



IHS Markit™

ABX Composite and Model Prices

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Introduction

This document describes the methodology used to calculate the ABX composite and model prices available to license holders. If you are not a license holder and are interested in obtaining access to ABX pricing, please contact indices@ihsmarkit.com.

ABX composite prices represent the consensus dealer levels generated from the direct books of record of licensed market makers. ABX model prices track underlying movement by calculating a constituent roll-up of the weighted average of IHS Markit's independent evaluated bond prices. Together, the composite and model prices provide the most comprehensive view of the ABX market available.

Pricing Methodology

ABX Composite Prices

To calculate composite prices, IHS Markit solicits closing transacted mid-market prices for transactions under the ABX Standard Terms Supplement quoted as a positive or negative percentage to two decimal places (excluding any accrued fixed amount) from all ABX.HE participants. However, liquidity in the ABX index has declined over time with trading no longer occurring on a regular basis for all current and prior ABX.HE sub-indices. As a result, the closing mid-market prices submitted by ABX participants may be estimated values for transactions under the ABX Standard Terms Supplement rather than actual transacted prices.

IHS Markit employs a filtering process which entails taking the received quotes, discarding the top and bottom quartiles and taking the arithmetic mean of what remains. The quoted fixing value is a percentage reported to two decimal places. The number of removed points in each discarded quartile will be determined by the total number of contributors divided by 4 with this quotient being rounded down to the nearest whole number. Examples are shown in the table below:

Number of Contributors	Upper Quartile Discards	Lower Quartile Discards	Number of Quotes Used in Composite
1	0	0	No composite calculated
3	0	0	3
4	1	1	2
5	1	1	3
7	1	1	5

ABX Model Prices

To calculate ABX model prices, IHS Markit references independent evaluated bond prices modelled and reviewed daily using a proprietary pricing system. All underlying bond prices are calculated assuming round-lot levels. The mid-prices are weighted and adjusted to incorporate swap implied writedown mechanics for bonds that cannot take actual losses.

IHS Markit follows the following steps to arrive at the daily ABX model price:

1. For each constituent in the index, the bond must be initially separated into one of two classification groups: Actual Loss or Implied Write-down.
 - a. Let C^{AL} denote the classification grouping for Actual Loss bonds and C^{IWD} denote the classification grouping for Implied Write-down bonds.

2. After the constituents have been classified, the daily end of day bond mid-prices for each constituent are populated. Furthermore, the monthly swap, principal, and WD-WDR factors are collected as of the prior end-of-month snapshot for each of the constituents as well. These three factors and the pricing notation are defined as follows:
 - a. Let F^{Swap} denote the swap factor, which is the next ABCDS component factor for a given constituent.
 - b. Let $F^{Principal}$ denote the principal factor and F^{CPP} denote the ABCDS component cumulative principal payment factor for a given constituent. The principal factor is derived from the following equation:
 - i. $F^{Principal} = 1 - F^{CPP}$
 - c. Let F^{WD-WDR} denote the WD-WDR factor, F^{WDL} denote the ABCDS component writedown loss factor, and F^{WDR} denote the ABCDS component writedown reimbursement loss factor for a given constituent. The WD-WDR factor is derived from the following equation:
 - i. $F^{WD-WDR} = F^{WD} - F^{WDR}$
 - d. Let P^{Cash} denote the cash bond mid-price for a given constituent.

3. The conversion factor for each constituent is calculated using the monthly swap, principal, and WD-WDR factors according to the following notation and formulas:
 - a. Let $F^{Conversion}$ denote the conversion factor for a given constituent, which is based on the given constituent's bond classification.
 - b. $F^{Conversion} = 1$ if a bond is in C^{AL} .
 - c. $F^{Conversion} = \frac{F^{Principal}}{F^{Swap}}$ if a bond is in C^{IWD} .

4. The model price for each constituent is calculated using the conversion factor and cash bond price using the following notation and formula:
 - a. Let P^{Model} denote the model price for a given constituent.
 - b. $P^{Model} = F^{Conversion} * P^{Cash}$

5. The model-implied index price level is calculated using the implied prices and swap factors for the index constituents using the following notation and formula:
 - a. Let PL^{Model} denote the model-implied index price level.
 - b. $PL_t^{Model} = \frac{\sum_{i=1}^n P_{i,t}^{Model} * F_i^{Swap}}{\sum_{i=1}^n F_i^{Swap}}$

Disclaimer

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The ABX composite and model prices calculated by IHS Markit, in accordance with this methodology, are strictly indicative and intended for internal use (for example price discovery and verification; NAV calculations, risk analysis etc). Any external use of these indicative levels, including but not limited to use in transactions or to determine financial products, is not the intended use of the composites and is outside the scope of any licence granted by IHS Markit.