MIAC Analytics™ Method for deriving TBA Durations/Convexities

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AI-Durations™/AI-Convexities™

MIAC Analytics is used by many leading firms in the mortgage industry to measure the price sensitivity of TBA securities. Measuring the price sensitivities of TBA's is a long-standing industry challenge, and the industry thought leaders have adopted multiple methods for estimating TBA durations and convexities. MIAC Analytics supports multiple methods as well. The most accepted methods are constant OAS (Option-Adjusted Spread) and derived intracoupon price spreads. The constant OAS method utilizes complex term structure models, calibrated to current long-term volatilities, and empirically derived highly complex voluntary and involuntary prepayment models. Whereas AI-Durations/AI-Convexities utilize a more transparent and straightforward methodology. Given the CME TBA Futures contract market participants would strongly prefer a highly transparent method, this paper will describe the methodology used to derive the AI-Durations and AI-Convexities which are then converted to CME's InterCommodity Spreads (ICS).

AI-Durations are not artificial intelligence. AI-Durations are simply the average of market Implied durations. How does the market imply a duration? By simply measuring the intracoupon price spread. For example, how much will the price of the TBA 5's change if interest rates rally by 50 bps (lower bond equivalent yield or BEY's)? The presumption is that the TBA 5's will move to be the current price of the TBA 5.5's. And if the market sells off 50 bps (higher BEY's), the TBA 5's price will move to the current price of the TBA 4.5's. The distinction and value-add of MIAC's AI-Duration is in the method to derive the TBA prices themselves.

MIAC Analytics utilizes an IOSCO (International Organization of Securities Commissions) compliant fixing rule book to derive each coupon's and settlement month's TBA fixing price. These price fixings utilize the actual cleared pricing from FINRA's TRACE system. All OTC TBA actual transactions are included in the MIAC fixing rules waterfall. The MIAC TBA Fixings are recomputed every 5 minutes. And at each fixing, the intracoupon price spreads are derived from each coupon's TBA fixing price. The time series of these fixings is then averaged over the prior five trading days to derive an average implied duration or AI-Duration.

The MIAC fixing rules book is available to those who license either the MIAC TBA Fixings data product or the MIAC Market Monitor real-time TBA price discovery web solution. The MIAC TBA Fixings™ are used for closing marks from some of the largest financial institutions in the TBA market. MIAC's Market Monitor (MMM™) provides accurate price discovery in the TBA market – helping originators and investors understand market trends and achieve better trading executions.

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