

*The company chosen for this case study is a fintech start-up focused on solutions for capital markets, providing workflow tools for securitized product trading.*

### CHALLENGE



Giving broker-dealers trading RMBS the ability to find similar bonds for their clients using both collateral metrics and projected cash flows

### SOLUTION



Mies Jensen applies machine learning that combines Moody's Analytics RMBS cash flow models with market data and collateral information within Crystal to generate a proprietary suggestion of bonds with similar characteristics

### RESULTS



The integration gives Mies Jansen's broker-dealer clients the ability to see similarly situated bonds that match their clients' needs from a risk and cashflow perspective

*"Our goal with Crystal is to give sales people & traders all of the information they need when talking to a client or making a trade. By coupling Moody's Analytics cashflows to pricing data and econometric models, we are able to provide sales people with more insights for their clients and help traders explore relative value options."*

*- Michael Jansen, CEO, Mies Jansen, Inc.*

# Detailed cash flow analytics providing insights for trade management

## THE CHALLENGE

Broker-dealers in the business of helping their clients to buy or sell bonds add value when they understand their client's business needs and are able to source and deliver securities that match those needs. With nearly a half million CUSIPs in the RMBS space, sales people and traders can only have intimate familiarity with a small selection of the universe. To find bonds which match a client's axe, broker-dealers can easily filter the half million CUSIPs to find bonds which are similar based on rudimentary collateral characteristics, such as days outstanding, coupon and loan count.

Sophisticated investors, however, are often interested in obtaining bonds which provide a specific cash flow profile and, simultaneously, the investors want to ensure that the risk associated with the cash flows they are buying are commensurate and specific collateral-level requirements are satisfied. This requires broker-dealers to understand how a bond compares, not only at the collateral level, but at a cash-flow and risk perspective as well.

