



BEST
CREDIT
DATA

Best Credit Data

Pricing, Analytics & Reference Data Services

Evaluated Pricing Team Leaders



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Bond Evaluated Pricing

BCD utilizes a proprietary algorithm-driven approach to evaluated pricing utilizing Google BigQuery. Every security is computed independently, valuations reflect all market movements and big data is utilized in support of our industry-tested methodology

The BCD evaluation team aggregated years of historical data then ran a series of correlation analyses to determine, for each bond, what sister/issuer bond has the strongest interdependence in price. These efforts, laid on top of traditional evaluated pricing methodology, created the BCD model 4 years ago.

Today, BCD provides a highly data-driven evaluated price on municipal and corporate bonds fueled by market data inputs and enhanced terms and conditions. Inputs and calculation methodology have been vetted and back-tested by municipal and corporate bond industry veterans.

BCD's data is utilized today in the following ways:

- Mutual Fund Valuation
- Insurance Company Asset Valuation
- Institutional Asset Management Valuation
- Hedge Fund & Algorithmic Trading
- Risk & Compliance
- Third-Party Administrators & More

Bond Evaluated Pricing

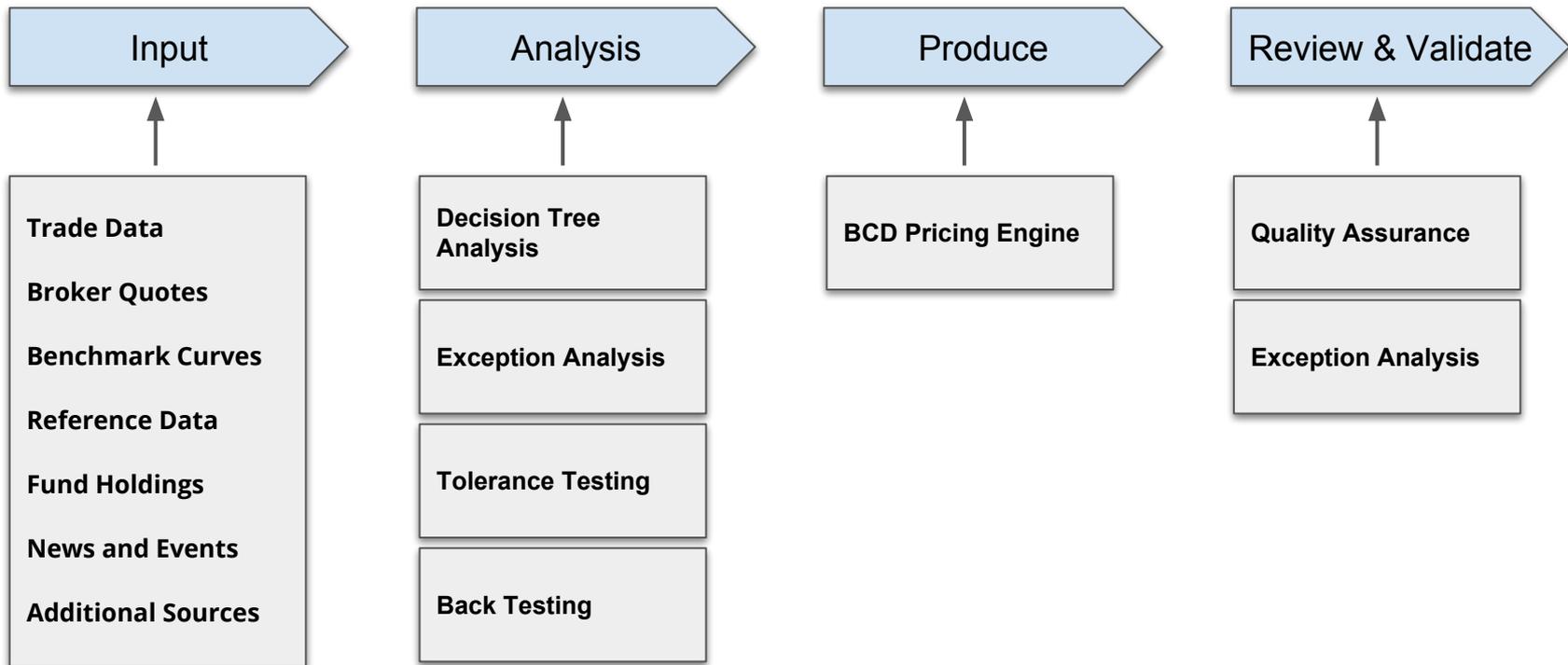
BCD pricing methodology starts with historical aggregation of pricing observations for each bond back to its issuance, which helps drive BCD's observation-based pricing process.

BCD utilizes data from hundreds of sources and calculates the best possible price for each security by layering transactional pricing data, bid-offer data, positions from government cash management and pension plans (state / federal / local), insurance companies and ETFs, as well as open- and closed-end mutual funds. Utilizing weighted regression analysis, BCD then reconciles these observations into a single, meaningful price.

BCD creates an enhanced database of terms and conditions utilizing Mergent terms and conditions, fund holdings and additional data collected directly by BCD. These data are utilized as an input into BCD algorithms, providing a consistency of source data that is vital to accuracy and risk control.



Pricing Model Workflow



Model Inputs

BCD utilizes the broadest possible data inputs to calculate prices that represent the most accurate market value of each bond, including:

Trade Data: BCD incorporates trade price transparency data provided by FINRA (TRACE) and the Municipal Securities Rulemaking Board (EMMA)

Broker/Dealer Quotes: A price at which a dealer is willing to purchase a security and an offer, a price at which a dealer is willing to sell a security. Long-standing relationships with bulge bracket banks allow access to proprietary data.

