

Corporate Bonds

1. Rating Agencies. When a company issues public debt – i.e., debt that is registered with the Securities and Exchange Commission—they generally will pay the rating agencies to evaluate the debt issue and the company’s default risk.

The major rating agencies are Standard & Poor’s, Moody’s and Fitch.

Their role is to do fundamental financial analysis to essentially come up with a hazard rate to characterize the event that the corporation defaults on the debt.

The ratings of Standard & Poor’s and Moody’s are:

	Standard & Poor’s	Moody’s
Investment Grade:		
Highest	AAA	AAA
	AA	AA
	A	A
Lowest	BBB	Baa
Speculative Grade (Junk):		
	BB	Ba
	B	B

Historically, the (annual) “loss rate” on investment grade debt has been about 75 basis points. This loss rate combines the probability that default occurs times the recovery conditional on default. Historically the recovery rate on investment grade debt is about 40%. This translates into a default-event hazard rate of 1.25% (since the loss rate = $.6 \times .0125 = .0075$).

As with Cat Bonds, the yield on corporate debt will start with the Treasury rate (spot rates) and add the loss rate. Historically the spread on investment grade debt above benchmark Treasuries is about 150 basis points. This means that the market requires a risk premium on corporate debt. We don’t see this risk premium on Cat Bonds because the risk in these securities is completely *idiosyncratic*—not correlated with the state of the economy.

By contrast, whether investment-grade bonds default is clearly related to the state of the economy. Defaults in the US rise dramatically in recessions. Furthermore recovery rates are extremely cyclical (who will buy the assets of a bankrupt

company when the entire economy is in a downturn?) This means that the risk inherent in investment grade corporate bonds includes a *systematic* component. Investors require compensation in the form of a higher stated yield for taking on systematic risk. By contrast, as we saw in the example of Cat bonds, investors do not require compensation for exposure to idiosyncratic (or non-systematic) risk.

The point is this. The yield on investment grade debt will consist of three parts:

1. The pure cost of time (spot rate from US Treasuries)
2. The hazard rate characterizing default times the (1-recovery rate)
3. Systematic Risk Premium

Historically the yield spread on investment grade debt is 150 basis points. The “loss rate” is 75 basis points, which means that the risk premium is 75 basis points. To an investor the appeal of corporate debt is mitigated since the up-side is limited—the payoff is left-skewed, and bad outcomes (defaults) will occur at times when investors value money the most.

You can see the average spread on A-rated debt at the Fed’s data warehouse (FRED):

<https://fred.stlouisfed.org/series/BAMLC0A3CA>

Over the past 20 years, this spread has averaged around 180 basis points, with a lot of volatility. The high was around 644 basis points in December 2008, the low was 48 basis points in October 1997. On November 30, 2017 this spread is 80 basis points.

2. Accessing the Primary Market

We saw that when the US Treasury sells its debt securities, it conducts a public single-price auction. This is done efficiently, and with no transactions costs. By contrast, when companies access the public capital markets they go through an underwriting process. Investment banks act as go-betweens—bringing together the public investors and the corporate supplicants. Look at the prospectus of Apple for their \$7 billion (Par value) debt offering of April 2016. This cost Apple about 15 basis points in underwriting discounts (\$10.5 million). For example, Goldman-Sachs bought \$800 million (par) of the 3.2% 2027 notes for \$798, 400,000. Before the issue, Goldman may have already sold \$700 million to its customers, at par or higher. After the offering Goldman acts as a dealer in the notes—maintaining inventory, and making a market. The underwriting discount in the case of Apple is probably the lowest ever. Looking at the \$49 billion Verizon offering of 2013 (to finance its purchase of Vodafone), the average underwriting discount is about 50 basis points.

(My opinion is that for these well-known companies, the role of the underwriters is superfluous, and the companies *should* use an auction format like the Treasury's. The problem is that this would harm investment banks, who do this all the time, and benefit the industrial companies, who do this very infrequently, so what are the incentives for change?)

In the third quarter 2017, \$415.7 billion in corporate bonds were issued. \$352.8 (85%) of this was investment grade. The average daily trading volume in investment grade bonds was \$15.3 billion. (By contrast average daily equity volume is around \$260 billion.) (SIFMA:

<https://www.sifma.org/resources/research/research-quarterly-third-quarter-2017/>)

3. Junk Bonds – Below investment grade debt. We are probably better off thinking of this as equity with a cap on the up-side.