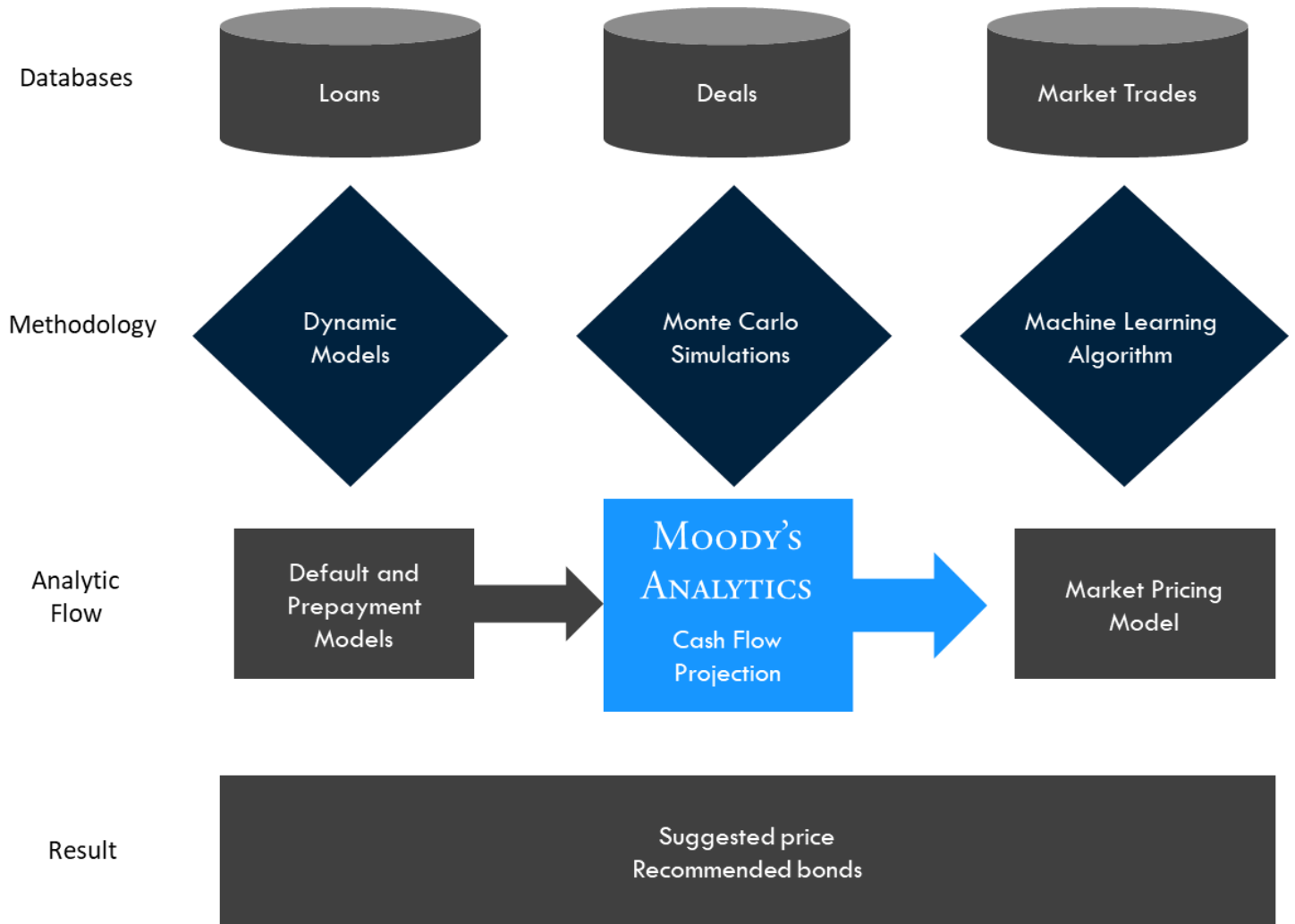
## THE SOLUTION

The solution for broker-dealers is an analytical model that applies machine learning across the universe of RMBS bonds to find bonds that are similarly situated at the collateral, risk and cash-flow levels. Mies Jansen combines Moody's Analytics RMBS cash-flow models, collateral and deal-level information, along with market data using dynamic models, Monte Carlo simulations and machine learning algorithms to feed default and prepayment models, which provide a cash flow projection and output an expected price for each bond. Clients must license software with both Mies Jensen and Moody's Analytics separately in order to access the integrated solution.

## THE RESULTS

For any given bond, Mies Jansen is able to derive a theoretical price, predict the cashflows and analyze all of the collateral-level metrics. With this knowledge, traders and sales people are able to compare bonds at a much deeper level of analysis and find relative value by looking at two similarly-situated bonds trading in the market at divergent prices. Alternatively, broker-dealers can use the information to scan the universe for a client to find a bond which is similar in nature to one the client already owns.

