

It's a Trap

Correcting Q4 2020 Universal Prevailing Market Price Dashboards

By Paul Daley, Managing Director, BondWave

At the end of the fourth quarter of 2020, BondWave decided to create a set of dashboards that summarize trends in industry-wide mark-ups and mark-downs. After receiving positive feedback about the dashboards, we were excited to release the updates for the first quarter of 2021. In doing so we incorporated a new feature based on user feedback. Starting with this second set of dashboards we will show the percentage change from the prior quarter for a number of key statistics. It was at this point we ran into some trouble.

To incorporate this new feature, we went about rebuilding the entire code base used to create the dashboards. This was necessary for technical reasons. But when we produced the new dashboards, we could not reconcile the Q4 2020 values with the Q1 2021 values and the percentage change. Either the percentage change was too low or the Q4 2020 values it was being calculated from were too high. After much digging we realized that we had fallen into a trap. What was so disappointing is that we have long known this trap existed and have built processes to avoid this trap in our products.

WHAT IS THE TRAP?

Fixed income trade data is notoriously difficult to work with and the way it is organized and presented makes it significantly more difficult to understand trading patterns, unlike when using equity data, for example. The complexity of the data structure is sometimes necessary given the complexity of the instruments, but sometimes the level of complexity seems to exist only for complexity's sake. This complexity can often mask errors. When data is complex, poorly organized, and poorly presented it can be very difficult to tell when errors are imbedded in the data. Sometimes the data is confusing because it is complex and sometimes it is confusing because it is wrong.

Through careful analysis of reported trades on TRACE and EMMA, we have identified at least six categories of probable and likely trade reporting errors. The six categories are: (1) Price Input Errors, (2) Yield Input Errors, (3) Side of Market Errors, (4) Trade Corrections Processed Incorrectly, (5) Trade Throughs, and (6) Illogical Price Patterns. It is the third category (Side of Market Errors) that presented the trap that we fell into when producing the original Q4 2020 dashboards.



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Imagine that

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The simplest form of a Side of Market Error involves a riskless principal trade. In these trades, there is a dealer-to-dealer trade paired with a dealer-to-customer trade making it fairly mechanical to calculate a mark-up for the trade pair. The assumption is that the mark-up will always be a positive number, meaning the broker that did the trade made money on the transaction, they bought the bond for less than what they sold it to the client for, and vice versa. The problem occurs when you encounter a negative number.

How do you interpret a negative mark-up on a riskless principal trade? Given that a mark-up on a riskless principal trade is economically identical to a commission on an agency trade, it does not seem logical that a broker would charge the equivalent of a negative commission on a trade. Instead, it is more likely that the client trade was reported to the tape with the wrong side of market. BondWave has been able to independently verify that this has been the case in some instances. It is understandable how this could happen as fixed income trade reporting and settlement occur in two completely separate workflows at many firms. Where this is the case, there is no economic consequence to incorrectly reporting a trade to the tape.

HOW BIG IS THE ISSUE?

When it comes to probable side of market errors, the number of occurrences is not large (as one would hope), but they can be large in magnitude. For example, in the Q4 2020 data there were only 245 municipal customer sales with a negative mark-down, but the average mark-down for these trades was -1.09% while the average mark-down for trades with a positive mark-down was +0.38%.

This issue is addressed in the TRACE Mark-Up/Mark-Down Analysis Report that FINRA generates monthly for each broker-dealer. In its definition of calculations, the report contains the following language: "Note: Pairs with calculated markup or markdown or customer-to-customer percentages less than or equal to 0 are not included."

Trades with zero mark-up or mark-down are clearly a different issue. While there is no reason to believe that there is an error of any kind with these trades, they are excluded because it is assumed that the broker is compensated separately from the trade (for example, in a wrap account). Averaging in a large number of zeros skews the calculation even more than averaging in a small number of negatives. So, we have re-run the [Q4 2020 dashboards](#) to replicate the FINRA calculation definition and will continue to follow that method on all future dashboards.

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BondWave believes that an investment in technologies designed to catch and correct trade reporting errors in real-time is both possible and advisable. Rather than filtering problematic data, the problems can be fixed at their source. There are several public benefits to be gained from such an effort. Most importantly, confidence in the accuracy of price discovery is key to the growth of liquidity in a market. If data is missing or incorrect, market participants will either hesitate to trade or will widen bid/ask spreads to compensate for the inherent uncertainty. It is also important to note that regulators now require retail brokers to use trade reports to calculate mark-ups and mark-downs and place those calculations on trade confirmations in certain circumstances. If the industry is to rely on reported trade data to satisfy regulatory requirements, it should have confidence that everything is being done to ensure the accuracy of the data required for disclosure purposes.

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Effi™, our Engine for Fixed Income, is the single platform through which we deliver all our solutions providing intuitive dashboards and insights into every fixed income position and transaction. Capabilities include portfolio analytics and reporting, custom alerts, and proposal generation, as well as tools that support best execution, fair pricing, and mark-up monitoring and disclosure on both a pre- and post-trade basis. BondWave leverages advanced technologies and data science to develop proprietary data sets that fuel our innovative solutions.