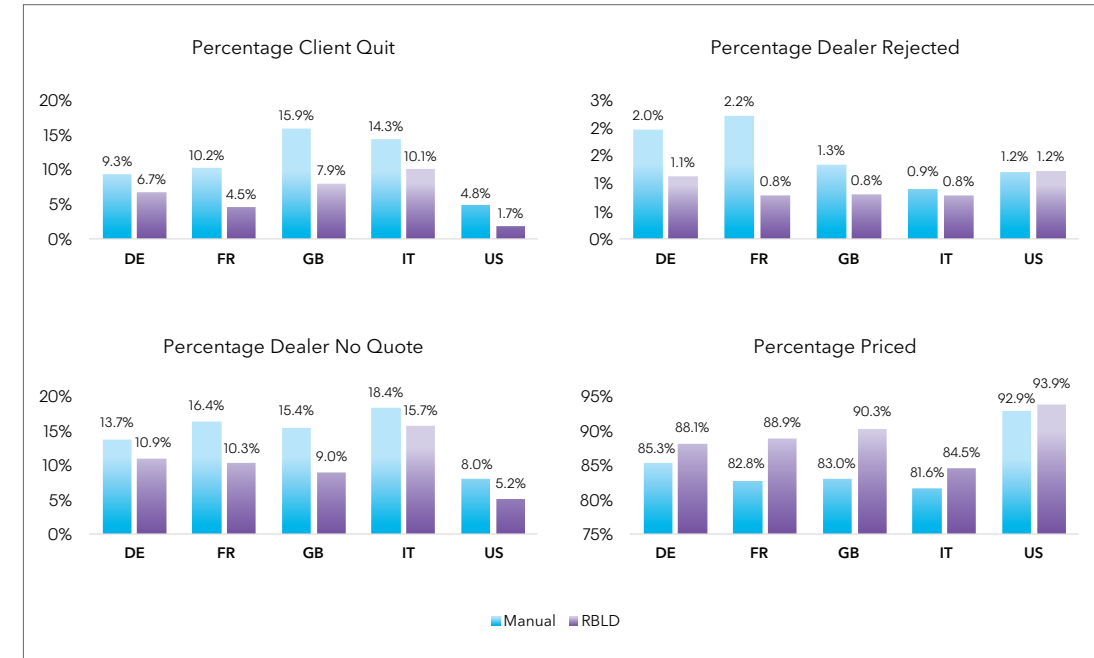

Figure 4. Percentage of Tickets Positively and Negatively Slipped for Credit Bonds

Figure 5. Dealer Interaction Performance for USTs and Major Sovereigns

Dealer Selection

When comparing RBLD and manually executed trades, it's evident that RBLD's systematic approach to dealer selection and execution likely leads to better average prices than manually placed tickets. On average, for USTs and major sovereigns, RBLD had 2.8% and 4.0% fewer instances where the dealer did not provide a quote back, indicating that rule-based dealer selection chose more responsive dealers.

In credit markets, RBLD tickets had 2.0% fewer instances of no quote and were rejected 1.7% less often. Moreover, 3.6% more tickets were priced when using RBLD, highlighting the methodical approach to dealer selection. RBLD trades exited RFQs 6.7% more frequently compared to manual routed orders (Figure 6). This suggests that RBLD enables a more consistent application of the execution process. For example, a user can set up a rule to require at least 3 received quotes with the best quote being inside the CBBT-side before executing an order.

Figure 6. Dealer Interaction Performance for Credit Bonds

Conclusion

Our empirical analysis reveals that RBLD consistently outperforms manual trading across various performance metrics. In US Treasuries and major sovereign bonds, RBLD demonstrates a persistent ability to execute trades within the CBBT benchmark, with more favourable ticket slippage and similar rates of adverse slippage. This outperformance is attributed to RBLD's rapid response to market price fluctuations and systematic approach to dealer selection and execution.

In credit markets, RBLD outperforms across all credit ratings on the CBBT side, except for CBBT mid, where it matches. This is consistent with our expectations, given the lower liquidity of credit markets. Notably, RBLD trades experience more adverse ticket slippage but also achieve more favourable slippage.

RBLD's automated trades receive more pricing, fewer dealer rejections, and fewer no quotes, indicating higher liquidity. In credit markets, RBLD stops execution when a best execution criteria is not met, allowing traders to intervene and source alternative liquidity.

This study focuses on liquid orders, where RBLD can provide performance improvements. While larger, more illiquid orders require trader expertise and dealer relationships, automating liquid orders with RBLD can free up traders to focus on illiquid orders, potentially enhancing overall desk performance.