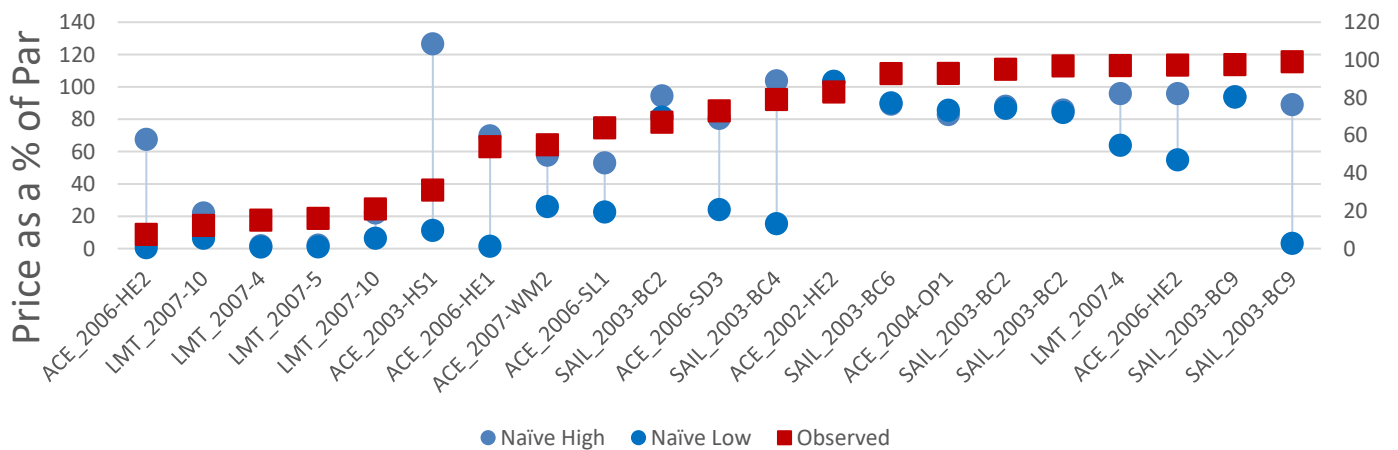
# The Process



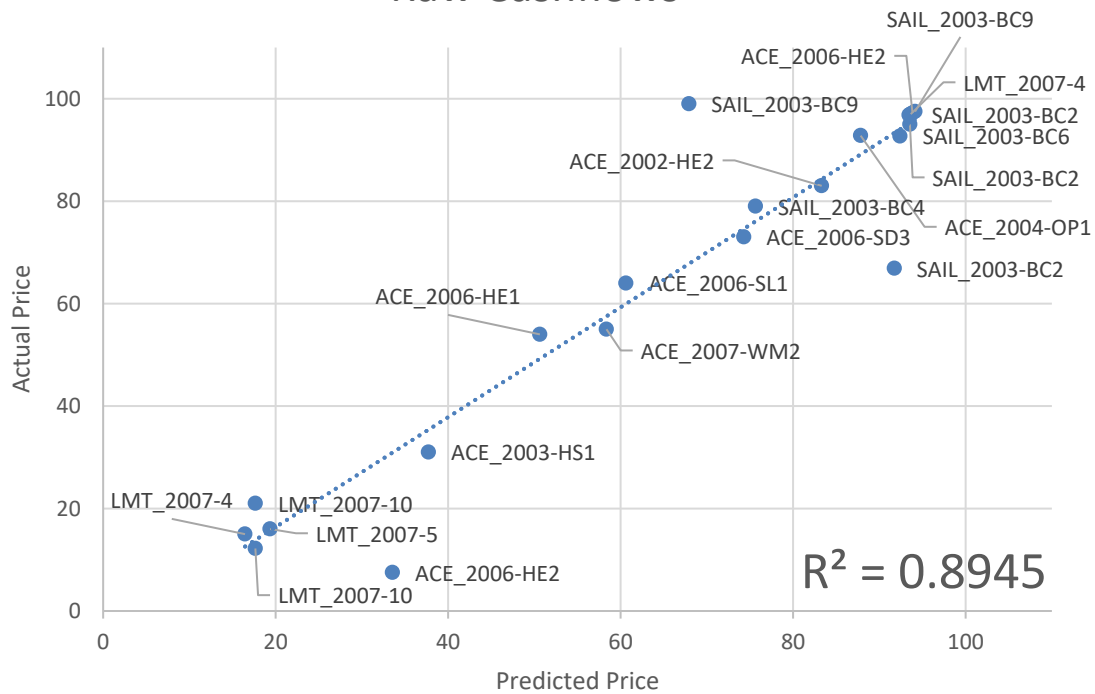
# The Result

Mies Jansen automatically combines an econometric model, Moody's Analytics cashflow model and pricing data across the universe of a client's bonds, removing manual processes and improving accuracy. Sales persons and traders are then able to look deeper at bonds which have divergent prices but similar attributes and determine where they may be value.

Raw Price Ranges With Raw Cashflows



# Effects of Machine Learning As Applied to Raw Cashflows



## About Moody's Analytics

Moody's Analytics provides financial intelligence and analytical tools supporting our clients' growth, efficiency and risk management objectives. The combination of our unparalleled expertise in risk, expansive information resources, and innovative application of technology helps today's business leaders confidently navigate an evolving marketplace. We are recognized for our industry-leading solutions, comprising research, data, software and professional services, assembled to deliver a seamless customer experience. Thousands of organizations worldwide have made us their trusted partner because of our uncompromising commitment to quality, client service, and integrity.

Moody's Analytics is a subsidiary of Moody's Corporation (NYSE: MCO). MCO reported revenue of \$4.2 billion in 2017, employs approximately 11,900 people worldwide and maintains a presence in 41 countries. Further information about Moody's Analytics is available at [www.moodyanalytics.com](http://www.moodyanalytics.com).

## About Mies Jansen

Mies Jansen is a financial technology company providing workflow tools to the institutional financial sector. The company's main product, Crystal, captures, logs, orders, stores, segregates, recalls and displays any and all information known about a security and enables the "institutionalization" of knowledge. We combine product, portfolio and market data information on one screen to provide users with all known pre-trade information and capture post-trade voice and electronic color. Our open API allows for extremely rapid integration with existing systems, enabling our clients to leverage their current technology and analytic investments. With Crystal, users on both the sales desk and the trading desk can reduce the time they spend looking for information by 90% and reinvest that time in servicing clients and generating trading strategies.

### CONTACT DETAILS

Visit us at [moodyanalytics.com](http://moodyanalytics.com) or contact us at a location below.



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