

Morningstar Fixed-Income Style Box Methodology Enhancement

Frequently Asked Questions

Why is Morningstar updating the Morningstar Fixed-Income Style Box?

The last revision to the methodology to calculate the Morningstar Fixed-Income Style Box was in 2012. After nine years, we are making changes that we believe will result in a tool that is more helpful to fixed-income investors by using an approach that more closely aligns with market participants' expectations. Specifically, we are making the Fixed-Income Style Box easier to understand for users, having average credit value less dependent on specific modeling assumptions and adopting a 90% coverage threshold, which aligns with the current calculated average framework.

What is the Fixed-Income Style Box, and how is it calculated?

The Fixed-Income Style Box combines two key measures of fixed income — interest-rate sensitivity and credit quality — to classify a portfolio. Interest-rate sensitivity is determined by using the average effective duration value, while credit quality is determined through the average credit-quality value. These two dimensions each represent an axis of the style box matrix, with three distinct categories. For interest-rate sensitivity, the three categories are "Limited" (least sensitive), "Moderate," and "Extensive" (most sensitive), and for credit quality, they are "High" (best quality), "Medium," and "Low" (worst quality). When combined in the matrix visual representation, there are nine possible combinations, and each portfolio is assigned to a single combination "cell." The style box calculations are based on self-reported information that asset managers provide to Morningstar through the Fixed-Income Survey.

What is changing with the new methodology?

This methodology change affects only the credit-quality dimension. There are two elements of the existing methodology that are changing.

- **Average Credit-Quality Calculation Methodology:** As each portfolio is assigned to a single credit category, the average credit quality is used to make the assignment. Unlike the average effective duration value, which is provided directly to Morningstar through the Fixed-Income Survey, average credit quality is calculated from information provided — the Credit Quality Breakdown. This data point provides a weighted distribution of the portfolio across credit rating symbols (AAA, AA, and so on) and the weight for which no ratings are available (Not Rated). There are seven rating

symbols that can be used. Using the Credit Quality Breakdown as an input, Morningstar then calculates an average value for the portfolio. The average value is also a rating symbol. We are changing elements of how the breakdown values are transformed into an average value as well as expanding the number of distinct rating symbols that can be calculated.

- **Style Box Breakpoint Methodology:** Once an average credit-quality value has been calculated, it is then assigned to one of the three credit-quality categories. This is accomplished by mapping the rating symbols used for the average credit quality to the style box credit categories. We are changing the method to determine the mapping and the incorporation of the expanded number of rating symbols that will be produced.

You said this change would make the Fixed-Income Style Box easier to understand for users. How?

One of the consistent elements of feedback we have received since the introduction of the 2012 methodology is that it was complex and not intuitive. To calculate an average value from symbols, there must first be a numeric transformation. Because most people have a personal experience with the calculation of an average based on symbols — a scholastic grade point average — their assumption is that the style box average would be calculated in essentially the same manner. However, it uses a very different approach, which clearly led to confusion for users. This change will remove the disconnect.

How will average credit value be less dependent on specific modeling assumptions?

There are two specific elements of the 2012 methodology that have a potentially large impact on the calculated average. First is the numeric transformation. The methodology assigns lower-quality rating symbols exponentially larger numeric values, creating a larger impact on the overall average. The second element is how the Not Rated portion of the portfolio is treated. Rather than omitting the unknown portion, an assumed rating symbol was assigned. In extreme cases, these assumptions can result in an average credit-quality value based solely on the Morningstar assumed rating.

What is the benefit of adopting a 90% coverage threshold?

The new methodology makes no assumption about the rating value of Not Rated; instead, it is excluded from the calculation altogether. To ensure that any average value maintains the appropriate level of meaningfulness, we instead adopt the use of a coverage threshold test that is already established in our holding calculated averages. This approach means that the average is based only on known ratings values and that a high coverage bar must be cleared for an average to be produced. Portfolios that fall below the threshold will have neither an average credit quality nor a style box placement.

What impact will the change have on coverage?

Because the old methodology transformed the Not Rated portfolio weight into an assumed rating symbol, all had 100% coverage and were assigned a style box placement if an average effective duration value was also available. With the new methodology, a 90% coverage threshold analysis indicates that there will be a loss of coverage of around 10% of the number of portfolios that currently have a style box placement.

What is not changing with the methodology update?

This methodology change affects only the credit-quality dimension. There are two elements of the existing methodology that are changing.

- Based on Fixed-Income Survey (excluding Canada): While Morningstar now has holding-based analytics for many of the same portfolios that submit the Fixed-Income Survey, we are choosing to continue using the self-reported credit data to promote continuity. This means that style box will still only be calculated for managed investments.
- No Change to Interest-Rate Sensitivity Methodology: There will not be any associated change in the way that the average effective duration value for a portfolio is mapped to the style box categories for the interest-rate sensitivity axis.

Will there be a historical recalculation?

We will not recalculate historical style box values; instead, this will be a methodology transition as of the initial calculation date on Feb. 22, 2022.

What about Canadian funds that do not have surveys?

Asset managers with Canada-domiciled funds have not submitted the Fixed-Income Survey. Currently, we produce style box placement for

these Canadian portfolios using holding-based credit and duration values using the same methodology as the rest of the world. We will maintain the same approach with the new methodology.

Will this have an impact on fixed-income category assignments?

No, neither the average credit data point nor the style box values have any connection to the category assignment process. Category assignments may use the credit breakdown of a fund but never use the average or the Fixed-Income Style Box.