If you've found this analysis interesting and want to explore Bloomberg's RBLD capabilities and trading venues, please contact elewin@bloomberg.net
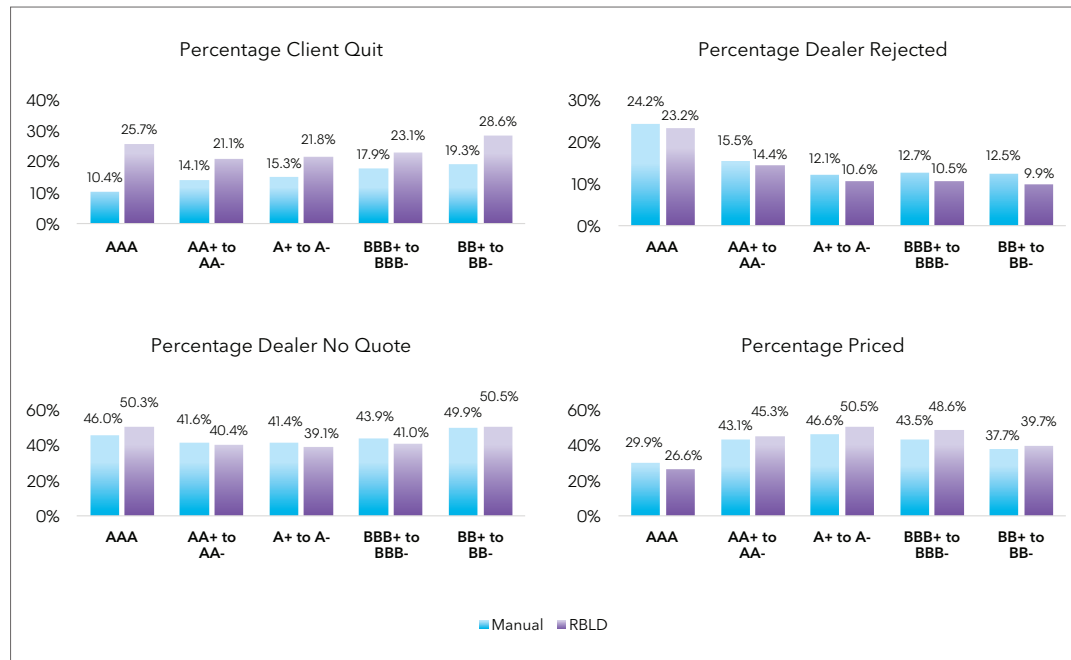
Endnote

1   Bloomberg Professional Services. (2024), Equity automation improves performance and strengthens best execution. https://www.bloomberg.com/professional/insights/trading/equity-automation-improves-performance-and-strengthens-best-execution/

2   Meehan, B. (2024), Treasury Volumes Rise to Record as Summer's Liquidity Is Ample. Bloomberg Intelligence. https://blinks.bloomberg.com/screens/DOCV%20RES%20SH0T65T0G1KW

3   Meehan, B. (2024), Credit Trade Sizes Decrease as Electronic Trading Hits New Highs. Bloomberg Intelligence. https://blinks.bloomberg.com/screens/DOCV%20RES%20S7CS5ADWRGG1

4   Meehan, B. (2024), Credit Traders' Algo Fervor Begets Trading Technology Arms Race. Bloomberg Intelligence. https://blinks.bloomberg.com/screens/DOCV%20RES%20SGPPB6T0AFB4

5   Meehan, B. (2024), Bond Transaction Costs Keep Getting Cheaper – With an Odd Twist. Bloomberg Intelligence. https://blinks.bloomberg.com/screens/DOCV%20RES%20SA11KCDWLU68

6   BMTF, BTBS, BTBU and BTFE.

7   For On-the-Run bonds, RBLD exited RFQs 3.5% less often and received 2.2% fewer no quotes. RBLD had 2.0% more tickets priced. Though, RBLD was rejected 0.2% more often. For Off- the-Run, RBLD also exited 3.2% fewer trades whilst receiving 2.1% fewer no quotes. Again, RBLD had 2.3% more tickets priced and was rejected 0.1% less often.

Solutions for electronic trading

Get in touch with our sales specialists to discuss electronic trading insights, Bloomberg product enhancements and upcoming events.

bloomberg.com/professional

Beijing
+86 10 6649 7500

Dubai
+971 4 364 1000

Frankfurt
+49 69 9204 1210

London
+44 20 7330 7500

Hong Kong
+852 2977 6000

Mumbai
+91 22 6120 3600

New York
+1 212 318 2000

São Paulo
+55 11 2395 9000

Shanghai
+86 21 6104 3000

Singapore
+65 6212 1000

Sydney
+61 2 9777 8600

Tokyo
+81 3 4565 8900