4.8: Bond Ratings and Default Risk

One of the big factors impacting the required return associated with bonds is the default risk associated with the bond. Bond default does not imply that the bondholder will lose her entire investment. Instead, it means that the bond issuer cannot meet the specific terms associated with paying the bond coupon payments and/or principal. At this point, bondholders can force the firm into bankruptcy proceedings or reach a mutual settlement with the firm accepting a restructured payment plan.

The default risk associated with a bond varies dramatically based on the specific issuer. Bonds issued by the US Treasury are often assumed to be free of default risk (or have extremely little default risk). Alternatively, bonds issued by corporations depend on the financial stability of the firm that issued the bond. Since many individual bondholders lack the resources to carefully evaluate the financial stability of each issuer, there are bond ratings agencies (such as Standard and Poor's, Moody's, and Fitch) that provide bond ratings to investors. These bond ratings are essentially grades that indicate the potential default risk associated with the bond. While each rating agency uses slightly different processes and grading systems, essentially a AAA-rating is considered the gold-standard and a rating of C or D indicates a company either already in default or likely to be there soon. The following links take you to an overview of the rating definitions for the three big ratings agencies:

- Moody's Ratings Brief Explanation
- Standard and Poor's Ratings
- Fitch's Ratings

Table 4.8.1: Standard and Poor's Bond Rating Scale

Ratings	**Explanations**
AAA	Extremely strong capacity to meet financial commitments. Highest Rating.
AA	Very strong capacity to meet financial commitments.
A	Strong capacity to meet financial commitments, but somewhat susceptible to adverse economic conditions and changes in circumstances.
BBB	Adequate capacity to meet financial commitments, but more subject to adverse economic conditions.
BB	Less vulnerable in the near-term but faces major ongoing uncertainties to adverse business, financial and economic conditions.
B	More vulnerable to adverse business, financial and economic conditions but currently has the capacity to meet financial commitments.
CCC	Currently vulnerable and dependent on favorable business, financial and economic conditions to meet financial commitments.
CC	Currently highly vulnerable.
C	Currently highly vulnerable obligations and other defined circumstances.
D	Payment default on financial commitments.

Ratings from 'AA' to 'CCC' may be modified by the addition of a plus (+) or minus (-) sign to show relative standing within the major rating categories.
Shaded portions of the tables indicates "junk bond" status
Source – Standard and Poor's Credit Ratings Definitions & FAQs

Because default risk is one of the main sources of risk associated with bonds (along with the price risk associated with changes in interest rates), the required return of a bond is highly dependent on the bond rating. All else equal, the lower the bond rating, the greater the default risk. As investors are risk averse, higher default risk implies higher required returns. Since bond prices are inversely related to the required return, improvements in bond ratings will cause prices to rise and drops in bond ratings will cause bond prices to fall. Also, bonds with lower bond ratings (more default risk) will have higher expected returns. This does not make these bonds better or worse investments. Instead, these bonds (sometimes referred to as junk bonds) just have a different risk-return profile than investment grade bonds. The single B vs. double B rating grade is the general distinction between investment grade bonds vs. junk (or high-yield) bonds. However, even within each category there will be variation in expected returns associated with these bonds. The following chart shows historically how the spread between AAA vs. BBB bond yields have fluctuated over time. As you can see, the AAA is always less than the BBB, but the spread between the two yields varies significantly through the years.

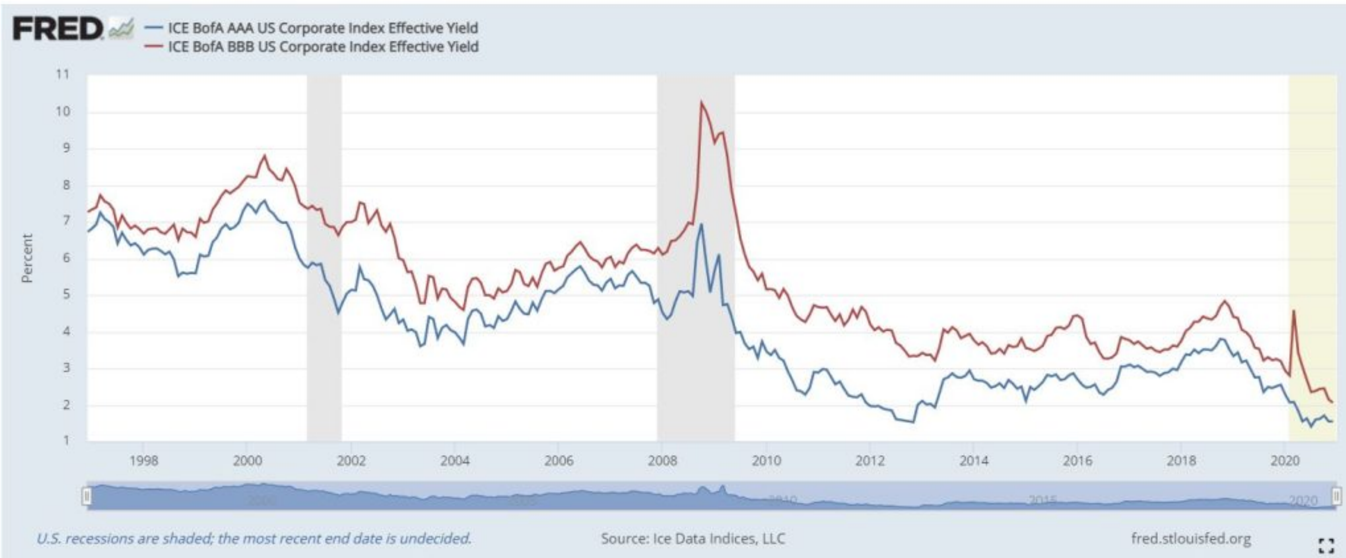

Figure 4.8.1: **Historical Yields for AAA and BBB Bonds**

Source of BBB Graph: Fred
Source of AAA Graph: Fred