Fund Holdings: Daily portfolio holdings from open and closed end funds

News and Events: Relevant information about markets and sectors from authoritative sources

Industry and Economic Announcements: Market-moving events

Benchmark Curves: Proprietary and industry curves

Reference Data: Corporate actions, terms and conditions and ratings

Additional Sources: BCD incorporates the widest possible selection of data sources in order to create the most accurate price for each security



Documentation & Controls

Transparency into how valuations are calculated is increasingly important. The ability to drill down into calculations and models used to create evaluated pricing and contextualize the evaluated price in relation to others and the market overall. BCD's automated pricing process allows for the highest degree of transparency since our proprietary, model-driven approach does not allow any modifications by evaluators during the pricing process. This instills a high degree of trust in the consistency, accuracy and transparency of BCD's process, both in real time and in historical price assessments and research.

Quality Assurance is performed in several different ways. The first is a review of BCD prices vs. actual trades from MSRB, broker-dealers and ETFs to determine accuracy. If trades are outside of pre-set thresholds of 1%, 3% or 5% a report is created and the algorithms for those specific securities are researched. BCD also conducts historical quality assurance on holdings changes to reflect the most accurate historical prices. Reports are created and pricing algorithms related to those securities are reviewed and adjusted over time. Clients may also request customized daily quality assurance reports based on their specific requirements.



Price Challenges, Exceptions & Service

Price Challenge Process

Clients can submit a price challenge via email to info@bestcreditdata.com. Turnaround time on price challenge is less than 24 hours. For a successful price challenge, BCD will require a valid quote and contact information of the source providing the quote. Analyst will get in touch with the source to validate information.

Exception Reporting

BCD's approach to exception management and price challenges is different. As an automated pricing provider, we work with clients to identify security outliers based on each client's valuation risk requirements and tolerance and send a daily list of the securities that will trigger price challenges from that client (an "Exception Report") **along** with supplemental information to explain and validate BCD's evaluated price.

Customer Service

With staff available 24/7 to meet client needs, BCD offers best in class customer service. Our primary business hours are 8am to 6pm to service the majority of daily requests including but not limited to price challenges, technical questions, and general client inquiries. Staff from the valuation group, operations, development and account management are all utilized to service our valued clients' needs in a swift and complete manner.



What Makes Us Different?

Independent calculation of each security

Because BCD's pricing engine is built on Google Big Query, each price is calculated independently based on its unique characteristics and the quantity and quality of relevant observable data for that bond. This is important because it dramatically improves the accuracy of each bond on a daily basis.

Pricing hard-to-value securities

BCD's data-driven approach allows us to price all securities, even those where data is sparse. This challenge improves our level of service to our clients but also gives us unique insights to private markets where clients have helped tailor our solutions to meet their needs. One of these markets is private in privately placed securities.

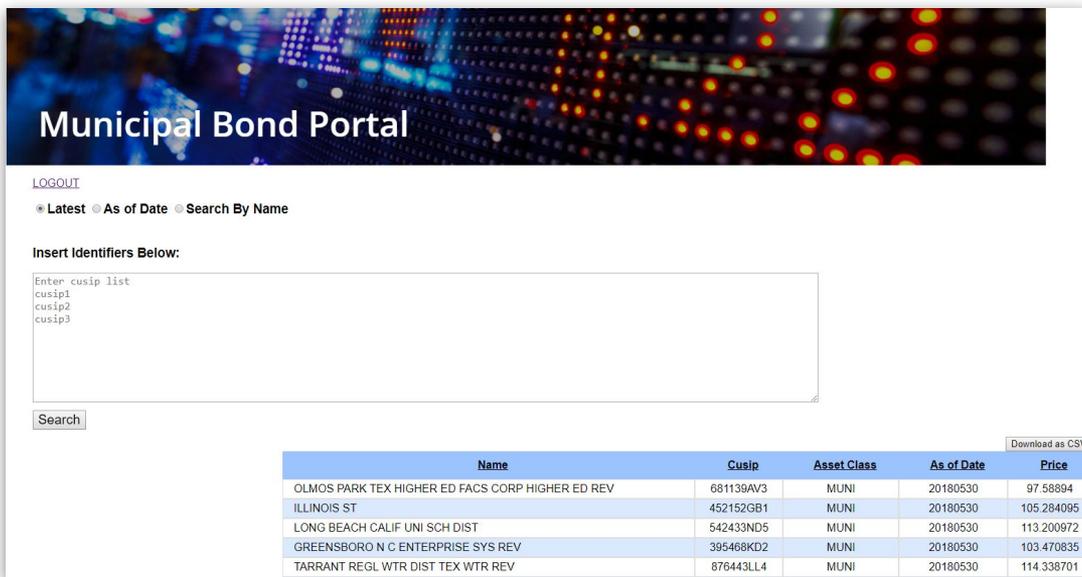
Private Security Valuation

BCD's data-driven approach and advanced data aggregation efforts allow BCD to price all securities, even those where data is sparse and are hard to price. Recently, market participant's especially insurance companies have exploited BCD's capabilities to price privately held securities. Because of this, **BCD can price all securities including bond, loan or hybrid security given requisite reference data.**

Pricing Portal

Best Credit Data has recently released an online portal for ad hoc pricing requests. In support of our end of day feed and API customers, clients can now access all current and historical pricing information online.

Perfect for intra-month or intraday requests, this online tool is a great manual supplement to existing automated solutions.



Municipal Bond Portal

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| GREENSBORO N C ENTERPRISE SYS REV | 395468KD2 | MUNI | 20180530 | 103.470835 |
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